An Evidence-based Approach to Prioritising Indecent Images of Children Offenders: Implications for Deployment and End User Operationalisation

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Abstract

The proliferation of indecent images of children (IIOC) on the Internet and associated offending has created a growing workload for law enforcement globally, who have struggled to cope with the increasing investigative demand (McGuire & Dowling, 2013). The Kent Internet Risk Assessment Tool (KIRAT) was developed in response to this issue (Long et al., 2016). The tool aims to identify those suspected IIOC offenders most likely to have also engaged in previous and/or concurrent contact sexual offending against children for prioritisation. The tool also supports efficient resource management.

This thesis investigates three KIRAT related areas; (i) development and cross-validation of KIRAT for international use, (ii) the effectiveness of the KIRAT online training, and (iii) exploring how KIRAT works, effects of its use and whether it's effective in practice. These studies all contribute original knowledge. Development of the KIRAT Europe (EU) model resulted from the first study. The sample comprised of 1,148 male IIOC offenders (501 'higher risk of contact' [HR] and 647 'lower risk of contact' [LR]) based within 12 countries from around the world. Tests revealed highly significant differences in risk classification between dual and IIOC-only offenders from European and international countries. The removal of two items (past convictions/allegations for contact offending) also resulted in a statistically significant model, demonstrating the contribution of other criminal history and dynamic factors to risk prediction.

The second study, a mixed methods evaluation, demonstrated that training completion did not produce increased accuracy in the identification of contact offending risk predictors post-training versus baseline. Practitioners performed particularly well at baseline however. Over 97% of all practitioners, and 98% of the novice-only group (no previous experience of KIRAT), passed the course on the first attempt. Practitioner demographic factors were not predictors of change in risk predictor error scores and were not significantly associated with passing or failing the course assessment. The sample was however, saturated with practitioners that had previous KIRAT experience. Intervention effects contributing to successful outcomes were; the comprehensive/interactive nature of the training, training structure/format, and the online format of the course. Factors that could hinger positive outcomes were also identified and require further consideration.

Results of the third research study, a process and impact evaluation of KIRAT, revealed four intervention effects contributing to outcomes of KIRAT; action/response framework, tool simplicity, practitioner discretion, and minimum standard of investigation. Impacts of the tool include reducing victimisation and the action/response framework. Future economic evaluation to model cost-benefits of KIRAT and suggestions to address the gap in meeting police enforcement timescales were made.

The findings reveal that KIRAT EU, and the online training, could potentially be used by police agencies worldwide to safeguard children from harm. The tool has been demonstrated as fit for purpose and the training an effective measure to provide the requisite knowledge to deploy KIRAT in police investigations. Within the Discussion, research implications, study limitations and future research are considered.

“There can be no more important duty placed on society than to protect children from harm.”

(HM Inspectorate of Constabulary, 2015, p. 4).

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Introduction

Child sexual abuse and exploitation (CSAE) is currently one of the biggest and fastest growing cyber-enabled crimes facing law enforcement agencies globally (House of Commons, 2018; Jütte, 2016). The National Crime Agency (NCA, 2021) estimated that approximately 550,000 to 850,000 people in the United Kingdom (UK) present some form of sexual threat to children (with a central estimate of 700,000). The published literature shows that CSAE has been, to some extent, a historical constant that has occurred across all cultures, societies and social levels (Walker et al., 1988). However, the introduction of global mass Internet access (Child Exploitation and Online Protection Centre [CEOP], 2012; Cooper 2002) and revolutionary advancements in digital technology, including the popularisation of social media sites, are argued to have fuelled an unprecedented growth in online offending in recent years (Brown & Kebbell, 2013; McGuire & Dowling, 2013). Ever increasing direct and immediate access to victims and illegal material online has created a progressively darker side to the Internet (International Centre for Missing and Exploited Children [ICMEC], 2018; His Majesty's Inspectorate of Constabulary [HMIC], 2015) in which many offenders hold the mistaken belief that they can remain anonymous (HMIC, 2015; Davidson, 2005; Cooper 2002). By its very nature, the online world has created a domain that allows for the circumvention of the usual protections around children (McGuire & Dowling, 2013).

Child sexual abuse imagery is one form of CSAE which is facilitated and enabled by the Internet and associated digital technologies (HMIC, 2015; McGuire & Dowling, 2013). This imagery will be referred to as *indecent images of children* (IIOC) hereafter (CEOP, 2012) due to the use of this terminology across UK law enforcement. In the UK it is illegal to possess, distribute or produce sexual imagery of children, defined to be those aged under 18 years (Sexual Offences Act, 2003; United Nations Convention on the Rights of the Child [UNCRC], 1989). IIOC are deemed to be still and moving images, and pseudo-photographs which depict children, being sexually abused or exploited (Sexual Offences Act, 2003). It is almost globally agreed that the creation and use of IIOC is illegal, with only 16 out of 196 countries across the world failing to have any anti-IIOC legislation as of 2018 (ICMEC, 2018). IIOC forms an enormous part of the criminal segment of the Internet (UNICEF, 2009) with websites hosting IIOC content recorded in countries around the world (HM Government, 2021).

The exponential increase in the volume and availability of IIOC online, along with the ease with which it can now be accessed (Global Alliance against Child Sexual Abuse Online, 2015; Wortley & Smallbone, 2012; CEOP, 2012; Krone, 2004) has fuelled an epidemic increase in those engaging in IIOC offending worldwide. In the UK, over 8.8 million attempts were made to gain access to IIOC in one month during the national Coronavirus lockdown (Internet Watch Foundation [IWF], 2020). The police suggest that at any given moment approximately 100,000 individuals are searching for indecent imagery online (Dearden, 2019a). A UK-based charity, The Internet Watch Foundation (IWF, 2023), declared 2022 as the worst year on record in terms of reports they received related to individuals attempting to access IIOC and numbers of IIOC circulating on the Internet. In 2019 the UK's Child Abuse Image Database (CAID), created to help police identify victims and perpetrators, held 13 million unique indecent images, growing by half a million new unique images every six months (Burgess, 2019). It is important to note that some of the reported increases can also be attributed in part to technological advances in the detection of imagery and offending (Bischoff, 2022; Dearden, 2019a; Keller & Dance, 2019).

The number of referrals made to the National Crime Agency (NCA) from the tech industry containing reports of the uploading and sharing of IIOC online in the UK was a record 113,948 in 2018, more than a ten-fold increase from five years previously (Jay et al., 2020). The predominant number of referrals consistently come from social media companies (Bischoff, 2022). Facebook was reportedly responsible for 94% of the astronomical 69 million pieces of content reported as 'child nudity and sexual exploitation' by technology firms in the United States of America (USA) in 2019 (Gillespie, 2020). These referrals are then cascaded down to individual police forces across the UK for further intelligence gathering and investigative action. Police recorded figures showed an 18% increase in IIOC offences between 2021 and 2022, noted as the largest rise over a single year in over 10 years (Karsna, 2022; Parke & Karsna, 2019). In the year ending March 2019, 73,260 sexual offences recorded by the police identified the victim was a child with nearly 62,000 obscene publications offences against children recorded within England and Wales between 2015 and 2019 (Office for National Statistics, 2020). In the UK an average of 850 men were being arrested every month in 2021 for IIOC offending alone (Armitage et al., 2023; NCA, 2023), with nearly 1,100 children safeguarded (NCA, 2023). These figures have risen steeply from 450 offender arrests and 700 children being safeguarded a month in 2016 (House of Commons Home Affairs Committee, 2018).

Researchers indicate that these figures represent only a fraction of the true scale of offending (Insoll et al., 2022; HM Government, 2021; Cullen et al., 2020; National Sex Offender Public Website, 2012; Quayle, 2008; Sheldon & Howitt, 2007). The secret nature of this criminality (WeProtect Global Alliance, 2019; Wolak et al., 2005), the inability of young victims within the images to report abuse (Finkelhor & Ormrod, 2001; Taylor & Gassner, 2010), and limits on police to proactively target offenders and to detect offending (Hurley et al., 2013; Smallbone & Wortley, 2017) all contribute to the largely hidden nature of CSAE (Skidmore et al., 2022; Parke & Karsna, 2019; Brown & Kebbell, 2013). Statistics from sexual violence research indicate that only 14% of sexual violence victims report the offence to the police (Daly & Bouhours, 2010). A UK report by the Children's Commissioner (2015) found that 85% of child sexual abuse goes undetected, this is echoed in a USA study where 88% of CSAE victims had not reported their abuse (National Sexual Violence Resource Center, 2015).

In spite of their underrepresentation of the true scale of CSAE offending, the increases in IIOC offending reported in the UK are also echoed by law enforcement agencies and researchers across a number of other countries worldwide. This includes the USA (Bursztein et al., 2019; Bissias et al, 2016), Canada (Canadian Centre for Child Protection 2022; Ibrahim, 2022; Statistics Canada, 2022), and Australia (Australian Centre to Counter Child Exploitation [ACCE], 2022; Vedelago, 2020), among a vast number of others. Despite considerable efforts globally in recent years by law enforcement and partner organisations to tackle this issue (Wolak, Finkelhor, Mitchell, & Ybarra, 2008), the threat to children remains constant (NCA, 2019; Jütte, 2016).

Contact Sexual Offending Against Children

Indecent images serve to highlight the threat posed to children in relation to 'contact sexual offending'. Contact offending is a termed used by law enforcement agencies to describe physical sexual offending against children, such as rape and sexual assault, committed by an adult perpetrator and often depicted in IIOC. In recognition of this increasing threat, and the knowledge amongst law enforcement agencies that some IIOC offenders were also known to be engaging in contact offending, researchers began to further explore this phenomenon. Multiple study outcomes supported the idea that amongst the population of offenders who view and share IIOC on the internet are a sub-group of individuals who also commit contact sexual abuse against children (Seto et al., 2011). These individuals are referred to as 'dual offenders' (Long et al., 2016). A meta-analysis by Seto et

al. (2011) revealed that study findings suggested between 12% and 50% of IIOC offenders also commit contact offences. The study, comprised of 21 different participant samples, found that based on official records, approximately 12% of Internet offenders will have also committed a contact offence. In contrast, the prevalence of self-reported contact offences amongst IIOC samples was approximately 55%, which is consistent with suggestions that official records present conservative estimates of actual offending. Prevalence figures for contact offences within samples of IIOC offenders were found to range from 1% (Endrass et al., 2009) to 84.5% (Bourke & Hernandez, 2009) however, the latter is considered to be a statistical outlier and is generally discarded. Whilst these figures are contested by some (HMIC, 2015; CEOP, 2012) and there are huge variations in the measurement used across studies (Long et al., Giles, 2016), most researchers agree that the figure is approximately 55%.

There began to be a real understanding that online behaviour could correlate with offline risk (CEOP, 2012) and dual offenders became the main target of police enforcement action. In the early 2000's police investigations of IIOC offending started to rapidly increase and practitioners had to rely on their own judgement and experience to decide the order in priority of IIOC investigations (Long et al., 2016). This prioritisation was based on the idea that IIOC offenders who also posed a risk of contact offending could be identified based on the available evidence and intelligence. These offenders would be 'put to the top of the pile' for enforcement action in order to safeguard children. However, inconsistent subjective judgments and varying practices were being used to decide the order of very large numbers of investigations (Brown & Kebbell, 2013; Long et al., 2016). These practices included the prioritisation of IIOC cases based on lower assessed ages of children depicted in indecent images (Keller et al., 2019), the order in which cases were received (Brown & Kebbel, 2013) and suspects having known access to children (Child Exploitation and Online Protection Centre [CEOP], 2012).

The combination of the sheer number of investigations, volume of IIOC material identified in investigations, and the numbers of potential victims in need of safeguarding, all posed a problem for law enforcement responsible for investigating these offences (Brown & Kebbell, 2013). The substantial increase in investigations in this difficult area of policing (Her Majesty's Inspectorate of Constabulary and Fire & Rescue Service, 2017) were also experienced at a time when the police service in the UK was already under considerable pressure caused by an approximate 20% reduction in the overall police spending budget (Keller & Dance, 2019; Disney & Simpson, 2017). There was a recognition of the need for an

academically validated tool, backed by empirical evidence, to assist with the systematic identification of those offenders for prioritisation (Long et al., 2016) and to more effectively allocate police resources (Brown & Kebbell, 2013).

In the early 2000's, in response to these issues, the Kent Internet Risk Assessment Tool (KIRAT; Long et al., 2016) was developed in a partnership between Kent Police and the Psychology Department at the University of Liverpool. The aim was to develop an academically validated tool, for use by law enforcement agencies, in order to assist with the prioritisation of IIOC suspects and workload management within these investigations. Designed as a case triage tool, KIRAT was built to provide an empirically evidenced way, grounded in theories of offending, to enable policing practitioners to predict higher risk of contact offending at the point of time in which an offender come to the attention of police with an IIOC index offence, i.e., at the start of a criminal investigation.

KIRAT Development

KIRAT aims to identify those suspected male IIOC offenders who represent the highest risk of contact offending by prioritising those who share features with known dual offenders. As such, KIRAT is not a risk assessment tool, it does not purport to predict future risk of contact offending or recidivism, it also does not focus on risk of victimisation. The focus of the tool is instead, on historical and/or concurrent contact offending. KIRAT was validated on a sample of male offenders aged over 18 years, therefore its utility with females and adolescents is currently unknown. Dual offenders are the target for prioritisation and should be processed by the police as a priority due to concerns for child protection and safeguarding, they also have higher reoffending rates for contact offences than those for only IIOC offending (Wakeling et al., 2011; Elliott et al., 2009; Seto et al., 2011; Goller et al., 2010; Graf & Dittman, 2011). The tool assigns individuals one of four risk scores, low, medium, high or very high, following completion of the assessment, with very high indicating an immediate operational response required. Low and medium scores do not imply no risk or that no investigation should take place (in-line with other assessment tools i.e., Thornton et al., 2003), rather the risk scoring hierarchy enables a robust procedure for deciding which cases should be processed first or acted upon immediately. KIRAT has additionally been developed to support resource management, given the bulk number of cases being dealt with by police and assist to support the deployment of finite resources. KIRAT was made available to police forces across the UK in 2012, in 2015 further statistical validation was undertaken resulting in the development of a second version of the tool (Long

et al., 2016). KIRAT became the national model in the UK for case triage and resource management and was recommended for use by all forces (CEOP, 2012). In the wake of KIRAT's success in the UK, a number of law enforcement agencies based around the world requested to launch KIRAT within their host country. Work commenced to test KIRAT across a number of European and international countries as part of funded projects. The applicability of the KIRAT approach within these countries and a review of the variation of risk-based aspects of child sexual offending between individuals within different countries will be the focus of Chapter Three within this thesis.

As part of the development of the second version of KIRAT, a review of the updated research literature resulted in the development of a coding dictionary. This combined academic knowledge from previous research and law enforcement experience, culminating in 166 variables grouped into three areas: sociodemographic data, criminal record and index offence. Data was obtained from 11 police forces from across the UK, resulting in a sample of 374 male IIOC offenders (170 dual, 204 non-contact), and was utilised to test which variables, or combination of variables, discriminated between dual and non-contact offenders (Long et al., 2016). Receiver operating characteristic (ROC) analysis demonstrated that 17 of the 166 variables significantly differentiated dual and non-contact offenders. The KIRAT v2 model, represented as a phased decision tree, contains these 17 variables (reduced to nine dichotomous yes/no items) across four steps, examining previous convictions (any conviction child sexual offence, any allegation child sexual offence, any conviction or allegation for other sexual offence, four or more significant convictions, prison), access to children (any close and unsupervised access, access is via friends, neighbours or acquaintances), current evidence of online and offline behavioural facilitators to offending (any incitement or grooming or taking IIOC or sexual communication online/offline), and other relevant factors (any conviction or domestic abuse or substance abuse).

The KIRAT v2 model correctly classified 97.6% of dual offenders within the higher risk levels (high or very high), and 62.3% of non-contact (image-only) offenders within the lower risk levels (low and medium) (area under the curve; AUC = 0.914; Long et al., 2016). A following review and validation study of the tool was undertaken in 2020/21. A sample of 467 male IIOC offenders (120 dual, 347 non-contact) was collated from UK police forces. The model correctly classified 96.7% of dual offenders within the higher risk levels and 76.7% of non-contact offenders within the lower risk levels (Tejeiro & Alison, 2021; further statistical outputs cannot be provided) and the study outcomes confirmed the continued validity of the tool. Following review of practitioner feedback and other operational policing

demands, a number of amendments were made to the tool resulting in the development of KIRAT version 3. The updated tool was rolled out to all UK forces in 2022 (Tejeiro & Alison, 2021). As part of this national roll out, an online training programme was developed and replaced the previous face-to-face KIRAT training. The online training aimed to solve issues experienced with meeting practitioner demand for training and plans for this switch commenced following significant issues delivering face-to-face training caused by the Coronavirus pandemic and restrictions brought about over a significant period of time.

The general view is that KIRAT has been successfully implemented within policing as it meets the needs of law enforcement. Additionally, KIRAT arguably sits within the National Decision Model (NDM) which is the is the primary decision-making model for the Police Service in the UK (College of Policing [CoP], 2014). The roll out of KIRAT may have been further supported within policing as the tool is simple, logical and utilises an evidence-based approach to support practitioner decision-making. These factors align within the aims of the NDM (Association of Chief Police Officers [ACPO], 2012). KIRAT is an evidence-based tool for use as part of criminal investigations, for risk prioritisation and resource/workload management. The tool has important practical implications for law enforcement, as discussed by Long et al. (2016). It provides standardisation to workload management; it complements the experience of officers and supports informed decision-making in investigations where risk is understood and managed effectively. The tool supports the police to deal with large volumes of IIOC cases, it enables officers to order the sequence in which investigations will be conducted, it aids to identify where an immediate operational response may be required, and assists to reduce bias, idiosyncrasies, and inconsistencies as part of this risk detection process. KIRAT is not an academic or research tool, it is a policing tool developed to be useful in police investigations. There is a trade-off between statistics, psychological theories and practice, and policing requirements and application that has made this tool a success.

KIRAT Risk Predictors

Although KIRAT is a prioritisation assessment and does not purport to predict future risk, it draws on features that are also found within sex offender recidivism tools, in which anti-social and criminal behaviour, along with opportunity, provide incentives and lack of de-incentive to commit contact offending (Richards, 2009; Allan et al., 2007; Oliver et al., 2007; Thornton et al., 2003). Similar to recidivism assessments (Risk Matrix 2000; Thornton et al., 2003), KIRAT includes variables assessing history of offending and assumes that past

behaviour is one of the most reliable predictors of current behaviour. During the development of KIRAT, a review of the literature focussed on examining the differences between dual and non-contact offenders, highlighting a range of static and dynamic variables potentially useful for the prioritisation of risk. The literature demonstrated that there are a number of factors more prevalent in the histories of dual versus non-contact offenders. The studies also showed that generally, there are more disparities between dual and non-contact offenders than parallels (Webb & Kerr, 2018; Babchishin et al., 2011).

The review identified that dual offenders, as compared to non-contact offenders, are more likely to have a previous criminal history (Henshaw et al., 2018; Babchishin et al., 2015; Elliott et al., 2009; Long et al., 2013; McManus et al., 2015; Neutze et al., 2011; Webb et al., 2007, Seto & Eke, 2008; Sheldon & Howitt, 2008, Faust et al., 2015), with more versatile/higher levels of offending and anti-social behaviour (Henshaw et al., 2018, Long et al., 2016; McManus et al., 2015; Eke, Seto, & Williams, 2011; Seto & Eke, 2005; Smid et al., 2015). Non-contact offenders however, display lower levels of antisocial tendencies, such as impulsivity, and histories of antisocial behaviour (Babchishin et al., 2011). Dual offenders are more likely to have access to children (Long et al., 2016; McManus et al., 2015, Seto et al., 2012; Long, et al., 2013; CEOP, 2012; McCarthy, 2010), which is most likely to involve 'other' forms of access such as that of neighbourhood children (Buschman et al., 2010), are more likely to take IIOC (Long et al., 2013; McManus et al., 2015; Sheenan & Sullivan, 2010; Wolak et al., 2005; Fortin et al., 2018), and engage in grooming, particularly offline (CEOP, 2012; Long et al., 2012; McCarthy, 2010; McManus et al., 2015). Research also indicates that dual offenders are more likely to live with a partner and their child (Long et al., 2012; McManus et al., 2015; Reijnen et al., 2009), be a parent (Merdian et al., 2016, Reijnen et al.,2009; Elliott et al., 2013; McManus et al., 2015), have a stable relationship (Merdian et al., 2016; McManus, 2015; Reijnen et al., 2009; Seto et al., 2012), be unemployed (Babchishin et al., 2015; Aslan & Edelmann, 2014; Neutze et al., 2011), or not be employed (Babchishin et al., 2011) and to have experienced substance misuse problems (Babchishin et al., 2015; Magaletta et al., 2014; McCarthy, 2010, Faust et al., 2015). Non-contact offenders are less likely to suffer with substance misuse issues (Babchishin et al., 2011).

The results from Long et al. (2016) show that despite some variables previously being associated with higher probability of contact offending, for example sociodemographic variables such as living with a partner and their child or having a stable relationship, they did not assist to reliably determine risk. Thus, indicating that the sociodemographic characteristics of higher and lower risk offenders were equally diverse.

Theories of Offending

It is important to contextualise the risk predictors contained in the KIRAT model within established theories that have attempted to explain the aetiology of contact sexual offending against children, and within offending theories generally. This contextualisation is being undertaken not to test said theories, but to position KIRAT within these reputable theories and to understand whether they may hold internationally[1]. The well-established academic background, rigour, and epistemology for forecasting risk as part of sexual offending recidivism research (Ward et al., 2006) is drawn upon within KIRAT. This research area focuses on the persistence and desistance of offending behaviour, and whilst KIRAT is not about either, such knowledge can guide knowledge about the significance of factors within the tool. KIRAT's focus is on past and concurrent offending, rather than future criminality, and is used to assess offenders that are known (by way of a criminal history) and unknown to law enforcement. Additionally, this study will advance understanding by utilising this knowledge to consider whether the theoretical assumptions underlying KIRAT should hold in internationally.

There are a number of comprehensive theories of child sexual abuse that are widely cited amongst the research literature. The theories highlight the growing consensus amongst researchers that child sex offenders are commonly characterised by a variety of development, psychological and social issues in their backgrounds (Elsegood & Duff, 2010). There is also mutual agreement that heterogenous risk factors result in sexual offending (Pascoe & Sharples, 2020; Proeve et al., 2016; Simons, 2015; Robertiello & Terry, 2007; Chung et al., 2006), that such offending is multifactorial in nature (Beech & Ward, 2016), with various pathways, including contextual and situational factors, culminating in the sexual abuse of children (Pennington, 2002). Whilst these theories of offending are important for the understanding of the root causes of child sexual abuse, detailed descriptions of each theory have not been included within this paper as this is not a focus of the research. The following sections will consider the individual KIRAT steps in relation to risk predictors and theories of contact sexual offending.

Previous Offending History

[1] The literature review presented focuses only on theories of contact sexual offending against children that are relevant to KIRAT. It is acknowledged that there is a wider body of literature on the relationship between IIOC and offending behaviour.

Marshall and Barbaree's (1990) integrated theory of child sexual offending proposed that many sex offenders commit a variety of offences and anti-social acts, described as general offending rather than specialised in nature (Ward et al., 2006). Hall and Hirschman's (1991) theory supported this view. They argued that child sexual offenders hold antisocial attitudes, resulting from adverse childhood experiences and other deficits, and that offenders embrace general antisocial lifestyles in which they have a disregard for social norms and rules (Hall, 1996). Additionally, they also added that some child sexual offenders are likely to engage in opportunistic nonsexual offending and sexually violent offending against adults as part of their antisocial nature (Seto, 2018). Ward and Siegert (2002) also proposed an integrated theory of sexual offending in which they similarly discuss a pathway to offending in which individuals hold beliefs and attitudes that support general criminality and associated behaviour, rather than a deviant sexual preference for children. They state that offender histories are likely to be characterised by considerable nonsexual antisocial criminality across a number of different criminal domains. Ward and Siegert (2002) also support the idea that some child sexual offenders are generalists in their offending, rather than specialists, with their crimes related to property, violence and driving offences amongst others (Smallbone & Wortley, 2004; Smallbone & Wortley, 2000; Soothill et al., 2000; Simon, 1997a; Simon 1997b). Thakker & Ward's (2012) integrated theory focussed on sexual reoffending. They identified general antisociality as a maintenance factor related to recidivistic sexual offending against children.

Antisocial personality traits and prior criminal histories are often found as reliable risk factors for general criminal offenders within nonsexual offending recidivism research (Seto, 2018; Hanson & Morton-Bourgon, 2005). Some child sexual offenders therefore also share characteristics with individuals engaged in general antisocial behaviour and criminality. This supports the idea that some offenders lead a general rather than specialised criminal lifestyle, with the onset of sexual offending often occurring after nonsexual offending has commenced (Seto, 2018; Caldwell, 2002). The factors included within the first step of KIRAT relating to previous convictions and allegations for contact and noncontact sexual offending against children and/or adults, four or more previous convictions, and previous prison incarceration, are all embedded within the above theories.

Access to Children

The second step within KIRAT queries the suspect's access to children across a variety of contexts. Access provides offenders the opportunity to commit sexually abusive

acts against children, without which offending could not take place. One of the preconditions to sexual offending within Finkelhor's (1984) model relates to 'overcoming external inhibitors'. According to this model, as part of the offence process the individual will overcome external obstacles in order to create an opportunity to commit abuse against a child (Ward et al., 2006). Hall and Hirschman's (1991) quadripartite model also cited opportunities to offend, in the presence of vulnerability factors, leading to the committal of sexual offences against children. Ward and Siegert's (2002) pathways model went further by asserting the 'choosing' of children as a sexual partner also relates to opportunity for self-gratification and the ability of offenders to indulge their urges at little perceived cost (Ward et al., 2006). Finally, routine activities theory (Cohen & Felson, 1979) provides an interpretation of the undertaking of crime and also provides a conceptualisation of crimes deemed 'predatory', including child sexual abuse (Felson, 1994). Originally developed within the field of criminology and now used widely within crime-based research (Thornton, 2021; Farmer et al., 2016; Navarro & Jasinski, 2015; Chan et al., 2011; Tewksbury et al., 2008; Sasse, 2005; Walker & Golden, 2001), this theory purports that criminal events involve the union of three elements, a motivated offender, a suitable target, and the absence of a capable guardian (Mannon, 1997; Felson, 1994). The overarching theme within these theories is access to a victim coupled with an opportunity to offend, both factors considered within step two of KIRAT.

Behavioural Facilitators to Offending

Step Three within KIRAT interrogates the offender's current behaviours, occurring both in-person and online, that facilitate the sexual abuse of children. These include inciting a child to engage in sexual activity, grooming, producing first generation imagery, and sexually explicit communication regarding the abuse of children. The third precondition in Finkelhor's (1984) model where offenders seek to 'overcome external inhibitors' to gain access to a child links directly with the fourth, 'overcoming the resistance of a child', Finkelhor (1984) stipulates that offenders will potentially engage in the grooming of a child, and or their family, in order to gain access to a victim (Ward et al., 2006). Finkelhor proposes that as part of this attempt to overcome inhibitors, offenders will attempt to circumvent parents in order to overcome the barriers that protect the child. Additionally, offenders will engage in strategies that will support and maintain access to a victim, including giving gifts and introducing to sexual stimuli (i.e., grooming), and possibly using verbal threats to coerce a child to engage in sexual behaviour (i.e., incitement; Ward et al., 2006).

Other Relevant Factors (domestic abuse or substance abuse)

The final step within KIRAT queries the suspects previous offending history, their perpetration of domestic abuse and the presence of substance misuse issues. As previous convictions and antisocial behaviour, which also includes the perpetration of violence, have already been considered, this section will focus on theories related to the latter factor of substance misuse.

Substance misuse is discussed within a number of theories of child sexual offending as a common trigger for offending and interestingly features frequently in sexual offender populations (Becker et al., 2003; Abracen, 2000). Within Finkelhor's (1984) preconditions model one of the four factors, 'overcoming internal inhibitors', is connected with the research literature regarding disinhibition. This factor links with the idea that offenders can become disinhibited to carry out their desired sexually abusive acts, accounting for the way in which a sexual interest results in actual abusive behaviour (Seto, 2018; Salerno, 2014). One possible temporary factor suggested by Finkelhor as allowing an offender to overcome this disinhibition and reduce their control over urges to have sex with a child is alcohol intoxication (Ward et al., 2006). Marshall & Barbaree (1990) also cite intoxication as contributing to the resultant sexual abuse of a child. Their theory suggests that deficits within offenders making them vulnerable to sexual offending inclination, caused by developmental and social factors experienced in earlier life, interact with situational disinhibitors. Therefore, the use of alcohol can overwhelm the offenders coping skills leading to the undertaking of a sexual offence (Salerno, 2014). Substance misuse, whether involving drugs and/or alcohol, features commonly across risk assessment tools and is additionally considered within KIRAT as a risk predictor.

Sexual Offender Recidivism Tools

Theoretical considerations of the aetiology of sex offending within recidivism research and practice are important due in part to their use in clinical assessments of convicted sexual offenders and as part of the development of recidivism risk assessment tools. Such tools are utilised to estimate the likelihood of an offender's reconviction for a sexual offence within a specified future follow-up period (Ward & Beech, 2014; Ward et al., 2006; Beech et al., 2003). These assessments generally result in a risk score allocated to an offender of low, medium or high, in relation to the likelihood of further offending (Andrews & Bonta, 2010). Principal actuarial tools contained mainly static factors (not subject to change over time), such tools include, for example, Risk Matrix 2000 (Thornton et al., 2003)

and Static-99 (Hanson & Thornton, 2000). However, recognising the limitations of such tools in their ability to consider dynamic factors (amenable to change over time), additional systems were developed including both static and dynamic factors to meet this need (Craig & Rettenberger, 2016; Beech & Craig, 2012). These include, for example, the Sex Offender Need Assessment Rating (SONAR; Hanson & Harris, 2000b, 2001), STABLE-2000/ACUTE-2000 (Hanson & Harris, 2004), the Sexual Violence Risk-20 (SVR-20; Hart & Boer, 2021) and the Child Pornography Offender Risk Tool (CPORT; Seto & Eke, 2015). Additionally, as part of the undertaking of these risk assessments, structured professional judgements of clinical professionals can be included to enable a multi-faceted approach to assessment outcomes (Logan, 2016; Hart & Boer, 2010).

Static factors included within recidivism risk assessment tools mainly relate to historical factors such as an offender's criminal history, intimate relationships, their age, and characteristics of victims (Perkins et al., 1998). Dynamic factors generally include offence supportive attitudes and beliefs attitudes, emotional disturbance, interpersonal problems, sexual deviance, self-regulation difficulties, substance abuse, unstable lifestyle and social influences (Craig & Rettenberger, 2016; Beech & Craig, 2012; Ward et al., 2006; Thornton, 2002; Hanson & Harris, 2000; Perkins et al., 1998). The rationale of including previous offending history for, child sexual offences specifically, within KIRAT and as a means to prioritise offenders is supported by research that indicates known dual offenders have higher levels of recidivism for contact sexual offending (6%) than those who solely Internet-based sexual offending (0.2%; Long et al., 2016; Goller et al., 2010; Graf & Dittman, 2011). However, the utility of dynamic factors within KIRAT is untested. Additionally, the dynamic factors included within recidivism tools are not applicable in the context of KIRAT and most provide little utility. This is due to the inability of the police to access this information pre-arrest. Due to the nature of the population for which recidivism assessments have been designed (convicted offenders) there has been no investigation of the way in which dynamic risk predictors alone contribute to the prediction of risk.

Risk Prediction Tools in a Policing Context

Whilst KIRAT has borrowed ideas from the risk recidivism literature, the tool departs from the use of most recidivism assessment risk factors implicated in contact sexual offending as they are either non-falsifiable and/or not available to law enforcement during criminal investigations (Almond et al., 2022). It is important that tools aimed at supporting the prioritisation of suspects under police investigation utilise the types of information that

law enforcement agencies have immediately available or are able to access prior to a suspect's arrest (Almond et al., 2022; Salfati, 2022). An offender's previous offence history therefore has become a key focal point within assessments of risk, not only due to their help in identifying risk and validation in existing theories and tools, but also due to their availability and accessibility (Almond et al., 2022). Whilst there may be rare cases in which the police have a record of common recidivism risk factors for individual offenders, such as emotional disturbance or sexual deviance, this is not the case for suspects under investigation on the whole. IIOC investigations additionally often involve individuals who are unknown to the police with no prior criminal history. It is therefore imperative to gain an understanding of the contribution of dynamic factors to risk predictions models where this information is absent.

Risk prioritisation differs from risk assessment in that the goal of risk assessment is to effectively identify future potential risk whereas risk prioritisation models aim to identify previous and/or concurrent risks of offending in order to protect victims from current on-going harm and protect potential victims of future harm. The protection of children is paramount and the police are charged with a duty to effectively manage and make decisions about risk to ensure children's safety and bring offenders to justice. Therefore, it is imperative that empirically derived risk models can be successfully and effectively applied within investigative policing practice (Almond et al., 2022).

KIRAT Training

As part of the national UK launch of KIRAT v3 in 2022, the newly developed KIRAT online training programme was also made available to law enforcement practitioners. In order to ensure the successful implementation of new interventions in practice, in this case the KIRAT online training, it is important to assess the adequacy of training programmes and to understand whether they are effective and efficient in achieving intended outcomes. Logic models provide a visual outline which represents the theory of *how* an intervention produces it outcomes (HM Government, 2018). Essentially, this represents a hypothesis, or 'theory of change', about how an intervention works to produce change (Moore et al., 2015) and enables researchers to plan, implement and undertake evaluation effectively (Taylor-Powell & Henert, 2008). The main aspects of an intervention that a logic model should represent were outlined by Moore et al. (2015). These four aspects refer to firstly, how an intervention is delivered in practice, secondly the mechanisms through which the intervention works and produces change in practitioners, thirdly the outcomes (changes) that the intervention aims to

bring about, and fourth, external contextual factors that that may influence how the intervention operates in practice (Moore et al., 2015). These aspects are then arranged to represent how change has been produced, with indications of causal relationships between each of the aspects highlighted. These factors are utilised to develop the aforementioned theory of change which is used within an evaluation framework in order to support efforts to identify the extent to which an intervention works (including where it worked or not), why, how, the context in which it worked, and the experiences of users (Kime, 2018). Logic models are generally created alongside the development of the intervention however, they can also be used retrospectively in circumstances where an intervention has already been rolled out.

Evaluation is a key component of an evidence-based policing approach (College of Policing, 2023; Kime, 2018; Sherman, 1998). Within an overarching evaluation framework, alongside the use of logic models, is process evaluation, which is utilised by researchers to develop an understanding of whether the introduced intervention is a fitting solution to the problem. Process evaluation enables an understanding of 'what' happened as a result of the interventions introduction and 'how' this effect happened. This evaluation method also enables the identification of factors of the intervention that require further improvement in order to improve outcomes (Kime, 2018; Public Health England, 2018a). Additionally, process evaluation aids understanding of the fidelity of the intervention and whether it was delivered and implemented as intended (Public Health England, 2018a). This evaluation often utilises qualitative data in order to provide a richer depth to understanding the implementations of interventions by gaining the perspectives of the approach from practitioners (Kime, 2018; Boothroyd, 2018). This is an important aspect of academic research in the context of policing in order to shed light on the acceptability of the intervention as experienced by practitioners. This understanding can contribute to better-designed interventions and lead to increased uptake (Public Health England, 2018a) as part of investigative practice.

Evaluation has become an important aspect within evidence-based policing research in more recent years, arguably due to both the significant public investment made in the police and huge cuts to police budgets over the last decade (Pepper, 2020; Disney & Simpson, 2017). The framework within which interventions are rolled out should take account of the economic implications of training (Stanko & Dawson, 2015), in terms of possible cost-benefits, and ensuring the efficient use of practitioner time (Kime, 2018; Mitchell & Lewis, 2017). Additionally, evidence-led practice is now a key focus across

policing, therefore the introductions of new interventions should be subject to rigorous evaluation to ensure they are rolled out, used and results in the outcomes as intended.

The development of a logic model for the KIRAT online training programme is an essential activity in order to be able to develop an understanding of what the KIRAT training does and how, and to ensure that the training is delivered in the most effective way for practitioners. Additionally, the undertaking of a process evaluation would establish the fidelity of the training, whether it was delivered and implemented as intended and, simply, what worked well in the training and factors that may require improvement. These elements are key to ensure understanding of the tool, consistency of its use in practice, and use of the tool as intended whereby contact offenders are prioritised for investigative action. Further, given the possible future use of KIRAT on a wider international scale, it is possible for this training to 'go global' therefore it is essential to ensure that the training supports practitioners to make the right prioritisation decisions.

The Use of KIRAT in Practice

The outcomes of KIRAT's use in practice have not been established since the tool's original roll out in 2012 and the original expected outcomes of KIRAT's introduction to policing have not been made clear in any published materials. However, these outcomes can potentially be deduced from the predictive validity study of KIRAT described by Long et al. (2016). Anticipated outcomes could have included that the tool would provide national consistency in prioritisation, effective allocation of resources, saving officers time due to the standardised nature of the assessment, and most importantly, resulting in the safeguarding of children. An established academic methodology such as a reliability study would generally be used in order to test consistency of interventions (Morrison-Beedy & Melnyk, 2012). However, difficulties accessing police samples are well documented and often make such studies unfeasible (Cockcroft, 2020; Pepper et al., 2020; Fleming, 2010; Holdaway, 1982; Fox & Lundman, 1974). As part of the introduction of an intervention, evaluation measures are an important part of the framework in order to ensure the fidelity of the intervention, whether it was delivered and implemented as intended, the acceptability of the intervention to the target audience, and post-intervention outcomes (Public Health England, 2018a).

Process evaluation is a common feature within evidence-based policing research (Kime, 2018; College of Policing (CoP), 2023). This method is often employed to gain an understanding of whether the intervention introduced is a suitable solution to the problem (Kime, 2018). Additionally, outcome mapping is also used within this evaluative process to

map identified changes (outcomes) resulting from the interventions introduction, which can demonstrate the links between said changes and the activities related to the intervention (i.e., KIRAT; Hearn, 2021). This secondary part of the evaluation, focussed on outcomes, allows the contribution, or impact, of the programme under study to be further understood (MacDonald & Simister, 2015; Earl et al., 2001). These methods allow researchers to identify whether there were any challenges experiences in the delivery of the intervention, participants perceptions of the approach which can affect further uptake in practice (Telep & Lum, 2014), factors that worked well and whether an intervention requires improvement (Kime, 2018; Boothroyd, 2018).

As part of efforts towards understanding impact and the social value of interventions, a key focus amongst evidence-based research (Kime, 2018; College of Policing (CoP), 2023), it is important to first identify the outcomes of KIRAT's use in policing and tool features that enable its success. There is currently no established background to explore the social value or real-world impact of risk prioritisation tools however, it is important to be able to demonstrate that KIRAT has been a worthwhile investment for UK policing and for the protection of children. Furthermore, the identification of KIRAT's potential impact in the UK would enable the demonstration of the tangible evidential benefits of the tool and provide a framework for measuring impact and social value in other countries in which KIRAT operates or may operate in the future.

Research Aims

The body of research that forms this thesis are contained within three chapters. These chapters focus on KIRAT; firstly, tool development and cross-validation, secondly validation for training delivery and thirdly the tool's effectiveness in practice. The research aims support the exploration of whether the theories of offending underpinning KIRAT will hold internationally in order to highlight whether the tool should be shared wider across the world. If KIRAT is the right tool, we should identify how to delivery training around it and what the best way is to deliver training as an intervention within policing. Finally, exploring whether the administration and content of the tool develops positive expected outcomes, linking each of the chapters together. The research aims are broad and will bring together theoretical, methodological and practical contributions to knowledge, of which the sphere of influence is potentially global.

The first aim of this research is to test the applicability of KIRAT across European and International countries in order to demonstrate that geographically and culturally

different samples of IIOC offenders will prove similar in terms of risk prioritisation. The second aim of this research was to undertake a mixed method evaluation of the KIRAT online training course. This included examining the impact of the training on practitioner's understanding of evidence-based risk factors for contact offending by IIOC populations, to demonstrate higher accuracy post-training. This also included examining the training's impact on practitioners gaining the necessary understanding to apply KIRAT effectively during IIOC investigations, in order to demonstrate a high course assessment pass rate. The final part of this evaluation included querying practitioners' views, opinions and experiences of the training, and areas requiring improvement. Finally, the third aim of the research was to develop an understanding of what KIRAT does and how, in order to identify the mechanisms within KIRAT that effect positive change for practitioners. This work will enable the establishment of a logic model for KIRAT, exploring how and why it works in practice, the theory of change and the production of an outcome map, which will be beneficial for future evaluation studies and KIRAT sustainability. These outcomes will apply to law enforcement in the UK and will also be relevant for future KIRAT-related work in international countries as wider geographical KIRAT roll out is anticipated.

Chapter Two

Methodology

Introduction

This chapter outlines the aims of the research, provides a rationale for both adopting a pragmatic philosophical position and for utilising a mixed method design. Tool validation is then discussed followed by a statement is provided regarding the position that I hold within the research as somewhat of a participant researcher/observer. Evidence-based policing and the focus of this thesis will then be discussed, followed by theoretical considerations, and innovation that will be brought about by this research.

Research Epistemology and Design

This research fits within a pragmatic epistemology, generally seen within forensic psychology-based research, in which a mixed methods research design will be used. Pragmatism offers a philosophical basis for research (Creswell & Creswell, 2018). A pragmatic worldview is concerned with 'what works', the consequences of actions, findings solutions to problems and is real-world orientated (Creswell & Creswell, 2018; Creswell, 2003; Patton, 1990). In terms of research, those undertaking studies therefore are concerned with the 'what' and the 'how' and investigate problems based on the intended consequences of studies and what is hoped to be achieved (Creswell & Creswell, 2018). Creswell (2003) describes pragmatism as not being committed to any one philosophical position. This allows individual researchers to have freedom of choice of the appropriate methods, techniques and procedures that meet the purposes and needs of their studies. Pragmatism therefore opens the way for the use of multiple methods, assumptions, data forms, data collection and analysis methods as part of research undertaking, which is the general premise of mixed methods research (Creswell & Creswell, 2018; Morgan, 2007; Tashakkori & Teddlie, 1998; Patton, 1990).

The use of both quantitative (closed-ended) and qualitative (open-ended) research methods, procedures, and data are combined within mixed methods research in order to provide the best understanding of a problem under study (Creswell & Creswell, 2018). These two major research approaches are united to arguably form the third major approach to undertaking research (Johnson & Onwuegbuzie, 2004). Schulenberg (2007) highlights three reasons for which researchers may embrace mixed methods designs; the inclusion of a larger

spectrum of views, theoretically driven research questions are better addressed, and stronger inferences can be drawn as part of study outcomes. In addition to this, qualitative methods enable the examination of contextual factors that are not generally observed within quantitative analysis (Maruna, 2010) and qualitative outcomes can be used to cross-validate quantitative findings (Brown et al., 2018). Mixed methods research is therefore both outcome orientated, and problem centred (Maruna, 2010), features of each method can be drawn upon to understand and solve complex problems and questions (Creswell & Creswell, 2018).

Due to the reasons outlined above, a mixed methods approach has been identified as the most appropriate and will be undertaken in order to address the complex problems outlined as part of the research aims. These methods will contribute to the academic rigor of these studies, in order to illustrate that KIRAT is the most suitable tool for use within IIOC investigations, that the training is effective, and that use of KIRAT is resulting in positive outcomes for law enforcement.

Tool Validation

Studies aimed at validating tools that have been designed to identify a particular population generally focus on the accuracy of the tool to do such. The aim of tool validation studies is essentially, does the tool do its job. This process involves identifying the rate of true and false, positives and negatives, and exploring the consequences of these outcomes. Within some contexts it may be acceptable to incur a higher rate of false positives resulting from a tool in order to ensure that all, or the majority of, true positives are identified. In other contexts, the tolerance of an acceptable rate of false positives may be lower due other factors such as financial or resource implications associated with the tool outcomes. For example, within the medical field tools used to detect risk to individuals of developing cancer (National Institute for Health and Care Excellence [NICE], 2022) have high thresholds for false positive rates. This is due to the small cost associated with medical activities related to early cancer screenings versus high-cost lengthy treatments for individuals who have developed cancer that were not identified as at risk within early screenings for the disease. In this context, a ‘good’ tool is deemed as one where the highest rate of true positives can be identified regardless of the rate of true negatives. This, however, would not be acceptable in many other contexts, including within law enforcement.

In a law enforcement context, tool validation again considers the accuracy of tools to identify target populations however, further consideration is also given to operational goals alongside resource limitations related to tool outcomes as part of this process. As part of this

thesis, the validity of KIRAT is further tested via cross-validation of the tool in order to demonstrate that it works in other contexts i.e., other countries, and utilising other datasets. This is also an important part of validation studies, to illustrate the accuracy of tools across different groups. This is particularly important for assessments used within policing contexts.

An additionally important aspect of tool validation is exploring what makes a good assessment tool from the point of the end user. This would generally include, for example, the use of clear language, clear decision making resulting from the tools' output, how the tool looks, and how the tool operates (American Educational Research Association [AERA], American Psychological Association [APA], & National Council on Measurement in Education [NCME), 2014). All such factors have been considered as part of the development of KIRAT.

My Role: Participant Researcher/Observer

I have held an active role as a researcher affiliated within the National Crime Agency (NCA) for the past seven years. This organisation is charged with responding to complex problems related to criminal activity that do not typically lend themselves to straight forward experiments. Within that time, I have been present at strategic meetings regarding complex issues related to the investigation of IIOC and CSAE offending. These issues include those outside the scope of this thesis. Within my role, I have assisted to aid understanding within the organisation of the problems facing policing concerning the prioritisation of IIOC offenders and also in shaping the agency's response to this issue. Specifically, in relation to this thesis, I have been involved in the most recent developments on KIRAT, have assisted with KIRAT research and engagement with international countries, and have extensive experience of developing and delivering training both nationally and internationally. Most recently, I have recently assisted with the development and roll out of the KIRAT online training programme to UK policing.

There is an epistemological position which suggests that knowledge or evidence of the social world can be generated through the observation of, and/or participation in, interactive situations with the group under study (Martellozzo, 2015; Silverman, 2004; Hobbs, 2000). The process of participant observation generally involves researchers gaining access to communities (often via a gatekeeper), to build relationships with group members, which then allows them to take notes on observations and experiences in order to gain an understanding of the group first-hand (Blevins, 2018). This process, also referred to as fieldwork, provides researchers with an opportunity to identify differences between what

participants say and what is in fact happening. Blevins (2018) stated that being a participant observer provides a unique position in which the observer is neither a full group member nor an outsider. Based on this premise, over the course of time I have become a participant researcher/observer.

My presence at various operational and research meetings, and training events have provided me the opportunity to observe, interact and gain an understanding of law enforcement practitioners in their 'natural' environments. In addition to this, I have also been able to gain a deeper understanding of the threat posed by IIOC offending to policing and the effect of this on investigations with further understanding resulting from my analysis of various documents, reports, datasets and other information I have been provided access to. However, the activities I have undertaken have not been conducted as a specific aim as part of this research, they have simply been experienced prior to, and alongside, the undertaking of this thesis. I have not recorded notes on observations or experiences as is expected with participant observation as a research method. The trust and relationships I have built with law enforcement practitioners and agencies over this time have enabled me to successfully access data, provided by the NCA, and utilise it further the purposes of this thesis. This experience has also allowed me to identify that the full range of research methods, included as part of a mixed methods design, need to be deployed in order to deal with the problems that will be addressed as part of the studies that will follow below. There are a number of factors related to my role that must therefore be considered due to their potential impact on data collection and study outcomes etc. A critical review of my role as a researcher in relation to the undertaking of this thesis will be discussed in the Discussion chapter.

Evidence-based Policing

This PhD is based on the principles of evidence-based policing research. Brown (2019) defines these as the use of scientific evidence of effectiveness (i.e., what works; Huey & Mitchell, 2018) to guide the implementation of everyday police tactics and strategies. The College of Policing (CoP; 2017) definition adds that this evidence can also be used to challenge law enforcement practice and policies. The CoP (2017) suggest that the use of the 'best available' evidence within evidence-based policing research is that which is collected using appropriate research methods and data sources based on the questions being addressed (Laycock, 2012). Although it is suggested that evidence-based policing lacks an epistemological basis (Brown, 2019), approaches used within such research often combine different elements of quantitative and qualitative processes that fit within a pragmatic

paradigm. Mixed methods approaches have become a common feature amongst evidence-based policing research in more recent years. A broader range of topics have been covered using mixed methods designs that have arguably resulted in a better understanding of modern policing problems (Brown et al., 2018; Knutsson & Tompson, 2017; Lum & Koper, 2017; Greene, 2014a). However, reviews of evidence-based policing research have indicated that the scope of these studies could be further widened to include topics such as police training (Lyndon, 2023; Telep, 2016; Mazeika et al., 2010).

One of the many benefits of the 'what works' approach to evidence-based policing research is argued to be that results produced from such studies can prove economically beneficial to the public sector. The undertaking of cost-benefit assessments as part of mixed methods research allows the justification of public expenditure as part of 'better value for money' efforts by the government (Boutlon, 2020; Brown, 2019; Bueermann, 2012; Hough, 2011). This is a key aim of much policing research in today's budget cut climate (Weisburd & Neyroud, 2013). An additional benefit of a mixed methods approach within this field is the use of police experience within studies. Mixed methods research, in-line with evidence-based policing efforts, is often a collaborative process between policing practitioners, academics and other partners (Huey & Mitchell, 2018). This approach ensures a more comprehensive framework to policing research (Greene, 2014b; Maruna, 2010). A key aspect of policing studies is ensuring that findings are transferrable to police practice and that they will be accepted and implemented by practitioners.

Law enforcement practitioners are often guided by their own experiences during the undertaking of investigations with previous studies highlighting the value placed on their own opinions higher than that emanating from evidence-based research (Lumsden, 2016; Telep and Winegar, 2016; Canter, 2004). In previous years the results of evidence-based policing studies have suffered a lack of perceived value within policing (Telep, 2017; Telep & lum, 2014; Sherman, 2013; Lum et al., 2012) often due to its seeming lack of inclusion for the 'practice-based wisdom' held by practitioners (Lumsden & Goode, 2016; Bradley & Nixon, 2009; Marston & Watts, 2003). Additionally, this can reportedly be due to the conflict between the results of quantitative studies with the knowledge held by practitioners (den Heyer, 2022) highlighting the importance of the acceptability of findings as deemed by practitioners. However, there has been more support for evidence-based policing in recent years (Hunter et al., 2019; Fleming & Rhodes, 2018; Fleming & Wingrove, 2017). The literature indicates that those studies with higher transferability and where results were implemented as a change to police practice were more likely associated with studies

employing a mixed methods design, rather than quantitative methods alone (Boulton et al., 2020; Tilley and Laycock, 2017; Schulenberg, 2007). Studies that have essentially been co-produced with practitioners, whereby officers have been actively involved in the research process, are argued to increase receptivity to findings (Goode & Lumsden, 2018; Hunter et al., 2017; Wood et al., 2008). Findings from Brown et al. (2018) also suggest that the inclusion of contextual factors as part of mixed methods approaches enables the cross-validation of quantitative findings with the qualitative input of practitioners.

Key in relation to this series of studies is that evidence-based approaches are being successfully used to improve police decision-making (Huey & Mitchell, 2016). This is following wider recognition that the development of decision-making strategies based on the outcomes research and 'what works' ideals are often more subjective than gut feelings (Lumsden & Goode, 2018; Lum, 2009). However, previous studies identified that officers have found little value in referring to research outcomes when making decision (Telep, 2017; Telep & Lum, 2014; Lum et al., 2012). Their decisions are guided by their own personal experiences, which they perceived as owing higher value than research-based evidence (Lumsden, 2016; Telep and Winegar, 2016; Canter, 2004). Practitioners have reported that change was not needed in relation to the introduction of evidence-based outcomes to support decision making as the use of personal experience had always been what they had relied on (Magnusson, 2018; Goode & Lumsden, 2016; Stanko & Dawson, 2016). This stance has reportedly improved in UK policing in recent years with Hunter et al. (2017) reporting that decisions had been made based on research findings where practitioners had been involved in the research process.

This Thesis

As part of the undertaking of this thesis, as based within a pragmatic epistemology, I aim to contribute to the evidence-based policing agenda. I aim to do so by providing a method to systematise large volumes of complex information in order to support the decision making of practitioners (end users). Whilst practitioners have often used a variety of heuristics and personal experiences to make decisions regarding case prioritisation in IIOC investigations, the purpose of KIRAT is to provide a means by which to support the effective and efficient allocation of police resources. Arguably, the best use of police resource is to deploy this evidence-based risk tool as part of investigations to reduce issues caused by the use of subjective practitioner experience alone. This tool allows for the logical targeting of 'higher-risk' offenders that has been shown to be empirically valid in previous studies (Long et al.,

2015). It is clear from the research literature outlined that the delivery of information regarding the use of KIRAT needs to be co-produced with practitioners in order to ensure its acceptance and implementation in practice.

In addition to the proposed benefits due to be gained by practitioners as a result of this research, it is important to acknowledge that children, victims and potential victims of child sexual abuse, are also a proposed beneficiary of the outcomes of this thesis. The central goal of KIRAT is to target resources more effectively to those individuals that are known to have previously committed contact sexual offences, and those also likely to be currently committing contact sexual abuse against a child. This is a proposed benefit to those children that are deemed to be the most harmed by IIOC offenders (Giles & Alison, 2021).

Research Quality Appraisal

As part of the undertaking of this thesis I recognise the importance of reflecting on my position in order to gain an understanding of the potential impact my involvement (Tracy, 2010; Levitt et al., 2017) with the topics under study may have as part of the research process. As part of this vital practice, recognition of the strengths and limitations of my position in this process will allow me to create an open and honest narrative of my potential influence on data quality, interpretation, and findings (Tracy, 2010).

There are a number of criteria sets or frameworks available for both quantitative (Vandenbroucke et al., 2007; von Elm et al., 2007) and qualitative (Tracy, 2010; Cohen & Crabtree, 2008) research that provide a guide or checklist to inform the design of a study or appraise the quality of a research design where studies are complete. This, in summary, is to ensure that the process undertaken by researchers is trustworthy, valid and reliable (Winter, 2000; Golafshani, 2003). As part of this thesis, I will assess and review the quality of the work I have undertaken once complete using the Critical Appraisal Skills Programme (CASP 2018a; 2018b) checklists in order to critique the quality of my work. Each checklist varies slightly as the assessment of research validity differs between quantitative and qualitative processes and potential concerns that could arise in each. These tools contain questions that each probe different methodological aspects of the studies. The questions ask the researcher to consider whether the research methods were appropriate to answer the research question, if the findings are well presented and if the results are meaningful (Long et al., 2020). The CASP checklists will be utilised to assess individual research chapters and have been chosen as they are commonly used within reviews of evidence syntheses in other research fields (i.e., health-related research, Long et al., 2020) and are well regarded.

The CASP (2018a) tool that will be used to review the quantitative research within this thesis is a case control checklist due to the planned methodologies for studies (such as regression analysis in which prediction is key). This process will enable the identification of potential biases that I may have inadvertently succumb to, for example, systematic bias as part of data collection or confirmation bias in relation to research findings. The CASP (2018b) tool that will be utilised to undertake a quality appraisal of the qualitative checklist is slightly different to that for quantitative research. This checklist is focussed more on reflexivity and refers to the need for researchers involved in participant observations to consider how their involvement in the process and presence can impact on the group observed (Blevins, 2018). This is a particularly important part of this process given my involvement in developing, for example, the KIRAT training under study, given the known issues with the involvement of intervention developers as intervention evaluators (Forde, 2017). In addition to this, qualitative research is generally more subjective, therefore it is ever more important to ensure research undertaking is systematic and as objectiveless as possible. It is recognised that the nature of qualitative research makes the separation of me as the researcher, and therefore objectivity, inherently difficult (Boulton et al., 2020). The checklist will provide a structured process to ensure that I have been as transparent as possible in presenting the research approach undertaken and the process by which findings were reached. These processes, for both quantitative and qualitative research approaches (mixed methods) will be key to enabling me to identify the strengths that I have brought to the research based on my position but also the limitations that may have resulted from this.

Research Innovation

Chapter Three: KIRAT Development and Cross-Validation (Study One)

KIRAT is the only published UK-based tool for the purposes of the prioritisation of IIOC offenders as part of law enforcement investigations. The extent to which this model applies to offenders within other geographical locations and cultural contexts is currently unknown. The first research study therefore seeks to cross-validate the theoretical assumptions of KIRAT into other countries and demonstrate the validity of the tool. These assumptions are that risk factors for contact sexual offending against children are relatively homogeneous, meaning that offenders will prove similar in terms of risk prioritisation. In addition to this, the accuracy of the KIRAT model without factors related to an offender's previous contact offending history is currently untested. The assumptions are that the model will still prove to

be an effective risk prioritisation tool and that dynamic factors contribute to risk identification. Generally, it is assumed that a fairly simple resource management tool, KIRAT, can be applied by law enforcement agencies to prioritise risk and safeguard children from harm.

There are limited amounts of literature sources available to draw on in relation to risk prioritisation assessments which have resulted in a cross-fertilisation of ideas with risk assessment tools for sexual offending recidivism, whereby risk management is the aim of these tools. In contrast to this, KIRAT focusses on risk prioritisation with a focus on resource allocation and the most effective use of police resources. The research methods generally employed within validation studies of sexual offending recidivism tools for both adults and adolescents are based on quantitative research methods such as Receiver Operating Curve (ROC) and regression analyses (Savoie et al., 2022; Yu et al., 2022; Soldino et al., 2020; Epperson & Ralston, 2015; Viljoen et al., 2012; Rettenberger & Eher, 2006; Thornton et al., 2003; Hecker et al., 2002; Hanson & Thornton, 1999). These methods will also be employed within this study as there is no capability to undertake validation through the use of qualitative research methods.

In contrast to recidivism studies, outcomes of the cross-validation of KIRAT will not feed into knowledge of risk management and the processing of offenders through the criminal justice system. Learnings from this study will provide a unique contribution to understanding within the field of risk prediction models, specifically focussed on risk of dual offending amongst IIOC populations. This study seeks to apply established methodologies from within recidivism risk assessment tools and utilise them in a new domain focussed on risk prioritisation.

Chapter Four: KIRAT Training Evaluation (Study Two)

The KIRAT online training course was rolled out to UK police forces in 2022 following approximately 10 years of KIRAT training delivered face-to-face. However, an evaluation of the effectiveness of the KIRAT training and its intended outcomes has not been conducted in any capacity to date. This second study will seek to determine the effectiveness of the training in delivering key information regarding KIRAT to practitioners, in relation to knowledge of contact offending risk factors amongst IIOC populations and correct use and application of KIRAT within IIOC investigations. It is also crucial to obtain practitioner feedback to identify whether any improvements to the training are required, in order to ensure the tools acceptance and implementation in practice. It is assumed that the training will

positively impact on practitioner's knowledge of contact offending risk factors and that the training will provide the relevant knowledge in order for practitioners to pass the training assessment in which they are required to successfully apply KIRAT to mock cases.

This study will undertake a process and outcome evaluation in order to address the research questions and a mixed methods design will be employed. Qualitative analysis will offer the 'process' part of the evaluation with quantitative research methods employed to undertake the 'outcome' part of the evaluation. There are limited numbers of studies specifically aimed at the evaluation of police-based training concerning IIOC or CSAE that provide a framework for the undertaking of this study (de la Fontaine et al., 2022; Huey, 2018; Stanko & Dawson, 2015; Mugford et al., 2011). Therefore, evaluative studies of police training based on other crime areas and topics which have used mixed methods approaches including a range of analyses methods (de la Fontaine et al., 2022; Gulati et al., 2021; Mehari et al., 2021; Engelman & Deardorff, 2016; Marzano et al., 2016; Darwinkle et al., 2013) will inform the approaches used.

In addition to these methodological approaches to mixed methods evaluation, this study will also employ Firth's penalised likelihood regression and ordinal regression analyses to examine the effect of practitioner demographic factors on training outcomes. The use of these cutting-edge methods will push the current methodological norms of research within this field providing innovation based on the methodological approach.

Chapter Five: KIRAT Process Evaluation & Measuring Impact (Study Three)

Although KIRAT has been used widely in the UK as part of an operational policing response within IIOC investigations since 2012, an evaluation of the anticipated and actual outcomes of the tools use has not yet been undertaken. This final research study therefore seeks to explore *what* KIRAT does and *how* it works from practitioners' perspectives. The study will also seek to examine intervention effects and identify how success resulting from the use of KIRAT might be demonstrated and measured.

The study will draw on the College of Policing's (CoP, 2015) logic model, which presents a four-step process guide that supports researchers as they develop a 'theory of change' that represents how an intervention works i.e., how it produced its outcomes. A process evaluation will be undertaken in order to develop this theory (Kime, 2018; Public Health England, 2018a) in-line with previous research (Waring et al., 2023; Giles et al., 2022; Giles et al., 2021; Herbert & Bromfield 2019a; 2019b). Outcome mapping will also be used as part of this process in order to develop a visual portrayal of the links between changes

identified and the activities of the intervention (Hearn, 2021). This process will enable an assessment of the strength of KIRATs impact to be further understood (MacDonald & Simister, 2015; Earl et al., 2001)

The research innovation resulting from this study will include the discovery of the intervention effects resulting from the use of KIRAT, key measures of the tools success and also the further identification of the short and longer-term impacts of the use of KIRAT on policing and society. Importantly, a theory of change pertaining to prioritisation tools for IIOC offending will also be developed as the first of its kind. Finally, a logic model will also result from this study that will be beneficial for use as part of the design of wider KIRAT roll outs to international countries.

Chapter Three

KIRAT: A Risk Prioritisation Tool for Indecent Images of Children Offenders Across Europe and Internationally

Abstract

The Kent Internet Risk Assessment Tool (KIRAT) is a case triage approach used by police forces in the United Kingdom (UK) to prioritise indecent images of children (IIOC) investigations. The aim of this paper is to test the applicability of this tool across European and International countries. Police case files were provided by 44 law enforcement agencies based within 12 countries from around the world, yielding a sample of 1,148 male IIOC offenders (with at least one prior IIOC offence); 501 individuals were classified as 'higher risk of contact' (HR) as their police record revealed at least one previous conviction or allegation for a contact sexual offence against a child, and 647 individuals, without previous convictions or allegations for contact offences, were classified as 'lower risk of contact' (LR).

This paper was split into two studies, in part one of this study the European only data sample was utilised, cases were coded for the presence of 52 variables, grouped into three areas: sociodemographic data, criminal record, and index offence. Analyses were conducted to establish which variables, or combination of variables, discriminated HR and LR offenders. For part two of the study, a summarised version of the coding dictionary was utilised containing only variables found to be statistically significant in study part one. Study two sought to test the effectiveness of the KIRAT model across the European and International datasets and tested the model's validity where variables 'previous convictions/allegations for past contact sexual offences' were removed.

Resulting from study part one, was the development of the KIRAT Europe (EU) model, represented as a phased decision tree, it uses 16 variables across four decision steps examining (1) previous police/legal record, (2) access to children, (3) offender's behaviour during the offence that led to index arrest, and (4) other factors. Diagnostic performance of the model for the European sample, and across these countries, was evaluated using Receiver Operating Characteristic (ROC) areas under the curve (AUC). AUC values ranged from 0.831 (Slovenia) to 0.948 (Romania). In the total sample, AUC was 0.898. In study part two, Logistic Regression tests revealed highly significant differences in risk classification between the HR and LR offenders from all countries, $p < .001$. Further Logistic Regression analyses

also revealed that removal of the two items detailing past convictions/allegations for contact sexual offending, individually or collectively, also resulted in a statistically significant model, $p < .001$. The findings reveal the relative homogeneity of risk factors for contact sexual offending against children and confirm that a relatively simple resource management tool, namely KIRAT EU, could potentially be used by police forces across the world to prioritise risk and safeguard children from harm.

Introduction

The unprecedented volumes of indecent images of children (IIOC) offences being committed over the last decade have threatened to overwhelm the investigative capacity of police forces and law enforcement agencies dealing with them. It can reportedly take only three clicks to locate child sexual abuse and exploitation (CSAE) imagery on the Internet via popular and widely accessible search engines (HM Government, 2021; National Crime Agency [NCA], 2020a), with the sheer number of IIOC circulating online now extraordinarily vast (Leclerc et al., 2022; Holt, 2020). The alarming proliferation of IIOC online has created an overwhelming surge in demand on criminal investigations (HM Government, 2021; Keller & Dance, 2019). Already limited police resources continue to be overstretched as agencies and local forces devoted to the problem are besieged by the ever-growing caseloads they are tasked with (Keller & Dance, 2019).

As outlined in the thesis literature review, this increase in IIOC offending has been experienced on a global scale and has created a threat to children across the world. Recent estimates suggest that over 5 billion people, or 63.1%, of the world's population are now online (Statista Research Department, 2022). Whilst internet penetration rates vary vastly across the world, for example Northern Europe has the highest internet penetration rate of 98%, the lowest in Middle Africa at 24.9% and the extreme in North Korea with virtually no online usage, most countries have established and increasing internet usage across the general population (Statista Research Department, 2022; Data Reportal, 2022). This vast expansion of the internet, which continues to grow by over 640,000 people who go online for the first time every day (Roser et al., 2015), means that no country is immune from the threat of CSAE. Research conducted by the Global Alliance Against Child Sexual Abuse Online (2015) found that 28 out of 32 surveyed countries from across the world reported an increase in the volume of IIOC being shared and downloaded in recent years, which also served to highlight the global reach of this problem (International Centre for Missing and Exploited Children; ICMEC, 2008).

Global IIOC Offending

Geographical indicators of the IIOC upload location (impacted in cases where proxies and anonymisers can mask the uploaders' geographical location), based in the 29.3 million reports received in 2021 by the National Center for Missing and Exploited Children (NCMEC, 2022a), shows IIOC uploaded to the Internet in almost 250 countries/territories around the world (NCMEC, 2022b). Bursztein et al.'s (2019) longitudinal research measuring

the distribution of IIOC online, reported that the sheer number of IIOC reports to the NCMEC's CyberTipline, based in the United States of America (USA), exceeds the capabilities of law enforcement in the USA to adequately respond to the threat posed to children. Bissias et al.'s (2016) looked in part at the trafficking of IIOC on five peer-to-peer (file-sharing) networks and reported that the sheer numbers of offenders they observed utilising these networks alone to download and share IIOC were so high, that they would overwhelm the number of officers in the USA trained to deal with these types of crimes. During a 2007 appearance before Congress in Washington, a Lead Special Agent from an Internet crimes task force gave testimony to the experience of officers, as part of this he explained that fewer than 2% of the identified child sexual abuse and exploitation (CSAE) crimes could be investigated by US law enforcement stating, "we are overwhelmed, we are underfunded and we are drowning in the tidal wave of tragedy" (United States Government, 2008).

Statistics from Canada also highlight increasing numbers of circulating IIOC online, reports from the public and referrals from other agencies (Canadian Centre for Child Protection 2022; Statistics Canada, 2022). Official statistics suggest CSAE reported to the police has almost tripled since 2014 (Ibrahim, 2022). Between 2019 and 2020 alone, there was a 28% increase in online CSAE offending, 21% of which due to IIOC offending rates, which amounted to over an additional 800 criminal investigations that year (Statistics Canada, 2022). News outlets in Canada also report the increasing caseloads as challenging the capacity of law enforcement across the various Canadian provinces (Reith, 2017). Australia are similarly experiencing increased reports for CSAE offending (Australian Centre to Counter Child Exploitation [ACCE], 2022). In May 2020, during the height of the Coronavirus lockdown, at least 7.4 million files containing IIOC were detected as circulating on peer-to-peer networks within the state of Victoria alone (Vedelago, 2020). An officer from Victoria Police reported that if the 17,000 officers in service moved into teams dealing with CSAE, even this "wouldn't make a dent in the offending" (Vedelago, 2020). These figures signify the monumental task faced by law enforcement.

The primary aim for the police in CSAE investigations is to safeguard children and protect them from abuse. Law enforcement agencies internationally are in a relentless fight to tackle the continuously growing threat posed by IIOC offenders, and many agencies have reached saturation point (Leclerc et al., 2022; Holt et al, 2020; Johnston, 2017). The need for intense police resources to effectively triage, prioritise and investigate cases, the proliferation of IIOC online, numbers of individuals accessing the material, numbers of victims in need of

safeguarding, and the need for fast-paced decisions, all place considerable amounts of strain on already limited police resources (Disney & Simpson, 2017; Seto, 2013; Long et al., 2015; Brown & Kebbell, 2013). The introduction of the Kent Internet Risk Assessment Tool (KIRAT; Long et al., 2015) across UK policing was hailed a success and the tool is used widely by all forces as standard practice within IIOC investigations to guide decision-making regarding suspect prioritisation. The tool has received support from police forces across the UK due to its operational suitability, usability, and input to solve a practical policing problem.

KIRAT's success in the UK has resulted in multiple requests from law enforcement agencies across Europe, and further internationally, to launch KIRAT within these countries. As part of the Fighting International Internet Paedophilia (FIIP) project, funded by the European Commission, work began to test KIRAT across a number of other European countries (Denmark, Estonia, Netherlands, Norway, Romania, Slovenia and Spain). In addition to this, work with four other international countries from the regions of Asia, North America and Oceania (Australia, Canada, Israel and New Zealand) was also undertaken, supported by the Home Office and funded by each participating country. As discussed within the thesis introduction, theories of child sexual offending are hypothesised as similar for offenders across countries, with sexual deviancy identified as a global issue (Velasco, 2014). Whilst cultural factors may differ across countries, the underlying mechanism that led to contact sexual offending amongst IIOC offending populations are thought to be the same (Becerra-García et al., 2013). This, however, is possibly with the exception of a small number of countries, such as Japan, due to the permissiveness of underage children (Hatano & Shimazaki, 2004). The purpose of the current paper is to test the applicability of the KIRAT approach to these European and International offenders. The study aims to establish whether the risk-based aspects of sex offending identified by KIRAT vary between countries.

Additionally, the study will also assess the value of the dynamic factors within KIRAT and their contribution to the model. KIRAT's inclusion of risk factors related to a suspect's previous history of contact sexual offending have prompted questions regarding the tools validity where these factors are not included. Whilst criminal history plays a major role in risk prediction, the research literature has shown that other dynamic variables are also valuable (Seto et al., 2012; Long, et al., 2013; McManus et al., 2015, CEOP, 2012; McCarthy, 2010; Sheenan & Sullivan, 2010; Wolak et al., 2005; Fortin et al., 2018). This is particularly important given that large numbers of offenders are not previously known to the police (Ibrahim, 2022) and that a proportion of non-contact offenders are likely to have

undetected offline offences (Seto et al., 2011; Bourke and Hernandez, 2009). As outlined in the literature review, there are numerous reported issues with underreporting (Skidmore et al., 2022; Parke & Karsna, 2019; WeProtect Global Alliance, 2019; Wolak et al., 2005; Finkelhor & Ormrod, 2001; Taylor and Gassner, 2010) and the detection of CSAE offending (Hurley et al., 2013; Smallbone & Wortley, 2017) and true prevalence estimates suggest only a fraction of CSAE offending is recorded within official figures (Cullen et al., 2020). This highlights the importance of the inclusion of other dynamic variables within risk prediction, not related to an individual's previous offending history. This is a vital area of further study, in order to demonstrate the utility of KIRAT, due to the potentially ever-expanding geographical implementation of KIRAT. This paper will now discuss cultural differences between sex offenders, and why we might expect the structure of the KIRAT v2 risk model to apply across other countries.

Cultural Comparisons

In order to develop risk prediction models further afield, research literature comparing Internet sexual offenders across countries must be drawn from. This comparison is difficult due to the diversity with which different countries, cultures and societies define sexual offending (Grubin, 1992). Nearly all countries around the world now recognise child sexual offending as a crime, yet there are varying degrees of legislation in place to protect children (International Centre for Missing & Exploited Children [ICMEC], 2018) impacting on rates of offenders, offences, and victims. For the purpose of the present studies, direct cultural comparisons of Internet child sexual offenders from across the world within the research literature were identified however, there were few to draw from. The first step was to attempt to gain an idea of base rates for previous contact offending as this could impact on the models if there are significantly differing rates across countries. The meta-analysis by Seto et al. (2011) is one of the few studies undertaken, revealing that offenders within most European and International countries (including Australia, Canada, France, Germany, the Netherlands, New Zealand, Switzerland, UK, and USA) fall around the 12% to 50% prevalence rate that is typically observed for contact offences within populations of IIOC offenders. However, this rate is dependent on the source of data, for example 4% in Australia based on conviction data (Baartz, 2008), 23% in Canada based on criminal charges (Eke & Seto, 2008) and 57% in Germany based on self-report data (Neutze et al., 2011). There are also some outliers within the sample figures, research from Switzerland reported a 0.9% rate based on conviction data (Endrass et al., 2009) and research from the USA reported a figure of 85% based on self-

report data, as compared to 13% from conviction data (Bourke & Hernandez, 2009). Further studies, reporting previous contact offending rates, have been undertaken since Seto et al.'s (2011) meta-analysis, again reporting similar figures (Henshaw et al., 2018; Aslan & Edelman, 2014; Shelton et al., 2016; Jung et al., 2013).

The literature search revealed that there are no direct European or International comparisons of variables similar or the same as those contained within KIRAT v2. However, from the examination of criminological characteristics of sex offenders across different cultures, there is some suggestion that more commonalities than differences exist. A study undertaken by Becerra-García et al., (2013) compared offender groups from two different countries that differ on the individualism-collectivism index (Hofstede, 2001). This index was developed by Hofstede (1980) and reduced national culture to four dimensions, one of these was individualism versus collectivism. This dimension of national culture is strongly correlated with a nation's wealth and, therefore, highlights cultural differences between economically advanced nations and those with less advanced economies (Minkov et al., 2017). Becerra-García et al., (2013) compared two groups of 'child molesters' from the UK (individualist) and Spain (collectivist), and found that criminogenic characteristics, including previous convictions and the nature of the victim, are not culturally dependent. In addition to this, further studies, including meta-analyses and cross-cultural validation of recidivism risk assessment tools for sexual offending, demonstrate that predictors of risk, both static and dynamic, hold internationally. Broader research has however, shown that cultural differences do affect offending behaviour in general (Strauss-Hughes et al., 2019).

A study by Helmus et al. (2013) reviewed 14 studies using samples from six countries (Canada, Denmark, Germany, Scotland, UK, and USA), and found that the Risk Matrix 2000 scales discriminated recidivists from non-recidivists. The results of moderator analyses found that effect sizes were significantly lower outside the UK however, effect sizes were still significant and moderate in all countries. The researchers suggest that one possible explanation for this is more reliable record keeping in the UK than other countries, rather than actual differences in offending trajectories across countries. It is important to note here, that whilst research indicates similarities in sex offenders across different culture dimensions, lower reporting of sexual offences, and therefore lower identification of sexual offenders within countries, is suggested to be influenced by social dimensions. Namely in Asian countries, such as Japan, average rates for sexual offending are much lower than global averages. (Tanaka et al., 2017). Research authors suggest that the collectivist culture within Japan for example (as well as other social inequalities), results in the reduction of reporting

rather than a true lower rate of incidence (Back et al., 2003; Ji et al., 2013; Kim & Kim 2005) which therefore skew's the view of offenders originating from these nations.

The Child Pornography Offender Risk Tool (CPORT; Seto & Eke, 2015) is a more recently developed tool originating from Canada. The tool was specifically designed to assess the risk of recidivism in IIOC populations, and a recent validation study supported original findings that CPORT significantly predicted sexual recidivism, with large effect sizes (Eke et al., 2019). The tool contains seven items relating to offender age, criminal history and sexual interest in children. Where information is missing regarding 'sexual interest in children' the CASIC (Correlates of Admission of Sexual Interest in Children), replaces an item in CPORT and this six-item measure (never married, content of IIOC, length of IIOC interest, in role with access to children, online sexual communication with children) can be used as a substitute (Seto & Eke, 2017).

Cross-validation of the tool has been undertaken in a number of countries. In New Zealand (Black et al., 2018) the short version of CPORT containing only the first four items (offender age, criminal history, failure on release, contact offending) found the tool showed significant predictive utility for recidivism. The Spanish validation of CPORT (Soldino et al., 2021) provided some support for the cross-cultural validity of the tool. This study utilised the additional CASIC to replace one of the CPORT items, ROC analyses indicated the relative predictive ability of the tool with the overall sample (AUC = 0.57), particularly with IIOC recidivism amongst the IIOC only sample (AUC = 0.70). Calibration analyses however, indicated that the observed recidivism rates were lower than those published by Seto and Eke (2015), which has been suggested as possibly linked to lower detection rates and challenges posed by the absence of undercover virtual agents during the follow-up period (Soldino et al., 2021). The final validation, undertaken in Scotland (Savoie et al., 2022) and again using CASIC, suggested good predictive accuracy of the CPORT for the overall group and IIOC only offenders (AUC = 0.70, 0.74). The results of these studies again indicate that static and dynamic factors hold across different countries and cultures, with CPORT variables linked to past offending, access to children and online sexual communication with children, also present within KIRAT v2. The limited literature in this area suggests that there is homogeneity across this offending group, regardless of geographical location.

Study Hypotheses

The previous research literature demonstrates the predictive accuracy of cross-culturally validated recidivism risk assessment tools for sex offenders containing similar risk

aspects to those included in KIRAT. Based on this, and the theoretical perspectives outlined, it is hypothesised that the KIRAT methodology will hold across European and International countries, and that geographically and culturally different samples of offenders will prove similar in terms of risk prioritisation. The countries utilised within the sample display cultural differences in their variation in high and low scores across Hofstede's (2001) four dimensions of cultural values. For example, the sample differ on the individualism-collectivism index with some countries deemed individualist (i.e., Australia, Canada, Denmark, Estonia, Netherlands, Norway, and UK) and the others deemed collectivist (i.e., Israel, New Zealand, Romania, Slovenia, and Spain).

This study is split into two parts; part one will undertake a cross-cultural validation of the KIRAT tool with a sample of European offenders. Specifically, in-line with research findings from Long et al. (2015), it is hypothesised that, under part one of this study, a European model will differentiate dual and IIOC only offenders, with dual offenders being more likely to (a) present a previous criminal history, (b) have close and unsupervised access to children, (c) engage in behaviours towards contact offending, and (d) be known for prior domestic abuse and/or substance misuse. Part two of the study will then further test the tools effectiveness within International populations of offenders. In-line with previous research findings it is hypothesised that, utilising the European tool, the International sample will (e) differentiate dual and IIOC offenders based on hypotheses (a) to (d), and (f) the European model will display good predictive accuracy without the inclusion of variables linked to previous convictions/allegations for contact sexual offending against children. These studies will contribute to understanding within the field of risk prediction models, specifically focussed on risk of dual offending amongst IIOC populations across the world, for use by the police as part of their investigative strategy.

Method

Sampling Procedure

For inclusion within the sample, all offenders had to have been convicted for at least one offence of making (the image is downloaded from the internet, opened from an email attachment, stored on a computer directory or photocopied from another image etc.), taking (the image is taken in person with a camera or remotely by webcam), distributing (the sharing of images with another/others via any means including providing access to an electronic device storing images, posting to a website, chatroom, social network or sent via email,

messaging app etc.), and/or possessing (the image is possessed by an individual with the ability to access or retrieve it, with no requirement to prove any of the above) an indecent image of a child. Individuals with a history of image-only offending are referred to as Non-contact offenders and formed the first subgroup within the sample.

The second subgroup includes dual offenders, that is those individuals who, at the time of data collection, their police record indicated that they had previously been convicted of at least one IIOC offence and that they had least one conviction or allegation for a contact sexual offence against a child on file, regardless of the dates at which these offences were committed/allegations were made. Contact sexual offences against a child include rape (intentionally penetrates the vagina, anus or mouth of a child with his penis), sexual assault by penetration (intentionally penetrates the vagina or anus of a child with a part of his body or anything else), sexual assault by touching (intentionally touches a child and the touching is sexual) and sexual activity with a child (touching involving the penetration of the adult's anus or vagina with a part of the child's body, or penetration of the adult's mouth with the child's penis). The key distinction between the two groups is that, in contrast to Dual offenders, Non-contact offenders have no previous convictions or allegations (known to the police) for contact offences.

All cases were deemed convicted closed cases in that the individuals were convicted, and their criminal case was not subject to any on-going court appeals. The Dual offenders are referred to from hereon in as *Higher Risk of Contact (HR)* offenders, and Non-contact offenders are referred to from hereon in as *Lower Risk of Contact (LR) offenders.* The names used to categorise these groups of offenders often vary across not only law enforcement, legal systems, and academia, but also amongst the countries under study. For the purposes of this study, the researcher has used *HR* and *LR* to denote these categories which are generally recognised by all parties.

The legal definitions of IIOC offences (UK; Protection of Children Act, 1978; Criminal Justice Act, 1988, Sexual Offences Act, 2003) and categories of contact sexual offences (Protection of Children Act, 1978; Criminal Justice Act, 1988) in the United Kingdom provided a template to identify relevant offences within the contributing countries for data collection. The above offences are used to categorise individuals into one of the two groups, they are not coded by the precise nature of their offence(s), further description of the offences is provided to promote understanding amongst readers. A child was defined as a person under 18 years of age (United Nations Convention on the Rights of the Child, 1990).

Data Collection

Offender case files, including varying forms of documentation collated as part of police investigations[2], were provided by 44[3] law enforcement agencies based within 12 countries from around the world: UK (n^4 = 11), Denmark (n = 9), Australia (n = 5), Netherlands (n = 6), Estonia (n = 4), Canada (n = 2), Spain (n = 2), Romania (n = 1), Norway (n = 1), Slovenia (n = 1), Israel (n = unknown), and New Zealand (n = 1). Case files generally included full criminal record data covering all crimes (including not guilty outcomes, non-convictions, and information only reports) for which the person had been convicted in the country, interview transcripts and other criminal investigation-based documents. All available cases involving offenders arrested and convicted between 2001 and 2017, and for which full information was available, were included in the study. Datasets from each country therefore include offenders who meet the inclusion criteria. and convicted since 2001.

All cases provided by international countries (Australia, Israel & New Zealand) were coded by researchers in each participating police force's headquarters, with the exception of the data provided by Canada. The Canadian data was coded by a small research team from the Royal Canadian Mounted Police (RCMP), supervised by the researcher following coding training (HMR), due to pre-empted issues with the sharing of raw data outside of Canada. Inter-rater reliability tests were also undertaken to evaluate consistency with the RCMP team coding. All cases provided by European countries were coded previously by the wider research team, utilising the same processes and under similar settings.

Relevant ethical and security protocols were followed so that the offender case data could be converted into anonymous coded data (ensuring that any identifiable features were removed) within a data matrix for analysis purposes. Communications and data exchange with law enforcement partners, was made via secure police lines and encrypted systems.

Participants

[2] Offender case files typically included documentation detailing offender demographic information, criminal history, employment status, intelligence profile, interview logs and digital forensic reports.
[3] Multiple individual law enforcement agencies may be based in one country, with one overarching countrywide agency (i.e., in the UK there are individual police forces and also the National Crime Agency).
[4] Refers to the number of law enforcement agencies/forces/jurisdictions within an individual country that provided data for the sample.

A non-random sample consisting of 1,148 male offenders was used for the studies, collected between May 2013 and July 2017. Table 1 shows their distribution by country. Part one of this study will utilise offenders from European only countries (*n* = 787; UK, Netherlands, Spain, Denmark, Estonia, Norway, Romania and Slovenia), part two of the study will utilise data from all countries.

Data for female offenders was not collected for this study in line with previous KIRAT studies (Long, et al, 2016) as the commission and conviction of females for this type of offending is rare (Babchishin, Hanson, & Hermann, 2011).

Table 1

Distribution of High Risk (HR), Low Risk (LR) and Total Offenders by Country

	Total sample		
European	HR	LR	Total
UK	170	204	374
Netherlands	75	94	169
Spain	12	73	85
Denmark	27	17	44
Estonia	16	19	35
Norway	14	15	29
Romania	4	24	28
Slovenia	10	13	23
European Total	328	459	787
International			
Australia	68	86	154
Canada	51	49	100
New Zealand	38	22	60
Israel	16	31	47
International Total	173	188	361
Total	501	647	1,148

The small samples of data provided by a number of the countries created some methodological challenges, particularly for part one of the study. The common procedure of

dividing the total sample into generation and validation data sets (Pang & Jung, 2013) to avoid the overestimation of the goodness of fit when a model is developed and validated using the same data set (Mark & Goldberg, 1988) was not utilised due to this issue with the small size of most of the national samples. In addition to this, the notable differences in the national samples (particularly when comparing the small sample size countries with the British and Dutch samples) implied a risk to the generalisability of the instrument if all individuals were utilised for its development.

Considering all the above, KIRAT EU (study part one) was developed on a subsample formed by all individuals in the databases from Spain, Denmark, Estonia, Norway, Romania and Slovenia, and 50 HR and 50 LR offenders randomly selected (using the SPSS random sample selection feature) from each of the British and Dutch databases, to ensure that the data was not bias to the larger countries. The resulting generation dataset is shown in Table 2 below. The validation of the instrument can then be conducted on the same data set, assuming the risk of overestimation of the goodness of fit, and additionally on the remaining individuals in the British and Dutch datasets, thus constituting subsamples of $n = 274$ (120 HR and 154 LR: British data), and $n = 69$ (25 HR and 44 LR: Dutch data).

Table 2

Distribution of High Risk (HR), Low Risk (LR) and Total Offenders by Country

	Generation dataset[5]		
European	HR	LR	Total
UK	50	50	100
Netherlands	50	50	100
Spain	12	73	85
Denmark	27	17	44
Estonia	16	19	35
Norway	14	15	29
Romania	4	24	28
Slovenia	10	13	23
Total	183	261	444

[5] Generation dataset based on a subsample of all individuals from Spain, Denmark, Estonia, Norway, Romania and Slovenia, and 50 HR and 50 LR offenders randomly selected from the UK and Netherlands databases.

In relation to part two of the study, the researcher decided to undertake multiple validation tests of the KIRAT EU model using the whole data sample initially, and subsequently, various subsamples of the data to address these concerns.

Measurement

The coding dictionary utilised for the development of KIRAT v2 (Long et al., 2015) was summarised for part one of the present study: only the variables that were found to significantly differentiate between HR and LR individuals were included because the resources required to code the 166 variables in Long et al. (2015) were not available. The resulting 52 variables can be grouped in 3 areas: sociodemographic data (personal details, socioeconomic status, family and living arrangements, access to children), criminal record (any type, sexual offences, prison) and index offence (behavioural facilitators). A further summarised version of the coding dictionary was utilised for part two of this study. As this analysis does not seek to develop a new model, but to test the effectiveness of an established model, only the variables found to be statistically significant in study part one were included. The lists of variables are provided in Appendix 1. All variables were coded on a binary basis; when there was evidence or intelligence that the variable was present in the case a score of 1 was assigned, where absent a code of 0 was assigned.

Inter-rater agreement was calculated across the European dataset (UK, Netherlands, Spain, Denmark, Estonia, Norway, Romania and Slovenia) on 50 cases randomly selected from the total data set and coded by an independent judge (a psychologist trained in using the CD by the first judge). Cohen´s (1960) non-weighted kappa was calculated for nominal variables, with values from 0.616 to 1.000 (*Mdn* = 1.000): 95.1% of those variables presented values higher than .750, which according to Cicchetti (1994) corresponds to excellent agreement, while the remaining four were in the range of good agreement. Sixteen variables showed no variation for the 50 selected cases for at least one of the raters: median raw agreement for these was 98.75% (range 92-100%).

Inter-rater reliability analysis (Cohen's Kappa statistic) was conducted on coded data provided by Australia, Canada, Israel and New Zealand individually, to determine consistency among raters across the datasets. A summary of these results is provided in Table 3 below. As illustrated, the results for all countries represented 'substantial agreement' between raters.

Table 3

Inter-rater Reliability Analysis for International Countries

	Kappa	95% CI	*p*	SE
Country				
Australia	0.67	0.54 to 0.80	<0.001	0.067
Canada	0.67	0.54 to 0.80	<0.001	0.067
Israel	0.73	0.54 to 0.80	<0.001	0.067
New Zealand	0.67	0.51 to 0.83	<0.001	0.08

Data Analysis Part One

SPSS 22 was utilised in part one of this study to test which variables, or combination of variables, discriminated between HR and LR offenders. Chi-square analyses were used for nominal variables (effect size was measured with odds ratio and φ for binary variables, and with Cramér's V or Φ_C for non-binary variables). Diagnostic performance of the model was evaluated utilising ROC curves' areas under the curve (AUC).

Results

Part One: European Offenders

A cross-tabulation was conducted on the generation data set with each variable and type of offender. Table 4 shows the variables that significantly differentiated LR and HR offenders (data on all other variables are available from the research team). National databases were not analysed separately because of the small size of most of them.

Table 4

Differences Between Dual and Noncontact Offenders (Generation Data Set; N= 444)

Variable	Dual *n*(%)	Noncontact *n*(%)	χ^2 (1, *N* = 444)	*p*	Φ
Previous criminal history					
Any conviction CSO[6]	54(29.5)	0	87.68	< .001	.44
Any allegation CSO	46(25.1)	0	73.19	< .001	.41
Conv/alleg other sexual offence	19(10.4)	12(4.6)	5.54	.019	.11
Four or more convictions	19(10.4)	7(2.7)	11.57	.001	.16
Prison	48(26.2)	15(5.7)	37.07	< .001	.29
Access to children					
Via occupation	21(11.5)	15(5.7)	4.74	.030	.10
Via social	18(9.8)	7(2.7)	10.36	.001	.15
Own children (step)	19(10.4)	7(2.7)	11.57	.001	.16
Via FAN[7]	21(11.5)	4(1.5)	20.01	<.001	.21
Via family	28(15.3)	24(9.2)	3.88	.049	.09
Other access	19(10.4)	8(3.1)	10.08	.001	.15
Any access	127(69.4)	103(39.5)	38.61	< 001	.29
Online/offline behaviour					
Online incitement	31(16.9)	26(10)	4.68	.030	.10
Online grooming	41(22.4)	22(8.4)	17.26	< .001	.20
Online taking	49(26.8)	17(6.5)	34.90	< .001	.28
Online sexual communication	62(33.9)	51(19.5)	11.66	.001	.16
Any IGTC[8]	139(76)	67(25.7)	109.38	< .001	.50
Offline incitement	63(34.4)	10(3.8)	73.30	< .001	.41
Offline grooming	58(31.7)	6(2.3)	75.35	< .001	.41
Offline taking	83(45.4)	6(2.3)	124.43	< .001	.53
Offline sexual communication	15(8.2)	5(1.9)	9.87	.002	.15
Any offline IGT[9]	110(60.1)	13(5)	163.24	< .001	.61

[6] Child contact sexual offence
[7] Friends, acquaintances, or neighbours.
[8] Incitement, grooming, taking and/or sexual communication.
[9] Incitement, grooming or taking.

Other factors					
Any conviction	77(42.1)	51(19.5)	26.63	< .001	.25
Domestic abuse	12(6.6)	6(2.3)	5.02	.025	.11
Substance misuse	29(15.8)	16(6.1)	11.15	.001	.16

Notes. The order of presentation follows the steps in KIRAT v2 (Long et al., 2015).

On the basis of these results and having KIRAT v2 as the basic reference, several possibilities were tested[10] with the purpose of obtaining a well fitted model that was in accordance with the empirical evidence but that was also, from an operational policing perspective, practical in an investigative sense. Thus, as well as considering the best fit model, the information available to a police investigation team was also considered. The resulting models were tested against the generation data set (detailed in Table 2 above) and discussed between police officers and the research team. The final European version of the KIRAT (KIRAT EU) is described below.

[10] For example, a number of different variables related to specific types of access to children were tested within the model.

Table 5

KIRAT EU Items and Pathways

Step	Item	Item Description	Risk level
1	1	Any conviction child sexual offence	*Very high, high, medium* or *low*[11]
	2	Any allegation child sexual offence	
	3	Any conviction or allegation for other sexual offence	
	4	Four or more significant convictions	
	5	Prison	
2	6	Any close and unsupervised access to children	Increase risk
3	7	Any Incitement or Grooming or Taking IIOC or Sexual communication (online or offline)	Increase risk
4	8	Any conviction or Domestic abuse or Substance misuse	Increase risk

KIRAT EU includes a total of 15 variables (defined in Appendix 1) grouped in 8 items arranged in the form of a decision-tree. The tool is structured in four steps: (1) previous police and legal record, (2) access to children, (3) offender's behaviour during the offence that led to index arrest, and (4) other factors. Each step provides an output in the form of a 4-level risk classification ranging from *low* to *very high*: the output of the first step is a direct indication of risk, while the outputs of the other steps imply keeping the provisional classification or increasing it. Because of this structure, answers to all items are not necessary in all cases.

Each individual in the generation data set was classified using the KIRAT EU model, and the result was cross-tabulated against the observed type of offender. As summarised in Table 4, highly significant differences in risk classification were found between HR and LR offenders. Chi-square or Fisher's exact tests were significant at $p < .001$ for all countries except for Romania and Slovenia (with $p = .002$ and $p = .008$, respectively); effect size measures ranged from .63 (Netherlands) to .80 (Denmark). All ROC curve analyses with allocated risk level as test variable were also highly significant at $p < .001$, with AUC values

[11] The presence of one or more of these factors will increase the risk level to either very high, high, medium or low. Due to the operationally sensitive nature of the risk scoring process, information regarding the risk weightings or individual factors is not disclosed publicly, as directed by the National Crime Agency.

ranging from 0.831 (Slovenia) to 0.948 (Romania). In the total sample, AUC was 0.898; 88% of HR offenders were allocated a high or very high risk, whereas 76.6% of LR offenders were allocated a low or medium risk.

Table 6

KIRAT EU Classification in Risk Levels by Offender Type, Including Statistical Significance

Country	Offender type	Low *n*(%)	Medium *n*(%)	High *n*(%)	Very high *n*(%)	Total *n*(%)
UK	$\chi^2(3, n = 100) = 57.50, p < .001, \Phi_c = .76$; AUC = 0.903, 95% CI[.840, .967]					
	Higher Risk	0(0)	1(2)	7(14)	42(84)	50
	Lower Risk	5(10)	27(54)	12(24)	6(12)	50
Netherlands	$\chi^2(3, n = 100) = 39.57, p < .001, \Phi_c = .63$; AUC = 0.845, 95% CI[.768, .922]					
	Higher Risk	1(2)	11(22)	6(12)	32(64)	50
	Lower Risk	21(42)	18(36)	6(12)	5(10)	50
Spain	$\chi^2(3, n = 85) = 49.60, p < .001, \Phi_c = .76$; AUC = 0.920, 95% CI[.807, 1.000]					
	Higher Risk	1(8.3)	0(0)	3(25)	8(66.7)	12
	Lower Risk	45(61.1)	22(30.1)	4(5.5)	2(2.7)	73
Denmark	Fisher´s exact test $p < .001, \Phi_c = .80$; AUC = 0.897, 95% CI[.796, .997]					
	Higher Risk	0(0)	3(1.1)	1(3.7)	23(85.2)	27
	Lower Risk	4(23.5)	5(29.4)	7(41.2)	1(5.9)	17
Estonia	Fisher´s exact test $p < .001, \Phi_c = .78$; AUC = 0.914, 95% CI[.814, 1.000]					
	Higher Risk	0(0)	1(6.3)	1(6.3)	14(87.5)	16
	Lower Risk	7(36.8)	7(36.8)	3(15.8)	2(10.5)	19
Norway	Fisher´s exact test $p < .001, \Phi_c = .78$; AUC = 0.929, 95% CI[.838, 1.000]					
	Higher Risk	0(0)	2(14.3)	4(28.6)	8(57.1)	14
	Lower Risk	6(40)	7(46.7)	2(13.3)	0(0)	15
Romania	Fisher´s exact test $p = .002, \Phi_c = .73$; AUC = 0.948, 95% CI[.859, 1.000]					
	Higher Risk	0(0)	0(0)	1(25)	3(75)	4
	Lower Risk	8(33.3)	10(41.7)	5(20.8)	1(4.2)	24

Slovenia	Fisher´s exact test p = .008, Φ_c = .69; AUC = 0.831, 95% CI[.657, 1.000]					
	Higher Risk	0(0)	2(20)	0(0)	8(80)	10
	Lower Risk	4(30.8)	4(30.8)	3(23.1)	2(15.4)	13
Total	$\chi^2(3, n = 444) = 236.85$, $p < .001$, $\Phi_c = .73$; AUC = 0.898, 95% CI[.868, .928]					
	Higher Risk	2(1.1)	20(10.9)	23(12.6)	138(75.4)	183
	Lower Risk	100(38.3)	100(38.3)	42(16.1)	19(7.3)	261

The analyses were repeated on the remaining available cases coded in the UK (n = 274) and in the Netherlands (n = 69). The results, shown in Table 5, revealed that the classification in risk levels by KIRAT EU was statistically significant at $p < .001$, with AUC values higher than 0.900 in both subsamples.

Table 7

KIRAT EU Classification in Risk Levels by Offender Type, Including Statistical Significance (UK and NL validation data sets)

Country	Offender type	Low *n*(%)	Medium *n*(%)	High *n*(%)	Very high *n*(%)	Total *n*(%)
UK	$\chi^2(3, n = 274) = 168.35$, $p < .001$, $\Phi_c = .78$; AUC = 0.912, 95% CI[.874, .949]					
	Higher Risk	2(1.7)	3(2.5)	15(12.5)	100(83.3)	120
	Lower Risk	24(15.6)	72(46.8)	47(30.5)	11(7.1)	154
Netherlands	$\chi^2(3, n = 69) = 47.71$, $p < .001$, $\Phi_c = .83$; AUC = 0.906, 95% CI[.810, 1.000]					
	Higher Risk	2(8)	1(4)	4(16)	18(72)	25
	Lower Risk	13(29.5)	26(59.1)	5(11.4)	0(0)	44

Part Two: International Offenders

Following on from the successful development of the European model of KIRAT within part one of this study, part two of the study sought to reveal the effectiveness of the EU model to classify risk amongst the sample of international offenders. In addition to this,

issues with predictor variables, small sample sizes and missing data identified in part one, were addressed.

Data Analysis

The statistical package R 4.2.1 was utilised in part two of this study to cross-validate the effectiveness of the KIRAT EU model, with a sample of international offenders, in the identification of HR and LR offenders. Logistic regression analyses were used to test the diagnostic performance of the model across the whole, and multiple subsamples, of the data. Firth's penalised likelihood regression and exact logistic regression analyses were undertaken to test the classification effectiveness of the model for those countries with small sample sizes as they are more powerful and not influenced by separation in the data (perfect predictors). Both, rather than one of these methods were undertaken to make sure that the results were convergent.

Finally, it was noted that a number of the countries had a higher proportion of missing data therefore complete case analysis was then undertaken in order to test the effectiveness of the classification of the model with only complete data. Incomplete cases were identified as those with an absence of recorded information (blank cells), for one or more of the variables under study, and were therefore excluded from the analysis. In contrast to this, for all aforementioned analyses, missing data was coded as 0 (not present) in line with how data would be treated in an operational policing setting in which the tool would be used, i.e. 'not known' it is treated the same as 'no'.

Results

Total and Individual International Samples. The predictive utility of the KIRAT EU model was tested on the total sample of offenders (n = 1,148), table 1 below gives an overview of these results.

Table 1

KIRAT EU Classification and Statistical Significance (All Countries)

	Odds Ratio	95% CI	*p*	CCR%	TPR[12]	FPR	TNR	FNR
All countries[13]	26.72	19.05 to 37.49	<0.001	81.71	449	52	489	158

Logistic regression tests revealed highly significant differences in risk classification between the HR and LR offenders, $p < .001$. With those classified by KIRAT EU as being high risk, almost 26 times more likely to be HR.

Testing the KIRAT Model With/Without Variables 'Previous Conviction for a Contact Sexual Offence' and 'Previous Allegation of a Contact Sexual Offence'. Despite the tools' ability to correctly classify a high proportion of offenders as lower or higher risk, the model could be criticised for its inclusion of two predictor variables. 'Previous conviction for a contact sexual offence against a child' and 'previous allegation for a contact sexual offence against a child', are both utilised within the risk scoring system of KIRAT yet they are also however, both outcome variables (i.e., they individually dictate that the individual is higher risk).

In order to test the utility of KIRAT EU to correctly classify offender risk without the influence of these variables, three additional versions of the KIRAT model were then tested against the total sample of data to account for the inclusion and/or exclusion of these factors. Model 2 (both 'previous conviction for a contact sexual offence against a child' and 'previous allegation for a contact sexual offence against a child' removed from the model), Model 3 (variable 'previous allegation for a contact sexual offence against a child' removed from the model) and Model 4 (variable 'previous conviction for a contact sexual offence against a child' removed from the model). The results are presented in Table 2 below.

[12] True positive rate (TPR), false positive rate (FPR), true negative rate (TNR), false negative rate (FNR).
[13] All countries sample size *n*= 1148 (Non-contact= 647, Dual= 501)

Table 2

KIRAT EU Classifications and Statistical Significance With/Without Previous Conviction/Allegation of Contact Sexual Offence Variables

	Odds Ratio	95% CI	*p*	CCR%	TPR	FPR	TNR	FNR
All countries[14]								
Model 2[15]	10.3	7.83 to 13.55	<0.001	76.22	383	118	492	155
Model 3[16]	20.05	14.65 to 27.43	<0.001	80.40	434	67	489	158
Model 4[17]	14.85	11.08 to 19.90	<0.001	78.75	414	87	490	157

As summarised in Table 2, the results revealed that the classification in risk levels by KIRAT EU across all three models, where the two 'contact sexual offence' variables are individually or collectively present or absent, was statistically significant $p < .001$. With those classified by KIRAT EU as being high risk under model 2 nearly 10 times more likely to be HR, those under model 3 almost 20 times more likely, and those under model 4 nearly 15 times as likely to be HR. Whilst all three models have similar numbers of true and false negative rates, the odds ratio for model 3 has been driven up by the true positive rate, with the highest number of correct classifications of *HR* offenders across all three models.

International, European and Individual Country Samples. Due to the diverse nature of the sample, which incorporates data from 12 countries from around the world, the risk classification of KIRAT EU was firstly tested against grouped countries based on their locality, in order to compare results. The European countries (UK, Denmark, Netherlands, Estonia, Spain, Romania, Norway and Slovenia) and International countries (Australia, Canada, Spain Israel and New Zealand) were grouped. Data provided by individual countries was then analysed to test the effectiveness of the model to correctly classify HR and LR offenders within singular countries.

[14] All countries sample size *n*= 1148 (non-contact= 647, dual= 501).
[15] Model 2, variables 'previous conviction for a contact sexual offence against a child' and 'previous allegation. for a contact sexual offence against a child' removed from model.
[16] Model 3, variable 'previous allegation for a contact sexual offence against a child' removed from model.
[17] Model 4, variable 'previous conviction for a contact sexual offence against a child' removed from model.

Table 3

KIRAT EU Classifications and Statistical Significance of European Countries, International Countries, and Individual Countries

Country	Odds Ratio	95% CI	*p*	CCR%	TPR	FPR	TNR	FNR
European Countries[18]	17.34	11.80 to 25.47	<0.001	78.02	287	41	327	132
International Countries[19]	91.76	43.88 to 191.91	<0.001	89.75	162	11	162	26
Individual Countries								
Australia[20]	98.35	32.75 to 295.34	<0.001	90.91	61	7	79	7
Canada[21]	172.73	21.36 to 1396.63	<0.001	88	50	1	38	11
Denmark[22]	2.67	0.76 to 9.43	0.13	63.64	19	8	9	8
Estonia[23]	6.25	1.40 to 27.93	0.02	71.42	10	6	15	4
Israel[24]	2734513373.79	0 to Inf	1.00	89.36	16	0	26	5
Netherlands[25]	13.45	6.37 to 28.40	<0.001	78.11	61	14	71	23
New Zealand[26]	73.89	13.57 to 402.43	<0.001	90.00	35	3	19	3
Norway[27]	28.83	335 to 169.39	<0.001	82.76	11	3	13	2
Romania[28]	1.18	0.14 to 9.83	0.88	85.71	0	4	24	0
Slovenia[29]	20.25	1.88 to 218.36	0.01	78.26	9	1	9	4
Spain[30]	189.75	19.37 to 1858.51	<0.001	94.18	11	1	69	4

[18] European countries (Denmark, Estonia, Netherlands, Norway, Romania, Slovenia, Spain & UK) sample size *n*= 787 (Non-contact=459, Dual= 328)
[19] International countries (Australia, Canada, Israel & New Zealand) sample size *n*= 361 (Non-contact= 188, Dual= 173)
[20] Australia sample size *n*= 154 (dual= 86, non-contact= 86)
[21] Canada sample size *n*= 100 (dual= 51, non-contact= 49)
[22] Denmark sample size *n*= 44 (dual= 27, non-contact= 17)
[23] Estonia sample size *n*= 35 (dual= 16, non-contact= 19)
[24] Israel sample size *n*= 47 (dual= 16, non-contact= 31)
[25] Netherlands sample size *n*= 169 (dual= 75, non-contact= 94)
[26] New Zealand sample size *n*= 60 (dual= 38, non-contact= 22)
[27] Norway sample size *n*= 29 (dual= 14, non-contact= 15)
[28] Romania sample size *n*= 28 (dual= 4, non-contact= 24)
[29] Slovenia sample size *n*= 23 (dual= 10, non-contact= 13)
[30] Spain sample size *n*= 85 (dual= 12, non-contact= 73).

The results, shown in Table 3, revealed that KIRAT EU had predictive utility based on the International dataset only, at $p < .001$, and that the tool demonstrates almost a 90% CCR. These results illustrate the predictive utility of the tool, across both European and International offender datasets. Table 4 also depicts significant results for all individual countries, with the exception of Denmark ($p = 0.13$), Israel ($p = 1.00$) and Romania ($p = 0.88$).

Further examination of the datasets revealed small samples provided by each of the three countries, in comparison to most other countries. The results, as summarised in Table 4, indicate that none of the Romanian HR offenders were correctly classified by the EU model. The analysis resulted in 0 to infinity confidence intervals for Israel, this is due to the fact that the HR subgroup has a probability of a positive outcome close to 1 (16 "HR" & 0 "LR" vs balanced TNR and FNR). Therefore, resulting in the corresponding odds ratio being extreme, and the difficulty in estimating extreme values precisely. This issue was further explored in the below section focussed on 'small sample size' countries.

The additional three KIRAT models (2, 3 and 4, where previous convictions and allegations for contact sexual offences were both or individually removed from the calculation) were also subject to further logistic regression analyses utilising the three above samples (i.e., European, International, and individual countries). Results for these analyses can be found within the supplemental information (Table S1).

Small Sample Size Countries. The samples provided by six of the countries were sparse and the data contained rare events of the predictor variable (Israel n = 47, Denmark $n = 44$, Estonia $n = 35$, Norway $n = 29$, Romania $n = 28$ and Slovenia $n = 23$). Firth's penalised logistic regression analysis was utilised in order to correct for this. Table 5 below provides an overview of the results. The results from Tables 4 show that the EU model is significantly better at classifying offenders as HR and LR in Estonia ($p = 0.01$), Norway ($p < .001$) and Slovenia ($p = 0.004$). Significant differences were not found for Israel ($p = 6.98$), Denmark ($p = 0.13$) and Romania ($p = 0.87$), explained by the small sample sizes. However, the odds ratios indicate that offenders are 15,800%, 156% and 17% more likely in Israel, Denmark and Romania, respectively, to be classified as HR.

Table 4

Firth's Penalised Logistic Regression Output for Small Sample Size Countries

Country	Odds Ratio	95% CI	*p*	CCR	TPR	FPR	TNR	FNR
Israel[31]	159.00	1.70 to 2.14	6.98	89.36	16	0	26	5
Denmark[32]	2.56	0.76 to 9.04	0.13	63.64	19	8	9	8
Estonia[33]	5.56	1.40 to 25.59	0.01	71.43	10	6	15	4
Norway[34]	17.74	3.36 to 133.79	<0.001	82.76	11	3	13	2
Romania[35]	1.17	0.16 to 8.78	0.87	85.71	0	0	24	4
Slovenia[36]	13.37	2.09 to 156.11	0.004	78.26	9	1	9	4

Utilising the data from the same five small sample size countries, a second layer of analyses was then performed by way of an exact logistic regression. This was undertaken in order to ensure that the results, detailed in Table 5 below, are convergent.

Table 5

Exact Logistic Regression Output for Small Sample Size Countries

Country	Odds Ratio	95% CI
Israel	99.46	0.01 to 96.73
Denmark	0.58	0.01 to 49.88
Estonia	1.46	0.02 to 117.96
Norway	1.20	0.01 to 101.91
Romania	1.17	0.01 to 96.73
Slovenia	72.08	0.01 to 63.61

The results of the exact logistic regression reveal that individuals within the Israel sample are 9846% more likely to be classified as HR, Slovenia 7108% more likely, Estonia 46% more likely, Norway 20% more likely and Romania 17% more likely. In contrast,

[31] Israel sample size n= 47 (dual= 16, non-contact= 31).
[32] Denmark sample size *n*= 44 (dual= 27, non-contact= 17).
[33] Estonia sample size *n*= 35 (dual= 16, non-contact= 19).
[34] Norway sample size *n*= 29 (dual= 14, non-contact= 15).
[35] Romania sample size *n*= 28 (dual= 4, non-contact= 24).
[36] Slovenia sample size *n*= 23 (dual= 10, non-contact= 13).

individuals within the sample provided by Denmark were 42% less likely to be classified as HR.

Missing Data. Within the total sample of data, it is noted that there are differing amounts of missing data for individual variables across countries. During data collection, for some of the countries, missing data has been coded as 'No' (entered as 0) whereas for others, missing data has remained missing (no data entered).

In order to examine the predictive utility of the KIRAT EU model where only complete data has been provided, a complete case analysis (CCA) was undertaken. The CCA was conducted on the total sample of offenders from all countries, excluding any offenders where missing data was present for any of the individual variables (n = 943).

Table 6

KIRAT EU Complete Case Analysis Output

	Odds Ratio	95% CI	*p*	CCR	TPR	FPR	TNR	FNR
All countries[37]	37.74	25.08 to 56.78	<0.001	83.35	387	33	399	124

These results again highlight the significant predictive utility of the EU model and that it is highly efficient at classifying HR and LR offenders (p <.001). The tool performs similarly well to that of the total sample analysis and International data analysis (Table 1 and Table 3).

Discussion

Part one of this study examined 52 aspects deemed to be potentially useful to the prioritisation of IIOC offenders, resulting in an adapted version of the KIRAT tool. The final, provisionally named, KIRAT Europe (EU) tool largely mirrors the UK version. It is represented as a phased decision tree, with 16 variables (reduced to eight dichotomous yes/no items) across four decision steps in which items query (1) previous police and legal record, (2) access to children, (3) offender's behaviour during the offence that led to index arrest, and (4) other factors. The structure of the tool and the risk prioritisation process remains the

[37] All countries sample size n= 943 (non-contact n= 647, dual n = 501).

same, throughout completion of each step a ‘risk score’ is provided, and a final output specified upon completion of the assessment. This four-level risk classification includes low, medium, high and very high scores: the output of the first step within the tool is a direct indication of concurrent risk, whilst the outputs from the following three steps imply keeping the provisional risk classification or increasing it.

It was hypothesised that a risk prioritisation model for use with IIOC offenders would hold across European countries specifically based on the findings from Long et al. (2016), that dual offenders across Europe as compared to IIOC only offenders, would be more likely to (a) present a previous criminal history, (b) have close and unsupervised access to children, (c) engage in behaviours towards contact offending, and (d) be known for prior domestic abuse and/or substance misuse. The resulting analysis revealed that hypotheses a) to d) were supported. KIRAT EU is a slightly simplified version of KIRAT v2 (Long et al., 2015) as ‘access to children of friends/acquaintances/neighbours’ was collapsed with ‘any close and unsupervised access to children’. The variation in findings between European and UK countries, in relation to access to children, is likely due to national differences in legal frameworks and the way in which data is collected by different European police agencies rather than actual differences between offenders. This view is supported by the participating European partner agencies following analysis of the results and further testing of KIRAT EU within the individual countries (unpublished).

Part two of this study examined the predictive utility of the KIRAT EU model with a sample of International offenders. It was hypothesised that, utilising the European tool, the International sample would (e) differentiate dual and IIOC offenders based on hypotheses (a) to (d), and (f) the European model would display good predictive accuracy without the inclusion of variables linked to previous convictions/allegations for contact sexual offending against children. The resulting analysis revealed that hypotheses (e) and (f) were supported. The results established that, the KIRAT EU principles of risk hold across 12 countries, within Europe and beyond, and as such the final model has been demonstrated as applicable within these countries irrespective of cultural differences. As expected, part one and two study findings reveal the relative homogeneity of risk factors for contact offending and confirm that a relatively simple resource management tool can be used by police within these countries to prioritise risk. It is too premature to claim KIRAT’s applicability worldwide and whilst these findings are encouraging, further testing of the KIRAT EU model in other continents, such as Africa and Asia, should follow.

The findings from this study contribute significantly to the emerging literature base in this field, as the joint European and International dataset is the most comprehensive of its kind collected to date. Part one of the study examined 52 variables that are readily available to the police, and associated with higher probability of contact sexual offending, of these examined only 16 variables were found to assist law enforcement or academics to reliably determine risk posed by offenders. This supports findings from Long et al. (2015), who proposed that many socio-demographic characteristics of higher and lower risk offenders are more varied than expected. The results of this paper demonstrate that this argument also applies to child sex offenders across the world, irrespective of differences in cultural dimension. These findings also further support those from Becerra-García et al. (2013), who found that criminological characteristics, such as previous convictions, are not culturally dependant and that pathways to offending, and facilitators for offending, are largely universal.

The application of KIRAT to 12 countries from around the world, provides a significant contribution to the literature on risk prediction and police prioritisation of child Internet sex offenders. The KIRAT tool is demonstrated to be fit for purpose as a law enforcement risk prioritisation and resource management aid, supporting agencies dealing with vast numbers of individuals suspected of IIOC offending. Prior to KIRAT's inception, IIOC investigations were prioritised based on the judgement and experience of individual officers, where assessments were inconsistent and subject to bias. KIRAT EU provides an evidence-based and academically validated approach to the prioritisation of cases for use with law enforcement agencies across the world.

These studies have served to validate KIRAT within the context of police investigations and the results of these studies have numerous practical implications and operational advantages for law enforcement agencies internationally. Firstly, the tool provides standardisation. Police officers and investigators do not have to rely solely on personal judgements and individual levels of experience, the tool enables all officers to process information gained as part of an investigation in a uniform and streamlined way, in order to effectively safeguard children. Whilst the findings of the KIRAT studies (Long et al., 2015) are not surprising to law enforcement, the significance of variables for the purposes of risk prediction were unknown, and variables that are not valuable for prioritisation whilst an investigation is underway (i.e. those that are not necessarily known prior to a suspect's arrest) have been filtered out. Over 150 variables that have been examined as part of the KIRAT v2 and KIRAT EU development have been discarded. It is stressed however, KIRAT EU should

complement the experience and personal judgement of officers and that these factors are still important components of the risk prioritisation process. Officers can still process cases as they see fit, as long as they report why their opinion overrides the risk category proposed by the tool (Long et al., 2015).

Secondly, the tool has much practical utility. KIRAT EU has now been formally tested within law enforcement agencies across 12 countries. The tool is also easy to translate into other languages and is accompanied by a guidance manual. The assessment is quick to complete, taking no more than a few minutes per case, it requires little formal training to apply the tool and answers to items are non-subjective (i.e., is there evidence or intelligence of; yes/no/unknown). KIRAT EU provides an empirically-based categorisation of each case, across each of the four steps into low, medium, high or very high, enabling officers to sequence cases by order in which they will be investigated and by risk of previous and/or concurrent contact sexual offending. The assessment can easily be rerun and the risk reassessed as new evidence or intelligence is uncovered as the investigation progresses. For example, a suspect's criminal record can be easily established at the commencement of the assessment however, their access to children may only be uncovered following further intelligence checks, the results of which may not be immediately accessible. KIRAT EU is a dynamic decision aid that offers support to the management of operational response times and assists to identify cases where an immediate response is needed or whether lengthier response times can be tolerated relative to the high priority cases.

A third advantage of KIRAT EU is that study two highlighted the predictive utility of the tool without the inclusion of factors linked to the offender's previous history of contact sexual offending against children (convictions and allegations). It is important for risk prediction models to look beyond past offending history to prioritise risk as it is suggested some deemed to be Internet-only offenders are likely to have undetected offline offences (Seto at al., 2011; Bourke and Hernandez, 2009). The results of study two show that where there is no history of previous contact offending, whether undetected or otherwise, other dynamic factors included within KIRAT offer their support and are valid risk predictors assisting to differentiate dual offenders. A fourth advantage of KIRAT, there is little offenders can to reduce their allocated risk category. Whilst previous studies have found differences between dual and noncontact offenders in the number and type of IIOC they possess (Long et al., 2013; McCarthy, 2010; McManus et al., 2015; Seto and Eke, 2015), these studies reveal that the best discriminative variables are relatively simple, focussing on general antisocial behaviour, opportunity afforded by access to children, and current

behaviours that demonstrate efforts towards contact offending. These variables offer the most consistency in that they are generally available to law enforcement prior to the suspect's arrest, often unlike variables such as those linked to an offender's image collection. Finally, the development of an internationally validated risk prioritisation tool could work to assist other countries to support the global exchange of information of offenders and victims who may be located in opposite parts of the world. Many nations could benefit from a joined-up approach, a similar spoken language regarding risks posed by child sex offenders.

Study Limitations

There are several limitations of the studies. Firstly, as acknowledged as part of study two and corrected for, a number of samples provided by individual countries are small. However, these numbers represent the reality of data collection for law enforcement agencies and the numbers provided are representative of the available data in each country and/or cases for which offenders had been convicted and cases were deemed complete. Each law enforcement agency has formally expressed that they are satisfied with the data provided and with the tool. Secondly, there were varying amounts of missing data across the country samples, this is due to differences in data coding and data recorded by law enforcement agencies. Missing data is ubiquitous in samples originating from law enforcement agencies, often it is not relevant for the purposes of the investigation for certain information to be recorded. As part of the prioritisation process, missing or unknown information for the purposes of KIRAT EU assessment is treated the same as 'No' therefore not impacting upon the assessment outcome. The analysis of the total dataset and the complete case analysis demonstrated KIRAT EU to be a significantly effective risk prioritisation model, regardless of missing data.

Thirdly, as previously discussed, research demonstrates that up to half of IIOC offenders could have undetected contact offences (Seto et al., 2011), therefore potentially skewing the results of the analyses undertaken. Due to the higher incidences of contact offending amongst IIOC populations with self-report data (Seto et al., 2011; Neutze et al., 2011; Bourke & Hernandez, 2009), it is possible that the results of these studies, and the structure of the KIRAT EU model, may have been different had this data been included. Another minor factor to consider regarding data collection is that further exploratory analysis would not have been possible within this study due to the fact that the data was, in part, already collated. In future studies, especially with those countries deemed potentially significantly culturally different, it will be important for the data collection design to provide

a broader scope. However, validation studies are generally confirmatory rather than exploratory, therefore this may only be necessary if a new/altered model were in development.

Finally, we did not control for multiple comparisons of the data as part of study one, as the development of KIRAT EU (mirroring that of KIRAT v2) was not purely an academic exercise. The KIRAT EU model is a trade-off between statistical significance, psychological meaning, and practical policing application. The resultant tool is to be applied by the police, not academics, as part of police investigations. Partner law enforcement agencies were consulted during the development of the tool and confirmed the applicability of the tool in this context, and that the tool has been endorsed by their officers.

Recommendations for Future Research

In the future, further international validation studies will be required where further international law enforcement organisations sight their interest in the tool. This would be especially prudent for those located in regions such as Asia, in which research indicates the cultural differences results in reduced overall sexual offending rates than those generally seen across the globe (Tanaka et al., 2017) potentially therefore resulting in unrepresentative outputs in research. It would also be useful to cross-validate KIRAT EU with sex offender recidivism risk assessment tools that have been developed (or applied to) for Internet offenders. This includes tools such as Risk Matrix 2000 (Thornton et al., 2003) and CPORT (Seto & Eke, 2015) as they provide evidence that established criminogenic risk factors such as age and criminal history can predict sexual recidivism of Internet sex offenders despite low offending rates (Seto et al., 2011). However, these tools have been developed specifically to predict recidivism and have therefore not been validated for use in examining the likelihood of past or concurrent contact sexual offending at the time of arrest for IIOC offending. Currently, KIRAT is the only tool that has been specifically designed to assist police in police contexts. Whilst not a focus within this thesis, KIRAT has to date not yet been validated with females and adolescents. Depending on policing need, this could additionally be a future area of research focus. Finally, it would also be beneficial to examine whether the predictive utility of KIRAT EU as compared to the personal opinion of police officers, is more valid as a prioritisation method and an effective use of limited police resources.

Conclusions

During the last decades, a distressing global pattern has emerged where dedicated law enforcement agencies internationally have been overwhelmed by the sheer volume of IIOC offending. The validation studies presented in this research, have proven KIRAT EU to be an effective risk classification tool across international populations of offenders and have demonstrated the utility of KIRAT as part of an investigative strategy within IIOC investigations, to assist with the management of large volumes of cases. KIRAT EU is represented as a phased decision tree across four steps, with 16 variables (reduced to eight dichotomous yes/no items), examining previous police and legal record, access to children, current online and offline behaviour, and other relevant factors. The model classifies most high-risk offenders within higher risk levels and the majority of low-risk offenders within low or medium risk levels. The results suggest that KIRAT EU has considerable advantages over personal opinion alone, and the tool remains the only of its kind validated for use within the context of police investigations. The tool is easy to use and requires little formal training. KIRAT EU provides a standardised method by which police officers can make fast paced decisions regarding the prioritisation of IIOC cases in order to identify those who pose the highest risk, in order to safeguard children and protect them from abuse.

Chapter Four

A Mixed Method Evaluation of the KIRAT Online Training Course

Abstract

The KIRAT online training course was rolled out to UK police forces in 2022 as part of the launch of KIRAT version 3 following a review and update of the tool. All UK law enforcement practitioners (police officers, civilian police staff and NCA officers) undertaking roles within child sexual abuse and exploitation (CSAE) investigations, specifically related to indecent images of children (IIOC), were required to undertake the training. The aim of this paper is to undertake a mixed methods evaluation of the training course. The quantitative sample comprised of 777 law enforcement practitioners who completed, in whole or in part, the training modules. The qualitative data sample comprised of data from 101 practitioners who completed an online questionnaire, provided live feedback during the completion of the training modules, or attended an online focus group/practitioner interview.

This paper was split into two studies, quantitative and qualitative data analyses, study one is further split into part A and B. Within study one, part A, analysis was conducted to establish whether the training provided practitioners with the requisite knowledge of KIRAT-based contact offending risk factors. Within study one, part B, analysis was conducted to establish whether the training provided practitioners with the necessary understanding to apply the tool effectively as part of criminal investigations. Study two then sought to undertake a process evaluation of the training to establish practitioner views, opinions, and experiences of what worked well in the training and what required improvement.

Study one, part A, utilised Wilcoxon Signed-rank tests which indicated that completion of the training modules did not produce increased accuracy in the identification of factors deemed to be relevant to the identification of contact offenders post-training compared to baseline. A negative binomial hurdle model found that previous attendance at KIRAT training, previous use of KIRAT, and number of years' experience with CSAE investigations (demographic factors) were not predictors of change in the count of zero-hurdle models. However, descriptive statistics revealed that practitioners performed well at baseline which therefore helps to explain the non-significant results as practitioners performed equally well across pre- and post-training tasks. Results from study one, part B, highlighted that over 97% practitioners passed the course on the first attempt. Firth's penalised likelihood regression found no significant differences in demographic factors to

whether practitioners passed or failed the course. Results of ordinal regression analysis showed that there were also no significant association between demographic factors and the number of case attempts it took practitioners to pass the course assessment. Study two found a number of intervention effects of the training contributing to successful outcomes the comprehensive and interactive nature of the training, the structure and format of the training and the online format of the course. Factors that could hinder positive outcomes, requiring further review, included consideration of a condensed course for those who have previously attended KIRAT training courses, disagreements with risk ratings within some of the case examples, further explanation of risk factors, the way in which information is delivered, and technical issues hindering course completion.

The findings reveal the KIRAT training course to be an effective measure to provide law enforcement practitioners with the relevant knowledge of contact offender risk factors and the knowledge to apply KIRAT within IIOC investigations. However, given the saturation of the sample with practitioners who had previous knowledge of KIRAT via previous training, previous use of the tool and/or experience with CSAE investigations, participants did not demonstrate improved performance before and after training. Further research is required to establish the results of the training for practitioners who have no previous knowledge of KIRAT. Further to this, the findings of this study also contribute to the limited literature base within CSAE police-training evaluation and the use of mixed methods research.

Introduction

Prior to the use of KIRAT within investigations practitioners are required to undertake formal training (Long, 2015). Within the context of KIRAT, the training provides the requisite knowledge of risk factors for contact sexual offending amongst the IIOC offender population and demonstrates the application of the tool. To date, formal evaluation of the KIRAT training programme has not been undertaken. Completion of the aptly named 'smile sheets' (Glenn, Raymond et al., 2003: 62) by trainees at the end of previous KIRAT training sessions, querying practitioners experience of the training, have been the only measure of the training's effectiveness and success.

In order to assess the adequacy of training programmes and to understand whether they are effective and efficient in achieving intended outcomes, the use of evaluation is imperative (Huey, 2018; Sherman, 2013). Evaluation enables researchers and practitioners to identify not only whether the training under study has worked according to the outcomes, it can also provide more insight into the extent to which training worked, why, how, the context in which it worked, and the experiences of users (Kime, 2018). Without such evaluation, there can be no clear and definitive evidence to demonstrate whether training has been effective (Kime, 2018). Evaluation is also a key component of an evidence-based policing approach whereby evidence is used to inform and challenge policing practices, decisions, and policies (College of Policing, 2023; Kime, 2018; Sherman, 1998). Introduced within the last 20 years in the UK, and gaining rapidly increasing support in more recent years, evidence-based practice is an important pillar of modern policing and crucial to transparency, legitimacy and support of the police from the public perspective (Brown et al., 2018; Pepper et al., 2020).

The effective evaluation of training programmes has shown opportunities to save law enforcement officers time, and the resources and finances of agencies (Kime, 2018). Policing within the UK is currently dealing with financial austerity in the wake of huge cuts to budgets (Pepper, 2020). Ensuring the efficient use of practitioner time attending and undertaking training, removing officers and staff from their policing roles, is ever more important in light of this (Kime, 2018; Mitchell & Lewis, 2017). In addition, the Coronavirus pandemic caused widespread disruption to the delivery of in-person training which provided further support for discussions that were taking place regarding the move of the training into an online format. However, reports indicate that there is a lack of published studies within the literature aimed at evaluating police-based training, indicating that such courses are rarely subject to this form of appraisal (de la Fontaine et al., 2022; Huey, 2018; Stanko & Dawson, 2015; Mugford et al., 2011). Given the significant public investments made in the police, it is disconcerting that

the evidence base on what works in police training, whether current practices are effective at meeting training objectives, and the economic implications of training delivery is still very limited (Stanko & Dawson, 2015). A review by Aguilar-Moya et al. (2013) found that evaluations of police training have started to rise in recent years and the topics of focus, methods of training delivery and evaluation protocols are diverse. However, there are still limited numbers of evaluative studies of police training comparative to other areas of police research. Where more recent studies exist, many are descriptive in nature rather than evaluative (Aguilar-Moya et al., 2013). A recent attempt by Huey (2018) to undertake a systematic review of the literature in Canada, focussed on in-service police training over a 15-year period, was unsuccessful due to the insufficient number of evaluation studies which were either focussed on one specific topic or utilised one specific training technique.

This lack of evaluation is concerning given that ineffective training interventions led by the police can lead to financial waste, damage and lasting harm (Mitchell & Lewis, 2017). There is also a lack of research within the literature citing police-based training that was found to be ineffective. A singular recent example within the UK was the removal of unconscious bias training for civil servants (Cabinet Office, 2020; Lopez, 2020). A review found there to be no evidence that the training achieved its intended outcomes and it in fact led to unintended negative consequences (The Behavioural Insights Team, 2020). Of additional interest, the report also found that there was a bias towards studies published in journals that found positive results from the training and identified that evaluation studies finding the training to be ineffective, were less likely to be subject to publication.

Specifically, in relation to the KIRAT training, ineffective training could lead to the incorrect implementation of the tool within investigations. Consequences of this possibly include, for example, ‘higher risk’ suspects classified as ‘lower risk’ resulting in the proceeding incorrect response times set for further action (Long et al., 2015). This in turn could lead to a child in need of safeguarding and protection, at risk of further harm. It is also important for the training to effectively communicate the risk factors, in the context of KIRAT, relevant to the identification of contact sexual offenders. The current evidence indicates that many police officers and staff, across a number of ranks, with varying levels of service, and from frontline officers to those in specialist teams, receive limited training specifically focussed on CSAE (Centre of Expertise on Child Sexual Abuse; CSA Centre, 2022; Skidmore et al., 2022; Roberts et al., 2021). Officers therefore will develop their own investigative beliefs regarding offender risk factors and the risks posed to victims as they ‘learn on the job’ (CSA Centre, 2022). This knowledge will come from their own experiences

and that of their colleagues, leading them to apply these beliefs to cases. Yet the research literature remains unclear the extent to which experience is beneficial to investigative knowledge and decisions (Fahsing & Ask, 2016).

There are no studies within the literature that report on practitioner decision-making regarding risk specifically in IIOC cases. However, it can be speculated that various factors may be prevalent in practitioners' beliefs regarding risk for a variety of reasons from their own observations. A number of factors included within KIRAT feature in the literature. Those who pose a risk of contact offending have been found to be more likely to have previous convictions (McManus et al., 2015; Long et al., 2012), fitting in with the idea that 'past behaviour predicts future behaviour'. They also are likely to engage in other contact offence facilitating behaviours such as grooming (McManus et al., 2015) where the known goal outcome of the offender is some form of sexual satisfaction. Access to children is a key risk factor found across the research literature (Babchishin et al., 2011), an easily recognisable factor indicative of risk given the need of access to provide opportunities to contact offend (McManus et al., 2015; CEOP, 2012; Long et al., 2012). CEOP (2012) previously advised that those with access to children should be treated as an immediate priority which may have also influenced investigative practice.

A number of other potential risk factors that practitioners may consider that do not feature within KIRAT are also discussed within the literature. Suspect age may be considered regarding the risk posed to children (CEOP, 2012), given the inclusion of this factor within other older risk tools (for predicting recidivism) such as the Risk Matrix 2000 (Thornton, 2007) and the Static-99 (Hanson, 2005). Other research studies also indicate offender age as an important factor in relation to the decline of recidivism as offenders get older (Barbaree et al, 2003; Hanson & Bussiere, 1998). Research also generally shows that offenders are from a range of ethnicities (Babchishin et al., 2011). Additionally, included in the RM2000 is a factor regarding victim gender (Thornton, 2007). Some studies have indicated that individuals who access IIOC containing boys (especially where victims are pre-pubescent), or where it is known that boys are a preferential victim (Long et al., 2013), pose an increased risk of contact offending (Seto & Eke, 2015; Beier et al., 2009). Recidivism studies have also reported that where victims were male, offenders are more likely to reoffend (Thornton, 2007; Hanson & Bussiere, 1998; Hanson, 1998). Other influences on practitioner knowledge of contact offending risk factors are possibly also influenced by the criminal justice process. The content, quantity and image category has traditionally been a focal point for risk as assessed by the courts. However, it is evident from research outcomes that these are not the

most reliable indicators of risk in relation to contact offending and these factors are not suitable to be utilised in lone judgements on risk posed to children (CEOP, 2012; Long et al., 2012).

Whilst the above factors may make investigative sense, not all are included within KIRAT and do not contribute to the identification of risk in the context of a pre-arrest suspect prioritisation tool (Long et al., 2015). It is imperative that the KIRAT training effectively communicates the risk predictors to trainees. This will ensure the receptivity of practitioners to deploy KIRAT effectively in conjunction with their professional judgement (Long et al., 2015; CEOP, 2012). The findings of research by Telep and Lum (2014) and Buerger (2010) found that officers tend to feel that their experience should play a more significant role in investigative decision-making by way of their use of discretion. Collaborations between police practitioners and academic partners have been more successful when officer experience and the use of discretion is valued, resulting in the successful implementation of interventions (Telep & Lum, 2014). Therefore, in the context of the KIRAT training, practitioner discretion may play a key role in their identification of risk factors for contact offending based on their own experience.

In order to undertake an evaluation of the KIRAT training, it is vital to first identify research methodologies of other similar studies within the police research literature. As previously discussed, there are a lack of evaluative studies of police training in general, and where they are present, the training topics under study vary considerably between a vast number of different crime types. An exhaustive literature search yielded a number of studies that will further be explored below, yet only two papers were identified where the training under evaluation focussed specifically on sexual abuse training.

The CSA Centre (2022) undertook a qualitative evaluation of two new training courses piloted within the UK with police officers and staff across four forces. Feedback from 84 CSA ‘specialists’ on a half-day course aimed at providing a more critical understanding of CSA was obtained. Further feedback from 77 frontline officers on a one-day course aimed at providing an introduction and overview of CSA was also collated. The evaluation of data collated across an online survey and online semi-structured group interviews resulted in the development of themes based on practitioner responses. The themes highlighted that practitioners had found the course to be credible and relatable, leading the CSA Centre (2022) to report the course as effective. As part of the feedback officers and staff were also asked to report their role within policing and previous training experience to provide more context to their answers. The training courses were updated in line with practitioner feedback

suggesting minor changes. The report authors highlighted the logistical constraints with gaining feedback from police training attendees. They report that of 804 practitioners that attended, only 161 (20%) provided feedback for the study due to demands on frontline/response officer's time immediately after the training session had ended.

An Australian evaluation study by Darwinkle et al. (2013) was able to demonstrate the success of a training course intended for specialists within the field of sexual assault investigation. The course aimed to provide knowledge on the dynamics of sexual offending in order to modify officers' attitudes and perceptions deemed to constitute 'victim-blaming', and officers decisions on the authorisation of sexual assault cases proceeding to court. The evaluation undertook both quantitative and qualitative analysis with findings illustrating the training resulted in increases in cases authorised to proceed to court and decreases in the perception of victim 'responsibility' for offences at post-training compared to pre-training case scenario completion. The qualitative evidence also further highlighted the greater understanding of officers which was the reason for their changes in perceptions and decisions.

Further recent examples of police-based training evaluations using mixed methods have been produced (de la Fontaine et al., 2022; Mehari et al., 2021; Drew et al., 2020; Engelman & Deardorff, 2016; Marzano et al., 2016; Schlosser, 2011) using a range of analyses methods such as thematic analysis (de la Fontaine et al., 2022; Gulati et al., 2021). A number of these studies used pre- and post-training measures to identify the effects of the interventions (Drew et al., 2020; Engelman & Deardorff, 2016; Marzano et al., 2016). Others collated demographic information from police officers and staff, in the form of gender, personality type, and officer status, in order to explore these factors as potential moderators of the effectiveness of the intervention (de la Fontaine et al., 2022; Mehari et al., 2021). Further examples of mixed methods approaches utilised within police training evaluations are provided in Appendix 2.

Mixed methods research is defined by Creswell et al. (2011) as the collection of quantitative and qualitative data that is combined in order to utilise the strengths of both to answer the research question. The merging of both data types enables researchers to develop a deeper understanding of the problem under study, the context in which it occurs, the experiences of those involved, and explore these alongside outcomes (Creswell et al., 2011; Plano Clark, 2010). The results from each phase of data analysis are connected, whereby measurable numeric quantitative evidence is examined alongside qualitative evidence in the form of experiences, explanations, meaning and understanding (Creswell et al., 2011; Pasick

et al., 2009). Creswell et al. (2011) describe the most suitable problems to be investigated using a mixed methods approach as those where analysis of one type of data would be inadequate to develop insight, perspective and understanding about the topic under study. The use of mixed methods approaches within research has been commonplace for a number of years in, for example, medical fields, to solve complex problems and to evaluate medical interventions and outcomes (Creswell et al., 2011). In recent years, the benefits of mixed-methods study have resulted in the use of this approach in the policing research field (Brown et al., 2015), and as outlined above, as part of the evaluation of training aimed at law enforcement. An additional positive consequence of the use of mixed methods evaluation specifically within this area link with the findings from Telep and Lum (2014). They found that collaborations between police and practitioners, i.e., requesting feedback from practitioners regarding training and implementing such changes as part of the evaluation framework, are more likely to be successful when practitioners feel their experience is valued and utilised in the implementation of the intervention. The use of mixed methods to evaluate the outcomes of the intervention introduced, as used successfully within the medical field, has great potential for the evaluation of police training. Utilising process evaluations of police training provides a method to measure the effectiveness of the training and whether it 'solved the problem' (Kime, 2018). The use of a mixed methods approach as part of a process evaluation of the KIRAT training was therefore decided as the most appropriate measure for this study.

The KIRAT online training programme was developed over a number of months in a partnership between KIRAT-project staff at the University of Liverpool (UoL). The training was rolled out nationally to all UK law enforcement (both police forces and the National Crime Agency) in June 2022 and replaced the previous one-day face-to-face training. The online training programme was designed to allow law enforcement practitioners remote access to the training as and when required. Not only was the switch to online training deemed to be potentially more economically viable, it also resolved previous issues with training delivery due to a lack of capacity to meet practitioner demand. The lack of capacity to undertake face-to-face training events resulted in practitioners reliant on colleagues with knowledge of KIRAT to provide unofficial training and learning to use the tool 'on the job'. In some cases, practitioners had not received any training prior to their use of KIRAT within IIOC investigations. KIRAT training statistics based on the delivery of face-to-face events reveal that approximately 270 police officers and staff attended training between 2012 and 2017 (H. M. Rhodes, personal communication, 2017). Therefore, it would be expected that

some practitioners undertaking the online training would have attended the previous face-to-face-training. These practitioners, and those with a number of years previous experience working within CSAE investigations with some possible knowledge of KIRAT, would potentially perform better at tasks and assessments contained within the new online training.

The KIRAT online training programme is hosted on the College of Policing's (CoP) College Learn platform, which hosts a variety of training packages for policing purposes. All law enforcement practitioners working within roles dealing with CSAE investigations, specifically including IIOC investigations, were required to complete the online training regardless of their previous training experience and use of the tool. This was due to the launch of KIRAT version 3 (v3) alongside the updated training programme following a review of version 2 of the tool in 2020/21 by UoL (Tejeiro & Alison., 2021). The review highlighted several minor modifications required to the tool in-line with research findings and practitioners' feedback, with updates within KIRAT v3 outlined in the online training.

The previous face-to-face training course was delivered over one day. The content of the training was separated into sections covering the historical development of KIRAT, the tools academic development and validity, and each of the steps and items within the tool was described along with case examples. The training was completed by a practical session whereby practitioners would complete KIRAT forms using example case studies. The online course consists of four modules and was modelled on the face-to-face training structure. Module one offers a general overview of the purpose and historical development of KIRAT. At the start of the module one practitioners are asked to provide demographic information in relation to their attendance at previous KIRAT training, previous use of KIRAT, and number of years' experience working with IIOC investigations. Additionally, practitioners are asked to identify factors that they would identify to relevant to the prioritisation of dual offenders Module two provides a detailed insight into the structure of the tool including all steps, the interpretation and correct application of individual items and risk scoring process. After the introduction of each individual item practitioners are provided with short case examples and asked to indicate whether the item is present in the case information. Module three provides an opportunity for trainees to practice knowledge learnt in the previous module. Practitioners are guided through the completion of KIRAT assessments using a number of more detailed example case studies. Practitioners are then required to complete a number of KIRAT's using additional example case studies, indicating whether KIRAT factors are present or absent in the case study information. Additionally, practitioners are asked to indicate whether they agree with the final KIRAT risk scores provided after the completion of each case study (i.e.,

agree, no - risk score too high, no - risk score too low). Module four forms the final formative assessment which must be successfully completed prior to practitioners deploying KIRAT v3 within investigations. Practitioners have to successfully complete three KIRAT forms based on information provided in case study examples, a maximum of five case study can be attempted before failure.

To date, an evaluation of the effectiveness of the KIRAT training and its intended outcomes, in terms of providing practitioners with the requisite knowledge regarding risk factors amongst the IIOC population for contact offending, knowledge of the application of KIRAT in investigations, and identifying whether any improvements to the training are required has not taken place. Practitioner feedback has been obtained inconsistently across previous face-to-face training sessions, which helped inform improvements to the training delivery and presentation. However, this data was never formally utilised as part of an evaluative research. The roll-out of the KIRAT online training programme allows for a large-scale study to evaluate the new training course. This work is crucial to determine the effectiveness of the training in delivering the key information regarding KIRAT to practitioners in order to ensure its correct use and application within IIOC investigations. The evaluation is also essential to understand whether any improvements to the current online training are required in order to meet these intended outcomes. In addition to this, it is vital to ensure that the training is an effective use of the practitioner time, given that the time required to undertake training will be taken from trainee's everyday roles within CSAE teams.

Data for the below studies was collated between the launch of the training programme in June 2022 to March 2023. Over 800 law enforcement practitioners from across the UK completed, in whole or in part, the online training course. Accordingly, the following studies draws on data from four data sources which included all course completion data recorded by the online training platform, data obtained from virtual focus groups/practitioner interviews, responses to an online questionnaire and live feedback provided by practitioners during the completion of the online training. This study constitutes a mixed method process and outcome evaluation of the KIRAT online training course. The remainder of this chapter is split into study one, forming the quantitate portion of research, which was further split into part A and part B, focussing on two research questions. Study two forms the qualitative portion of the research, considering practitioner feedback of 'what works' in the training and areas for improvement.

Study one, part A considers 1) what is the impact of the training on practitioner's understanding of evidence-based risk factors relevant to the identification of contact offenders amongst an IIOC population? This is measured with pre- and post-training tasks in which practitioners are asked to assign a level of importance to risk factors in relation to their contribution to the identification of contact offenders. It is hypothesised that (a) participants will gain higher accuracy at post-training compared to baseline, (b) the accuracy of participants who had not previously attended KIRAT training will significantly improve post-training, (c) the accuracy of participants who completed modules one, two and three will show better improvement post-training, (d) participants with less experience with CSAE investigations will show more improvement post-training, (e) those with the most experience and those who had previously attended training show 'change' between pre- and post-tasks, (f) those who have attended previous training will perform better on the first task and will show the least amount of change between the two tasks, and (g) a proportion of participants will hold onto their investigative beliefs regarding risk factors not included within KIRAT and not relevant to the identification of contact offenders in this context.

Study one, part B considers 2) what is the impact of the training on practitioners understanding of KIRAT in order to to apply the tool effectively as part of criminal investigations? This is measured through practitioner's pass/fail of the training assessment upon completion of the course and includes examination of the total number of cases attempted by practitioners before they passed. It is hypothesised that (h) practitioners will pass the course and will do so with fewer case studies, (i) participants who completed all online training modules will pass the course and will do so in fewer case study attempts, (j) those with the most previous experience will be more likely to pass the course and will do so with the least amount of case studies, (k) those who have previously attended KIRAT training will be more likely to pass the course than those who have not, and will do so with fewer case study attempts, and (l) those who have previously used KIRAT will be more likely to pass the course and will do so with the least amount of case studies.

The final part of this chapter, study two, forms the qualitative portion of the research. The research questions query (3) what are practitioner views, opinions, and experiences of the training? And (2) what aspects of the training do practitioners feel require improvement?

Study One: Quantitative Data Analyses

Method

Sampling Procedure

The sample under study included all those law enforcement practitioners (police officers and civilian staff) within the United Kingdom (UK) working within teams undertaking investigations into CSAE who completed (in total or in part) the KIRAT Online Training modules. These modules are hosted on, and accessed via, the College of Policing's (CoP) College Learn training platform.

Data Collection

User response data, including answers to all questions and interactions across the four training modules as completed by 'users', and information automatically generated by the learning platform, including records of whether answers selected were correct/incorrect, pass and fail information, and pass scores, was provided by the CoP and utilised within parts one and two of this study. Data was extracted from the CoP's internal learning platform. The dataset was formatted in rows (individual users) and columns (all responses) by CoP and then shared via email. There was no identifiable information included within the dataset, each user was allocated a participant ID based simply on their placement within the spreadsheet (i.e. row 1/participant 1, row 2/participant 2 etc.). Data was collected between June 2022 and March 2023.

Participants

The original sample for studies one and two contained data relating to 832 law enforcement practitioners. For the purposes of study one, part A, participants needed to complete at least modules one and three *(n* = 764) containing the pre- and post-training prioritisation tasks. For the purposes of study one part B, participants needed to complete at least module four (*n* = 767) containing the training course final assessment. When reviewing the data, 55 participants did not meet these criteria and were removed from the sample. The final total sample utilised for these two studies contained 777 practitioners, Table 1 depicts a breakdown of the combinations of training modules completed by participants, separated by study. There is cross-over between participants utilised within the two parts of the study in that some participants included in study part A are also included in the sample for part B.

Table 1

Training modules completed by study

Part A		
		Total
All modules		751
Modules 1, 2 & 3		9
Modules 1, 3 & 4		3
Modules 1 & 3		1
	Total	764
Part B		
All modules		751
Modules 1, 2 & 4		11
Modules 1, 3 & 4		3
Modules 1 & 4		1
Module 4		1
	Total	767

At the beginning of module one participants were asked to indicate whether they had previously attended KIRAT training (Yes/No) and whether they had used any previous versions of KIRAT (including versions 1 and/or 2; Yes/No). Table 2 depicts a breakdown of these responses by study. Practitioners were also asked to indicate how long they had been involved in CSAE investigations. Those who completed the online training (in whole or in part) had been involved in the investigation of CSAE for varying lengths of time, ranging from between less than a year to more than 20 years' (<1 year, n = 82; 1-2 years, n = 313; 3-5 years, n = 171; 6-10 years, n = 127; 11-15 years, n = 17; 16-20 years, n = 9; >20 years, n = 2; missing n = 56).

Novices. There were 263 practitioners who completed the pre- and post-training prioritisation tasks who indicated that they had not previously attended KIRAT training and that they had not previously used KIRAT. This sample are referred to as 'novices' for the purposes of this research. Their experience with CSAE investigations ranged from less than a year to 25 years (M = 2.76, SD = 3.77),

Table 2

Practitioners previous attendance at KIRAT training and previous use of KIRAT

Study Part One A				
	Yes	No	Missing	Total
Attended KIRAT training	181	553	30	764
Previous use of KIRAT	463	271	30	764
Study Part One B				
Attended KIRAT training	181	553	30	767
Previous use of KIRAT	465	272	30	767

Design

This study used a 3x3 within-subjects design. The independent variables were previously attended KIRAT training, previous use of KIRAT and number of years involved in CSAE investigations. The dependent variables were pre- and post-training prioritisation task score, course pass/fail, number of case study attempts to pass the training.

Measurement

Part A. The training modules include a pre- (task one) and post-training (task two) prioritisation task, the responses to these are included as outcome variables in part one of this study. The task displays 18 risk factors deemed relevant or irrelevant by KIRAT to the identification of indecent images of children (IIOC) suspects most likely to also be committing, or have committed, contact sexual offences against children. The task requires practitioners to select an option for each factor from a Likert scale indicating whether the factor is relevant to the identification of contact offenders and if so, the level of importance (the instructions given are, *"Possible criteria that might be considered in order to identify IIOC suspects most likely to commit contact offences. Please select which category of importance you think each item falls into when trying to identify contact offenders.")*. These options include; most important, important, should be considered and not relevant. Table 4 below illustrates the category of relevance for each factor. The task is completed by trainees at the start of module one and again at end of module three, both tasks are identical. The responses to these tasks will be utilised to assess whether there are any positive

improvements by trainees between the two time points due to undertaking the training, in terms of congruence with the factors that KIRAT indicates as linked to contact offending.

Table 4

Categories of relevance for factors; pre/post training prioritisation task

Factors	Category of importance	No. of factors
Prev. CSO child	Most important	1
Grooming	Important	10
Prison		
Prev. non-contact SO child		
Access children		
Produce IIOC		
Sex. Comms.		
Incitement		
Access non-bio		
Previous SO adult		
Four more conv.		
Substance misuse	Should be considered	4
Any prev. conv.		
Domestic abuse		
Prev. conv. IIOC		
No. IIOC	Not relevant	3
Content IIOC		
Suspect age		

In order to analyse the differences between the pre- and post-training tasks, a congruent and incongruent score was calculated for each, this was broken down between the factors deemed to be relevant in some way (most important, important, should be considered; 15 factors) or not relevant (3 factors). Where trainees indicated that a factor was ‘relevant’ or ‘not relevant’ if this was not congruent with KIRAT they received a score of +1. This scoring process was repeated across each factor and then the scores were tallied to provide a total for

each trainee. Changes between these scores, across the two groups of factors, were then analysed between task one (pre-training) and task two (post-training).

The study then utilised participant responses to three questions querying background information included at the start of module one (1. Have you used previous versions of KIRAT? 2. Have you previously attended KIRAT training? 3. For how many years have you been involved in the investigation of child sexual abuse?) to examine whether these had any effect on responses across the pre- and post-training prioritisation tasks and whether they could explain any variance in results.

Part B. In order to complete the training course practitioners had to undertake an assessment in module four whereby mock IIOC case information was provided and users were directed to utilise this information to complete KIRAT assessments for individual case studies. The case information provided mirrors that generally received/collated as part of IIOC investigations. Trainees were taken through each individual step within KIRAT and were required to provide a response to each individual question within the assessment for which their answers were either correct or incorrect. In order to pass the assessment, trainees had to correctly answer 80% of questions within KIRAT for each individual case study. Trainees were able to attempt five cases studies, in total three individual case studies needed to be successfully completed in order to pass the training course. The case studies appeared in a random order therefore trainees completed various combinations of the cases.

In order to examine the effectiveness of the training at providing practitioners with the requisite knowledge to successfully complete and deploy KIRAT, and to further scrutinise whether results were based on completion of all/only some training modules, user responses to the case studies were examined. A 'pass/fail' was recorded for each trainee based on their un/successful completion of at least three case studies, the number of case studies attempted was also recorded and utilised for this study.

Similarly, to study part one A, study part one B also utilised the background information of trainees (previous attendance at KIRAT training; previous use of KIRAT & years of experience within CSAE investigations) to account for variance in results.

Data analysis

Part A. The statistical package SPSS 22 was utilised in part one of this study to test for changes between the pre- and post-training prioritisation task scores for the relevant and non-relevant groups of factors. A Wilcoxon test was conducted on the data due to its within-

subject design and as the prioritisation task had two levels (pre- and post-training). Following this the statistical package R 4.2.1 was utilised to run a negative binomial hurdle model due to the large amount of zero changes which didn't fit the standard negative binomial distribution. The hurdle model looks at participants who had zero changes versus any other change and following this the explores at predictors of any change discarding the zero changes i.e. produces what is essentially a logistic regression (zero change vs. any change) plus a negative binomial regression (any changes discarding 0's). The predictors included in the model were previous attendance at KIRAT training, previous use of KIRAT and number of years of experience within CSAE investigations predicted.

Part B. The statistical package R 4.2.1 was again utilised in order to examine the effects of attendance at previous KIRAT training, previous use of KIRAT and number of years of experience within CSAE investigations on whether users passed or failed the training, and where users passed, the effect of these factors on the number of cases it took them to pass. Firth's penalised likelihood regression was utilised to examine the effect of the independent variables on pass/fail rates due to the low level of fails within the data, therefore classed as rare events. Ordinal regression was utilised to examine the effect of the independent variables on the number of cases completed to pass the course.

Results

Part A: Pre- and Post-training Risk Factor Importance Task

Wilcoxon Signed-rank tests indicated that completion of the training modules did not produce increased accuracy in the identification of factors deemed to be relevant (most important, important, should be considered), $Z = 0.29$, $p = .773$, or not relevant, $Z = 1.50$, $p = .134$, to the identification of contact offenders. Table 5 below highlights the changes between the pre- and post-training scores for those deemed to be relevant and not relevant to the identification of contact offenders.

As depicted in Table 5 below, factors deemed to be relevant by KIRAT for risk identification yet were reported as 'not relevant' by practitioners included: prison (pre-training $n = 54$, post-training $n = 62$), four or more convictions (pre-training $n = 54$, post-training $n = 51$), substance misuse (pre-training $n = 100$, post-training $n = 101$), any previous convictions (pre-training $n = 60$, post-training $n = 56$), and domestic abuse (pre-training $n = 79$, post-training $n = 74$). Of particular note are the slight increases in 'not relevant' rankings at post-training for prison and substance misuse)

Also summarised in Table 5 are factors deemed not relevant to the identification of risk for prioritisation purposes as part of KIRAT yet were reported as 'most important', 'important' or 'should be considered' by practitioners. These included: large number of IIOC (pre-training *n* = 746, post-training *n* = 750), content of IIOC (pre-training *n* = 742, post-training *n* = 745), and age (pre-training *n* = 472, post-training *n* = 481). The factors related to IIOC were reported as 'not relevant' only by a small number of practitioners: large number of IIOC (pre-training *n* =18, post-training *n* = 14), content of IIOC (pre-training *n* = 22, post-training *n* = 19). Age however, was reported as 'not relevant' by almost a third of practitioners (pre-training *n* = 292, post-training *n* = 283).

Table 5

Pre- and post-training prioritisation task factor levels

		Pre-training	Post-training
Factors	Category of importance	No.	No.
Prev. CSO child	Most important	739	739
	Important	23	23
	Should be considered	2	2
	Not relevant	0	0
Grooming	Most important	668	651
	Important	87	109
	Should be considered	4	2
	Not relevant	0	1
	Missing	5	1
Prison	Most important	85	87
	Important	238	244
	Should be considered	387	371
	Not relevant	54	62
Prev. non-contact SO child	Most important	365	365
	Important	342	342
	Should be considered	56	56
	Not relevant	1	1
Access children	Most important	568	568

	Important	174	174
	Should be considered	20	20
	Not relevant	2	2
Produce IIOC	Most important	713	718
	Important	51	44
	Should be considered	0	2
	Not relevant	0	0
Sex. Comms.	Most important	544	529
	Important	212	229
	Should be considered	8	6
	Not relevant	0	0
Incitement	Most important	672	661
	Important	88	101
	Should be considered	0	1
	Not relevant	0	0
	Missing	4	1
Access non-bio	Most important	465	444
	Important	253	269
	Should be considered	43	48
	Not relevant	3	3
Previous SO adult	Most important	135	144
	Important	417	400
	Should be considered	205	213
	Not relevant	7	7
Four more conv.	Most important	69	66
	Important	210	229
	Should be considered	431	418
	Not relevant	54	51
Substance misuse	Most important	40	48
	Important	179	186
	Should be considered	445	429
	Not relevant	100	101
Any prev. conv.	Most important	34	37

	Important	155	161
	Should be considered	515	510
	Not relevant	60	56
Domestic abuse	Most important	22	37
	Important	170	162
	Should be considered	493	491
	Not relevant	79	74
Prev. conv. IIOC	Most important	280	291
	Important	394	386
	Should be considered	86	85
	Not relevant	4	2
Large no. IIOC	Most important	209	193
	Important	394	411
	Should be considered	143	146
	Not relevant	18	14
Content IIOC	Most important	229	236
	Important	375	373
	Should be considered	138	136
	Not relevant	22	19
Suspect age	Most important	24	23
	Important	113	112
	Should be considered	335	346
	Not relevant	292	283

A negative binomial hurdle model was conducted to explore the extent to which completion of the KIRAT training predicted factor importance selection (Table 6). In the zero-hurdle model, effects are reported as odds ratios (OR) and represent the effect of predictors on the likelihood of the improvement of scores at the post-training task compared to the pre-training task. In the count model, effects are reported as incidence risk ratio's (IRR) and reflects the likelihood of increasing one step in the model.

There were no significant predictors of change in the count model (i.e., after the 0 counts are excluded) and also no predictors within the zero-hurdle model other than pre-training scores.

Table 6

Negative binomial hurdle model predicting changes to factors deemed relevant scores

Predictors		95% CI	*P*
Count model:	IRR		
Pre-training score	1.536	1.390–1.696	<0.001
Previously used KIRAT	0.871	0.624–1.218	0.420
Previous KRAT training	0.773	0.465–1.284	0.320
Years of experience	0.999	0.949–1.051	0.968
Zero Hurdle model:	OR		
Pre-training score	16.419	10.618–25.390	<0.001
Previously used KIRAT	0.611	0.355–1.052	0.075
Previous KIRAT Training	0.883	0.468–1.668	0.701
Years of experience	1.019	0.954–1.087	0.580

Proxy $R^2 = 0.43$, IRR (incidence risk ratio), OR (odds ratio).

Table 7

Negative binomial hurdle model predicting changes to factors deemed not relevant scores

Predictors		95% CI	*p*
Count model:	IRR		
Pre-training score	1.554	1.388–1.740	<0.001
Previously used KIRAT	1.029	0.914–1.159	0.632
Previous KIRAT training	0.974	0.849–1.118	0.708
Years of experience	0.997	0.982–1.012	0.668
Zero Hurdle model:	OR		
Pre-training score	1969061866.457	0.000–Inf	0.998
Previously used KIRAT	0.914	0.000–Inf	1.000
Previous KIRAT Training	0.000	0.000–Inf	0.998
Years of experience CSAE	1.221	0.810–1.840	0.341

Proxy $R^2 = 0.73$

Analysis of the pre-training errors in relation to the factors identified as relevant to the identification of contact offenders, there were between 0 (69%) and 6 (0.4%) errors made by participants (M = 0.57, SD = 1.02). Analysis of the pre-training errors in relation to the factors identified as not relevant to the identification of contact offenders, there were between 1 (1.9%) and 3 (63.1%) errors made by participants, (M = 2.61, SD = 0.53).

Analysis of the post-training errors for the relevant factors, found between 0 (70%) and 5 (0.8%) errors made (M = 0.62, SD = 1.05) and between 1 (1.5%) and 3 (62.4%) for the not relevant factors (M = 2.61, SD = 0.52).

Part B: Training Assessment

The majority of participants passed the course assessment on the first attempt, (*n* = 755, 97.2%), a further nine participants passed on their second attempt (1.2%), the final participant passed on their third attempt (0.1%). Of those who passed the course on the first attempt, over half passed having attempted three cases studies (415, 53.4%; three cases studies were required to be passed to successfully complete the course), followed by 36.39% (*n* = 287) who passed the course having attempted four case studies, and 8.4% (*n* = 65) attempted the total five case studies before passing.

Firth's penalised likelihood regression. In order to examine the effect of previous use of KIRAT, previous attendance at KIRAT training and number of years of experience with CSAE investigations on whether practitioners passed or failed the course assessment, Firth's penalised likelihood regression was undertaken. This analysis method was employed due to the data containing rare events of 'fails' in order to correct for this. Further, due to the use of this analysis method, participants with any missing data across the three independent variables were removed from the sample (n = 705) resulting in a complete case analysis (CCA) of the data. Table 8 below provides an overview of the results. The results show that significant differences in previous use of KIRAT (p = 0.84), previous attendance at KIRAT training (p = 0.32) and number of years' experience with CSAE investigations were not found for whether practitioners passed or failed the course. The odds ratios indicate that participants are 13%, 140% and 8% more likely to pass across the three factors respectively however, there are wide confidence intervals.

Table 8

Firth's Penalised Logistic Regression Output for Course Pass and Fails

Factors	Odds Ratio	95% CI	*p*
Previously used KIRAT	1.13	0.33 to 3.83	0.84
Previous KIRAT Training	2.40	0.47 to 23.85	0.32
Years of experience CSAE	0.98	0.86 to 1.21	0.81

Correct classification rate (CCR) = 1.56. Passed n = 694; Failed n = 11.

Ordinal regression. Ordinal regression analysis was then undertaken to examine the effect of previous use of KIRAT, previous attendance at KIRAT training and number of years of experience with CSAE investigations on the number of case attempts it took practitioners to pass the course assessment. Similar to the former regression analysis, participants with any missing data across the three independent variables were removed from the sample (n = 694) resulting in a CCA of the data. The results show that the final model (AIC=1249.0) was not a significantly better fit than the null model (AIC=1245.7; X^2 = 2.71, df = 3, p= 0.44). There was also no significant association between previously used KIRAT (B=0.08, SE=0.17, p=0.62, 95%CI= -0.42 to 0.25), previous attendance at KIRAT training (B=0.20, SE=0.19, p=0.31, 95%CI= -0.18 to 0.57), and number of years' experience with CSAE investigations

(B=0.02, SE=0.02, *p*=0.30, 95%CI= -0.02 to 0.06) on the number of case attempts it took practitioners to pass the course assessment.

Novices. There were 263 practitioners who completed the training assessment who indicated that they had not previously attended KIRAT training and that they had not previously used KIRAT. Their experience with CSAE investigations ranged from less than a year to 25 years (M = 2.73, SD = 3.71). Analysis of the pass and fail information revealed that 98% (*n* = 258) of the 'novice' group passed the course on the first attempt, with only 2% (*n* = 5) failing the assessment. Four of those who failed then successfully completed the assessment on the second try, with only one attempting the assessment for a third time before passing. Over half of the 'novice' group, 55% (*n* = 145), passed the course assessment by completing the three required case studies, 38% (*n* = 101) passed after attempting four case studies, and 7% (*n* = 17) passed after attempting five case studies.

Interim Discussion: Study One

Part A

The completion of the training modules did not produce increased accuracy in the identification of factors deemed to be relevant to the identification of contact offenders. The findings highlighted that the practitioners performed well at identifying the importance of KIRAT-based risk factors during the pre-training task, therefore providing some explanation as to explain why there were no significant changes found between the pre- and post-training scores. Practitioner achievement at the pre-training stage may be due to the fact that the sample is saturated with practitioners who had either previously attended some form of KIRAT training or had previously used KIRAT within investigations. There were also a number of officers with years of experience with CSAE investigations who may not have used KIRAT or attended training, but who may have been exposed to KIRAT through the course of their role due to the topic area.

Further investigation of 'novices' who had not attended KIRAT training previously or used the tool, also showed high levels of accuracy at the pre-training stage. This could be explained due to the fact that most practitioners had at least a number of months experience within roles where they may have been exposed to KIRAT, received other types of police-training discussing CSAE, or from previous experience gained as part of their roles within law enforcement. Since KIRAT's inception, those involved in the development of the tool

have highlighted that the inclusion of 'common sense' factors indicative of risk as part of the assessment (Long et al., 2016). Therefore, it could be possible to argue that identifying, for example, a previous conviction for a contact sexual offence against a child, in the context of an IIOC investigation, as posing some sort of relevance and importance to the identification of future risk as expected. However, as indicated in previous research (Long et al., 2016) there may be a huge variety of factors that practitioners may believe contribute to the identification of risk based on their experiences and that of colleagues. It is important to utilise the training to provide practitioners with evidence-based knowledge regarding risk factors shown to be beneficial to risk prediction in the context of police investigations.

A small number of practitioners (ranging from 51 to 101), in the context of the overall sample size, did however, indicate that they felt some KIRAT factors were irrelevant to the identification of contact offenders. This included, prison, four or more convictions, substance misuse, any previous convictions, and domestic abuse. The post-training review of practitioner responses to the prioritisation task highlighted that on the whole, practitioner opinions had only changed marginally. This content of the training, with particular relation to these items, should be further reviewed by the course creators using qualitative methods to understand why and to ensure that the learning regarding the importance of these factors is clear. In terms of the risk factors not included within KIRAT and deemed not relevant to the identification of risk, practitioners identified all of these factors, large number of IIOC (in the offender's collection), content of IIOC, and offender age, as holding some level of importance when assessing risk of contact offending. Approximately 98% and 97% of practitioners deemed 'large number of IIOC' and 'content of IIOC' respectively, holding some level of importance as part of risk identification. In addition to this, 62% of practitioners felt that 'offender age' was relevant to contact offender risk.

In-line with previous research which discussed the development of practitioner's investigative beliefs through experience (CSA Centre, 2022), the findings of this study highlight officer beliefs regarding the contribution of factors relating to IIOC to the risk of contact offending. It can be speculated that this comes from experience and 'common sense' ideas about the link between viewing IIOC and the committal of contact offences. Additionally, IIOC is often a focal point of risk for the criminal justice system (CEOP, 2012). Whilst it can be understood that a focus on imagery is important for the purposes of providing an adequate level of evidence for the case to proceed to court (as assessed by the Crown Prosecution Service), there are varying degrees of support for this in the literature (CEOP, 2012). However, it must be noted here that there may be instances where the imagery

indicates a child who is at risk. Practitioners cannot fail to prioritise such cases because the KIRAT research says images as a factor is not predictive. This would be actionable police intelligence and could indicate further access to children by the suspect.

Additionally, in-line with research findings regarding offender age, the idea of age linked to risk has been shown in the recidivism literature (CEOP, 2012; Thornton, 2007; Hanson, 2005), in that offending behaviour reduces as individuals get older (Barbaree et al, 2003; Hanson & Bussiere, 1998). The research literature does not support the inclusion of age as part of a pre-arrest risk prioritisation tool (Long et al., 2015) however, practitioners may consider the age of a suspect (i.e., elderly offenders) when making their own judgements of risk, as seen in this study. However, the findings do not suggest whether participants found increased or decreased age as relevant to the prediction of contact offending. As expected, certain risk factors will hold for investigators seemingly regardless of other input, and in-line with recommendations and the ethos of KIRAT, the tool will be used alongside the professional judgement of practitioners as intended (Long et al., 2015; CEOP, 2012). The tool should not replace officer experience, it should complement it and officer discretion will always play a role in investigative decision-making. These findings suggest however, that the training content should address practitioner's investigative beliefs regarding IIOC risk factors and potentially provide details of the academic rigour supporting the inclusion of specific risk factors within KIRAT. The study also found that there was no effect of practitioner demographics (previous KIRAT training, previous use KIRAT and previous number of years' experience with CSAE investigations) on changes between the pre- and post-training factor importance selection task.

The findings of study one, part A, did not support hypotheses (a) through to (f). One hypothesis, (c) the accuracy of participants who completed modules one, two and three will show better improvement post-training, could not be examined as there were only a relatively small number of participants who did not complete all three modules. Hypothesis (g) was supported by research findings as a proportion of participants held onto their investigative beliefs regarding a large number of IIOC, content of IIOC and offender age, from pre- to post-training, regardless of the content of the training.

Part B

The second part of study one, which undertook quantitative analysis of the data, found that over 97% of practitioners passed the course on the first attempt. More than half of those successfully completing the assessment after undertaking the minimum three attempts to pass

the case studies, closely followed by four attempts. This should therefore demonstrate that after undertaking the training modules, trainees are provided with the required knowledge to effectively use KIRAT within IIOC investigations. However, it must be noted that, as outlined above, the current sample is saturated with law enforcement practitioners who have previous knowledge of KIRAT, therefore it may not be possible to reliably depict these results as wholly due to the online training undertaken. An examination of the demographics of the 'novice' group, also indicated that some officers reported up to 25 years of experience working within CSAE investigations. This could be argued, may mean that these practitioners have been exposed to KIRAT as part of their role in some capacity, or that they have some previous knowledge of the tool. Nevertheless, the findings did reveal that 98% of the novice group passed the course assessment on the first attempt, again, with over half doing so by completing the minimum required three case studies to pass, closely followed by four attempts. This does provide some evidence for the effectiveness of the training to provide the required knowledge regarding risk factors for contact offending in IIOC populations, along with the appropriate knowledge to apply KIRAT to cases.

The study findings again did not reveal any significant effects of previous KIRAT training, previous use of KIRAT and number of years' experience on training pass or fail scores. In addition to this, there were no significant associations found between any of these three factors with the number of case study attempts it took practitioners to pass the course assessment. In terms of the study hypotheses, (h) was supported by the research outcomes in that following training, practitioners were more likely to pass and would do so in the least number of case studies. Hypothesis (i) could not be investigated as almost all practitioners completed all of the modules and where they did not, there were not sufficient numbers to subject the data to statistical analysis. Hypotheses (j) to (l) were not supported.

Study Two: Qualitative Data Analysis

Study Two Rationale

Study two forms the qualitative part of the analyses. This study is being undertaken in order to provide understanding of experiences of the training from the perspective of practitioners. This study will allow the examination of 'what works' in the training, otherwise described as intervention effects. It will also assist to identify possible areas for improvement, based on the opinions of practitioners, in order to ensure the training effectively meets its outcomes and the implementation of the training in practice. In addition, the quantitative findings from Study One will be explored. Specifically, factors practitioners identified as relevant to the identification of contact offenders which are not supported by the research and the lack of improvement between pre- and post-training prioritisation task scores.

Method

Sampling Procedure

Participants were recruited using a volunteer (or self-selecting) sampling approach. The selection criterion for approaching possible participants included being a member of law enforcement (police officer, civilian police staff and NCA officer), currently being based within a role dealing with child sexual abuse and exploitation (CSAE), specifically indecent images of children (IIOC) investigations, and having completed the KIRAT online training modules. A Senior Officer from the National Crime Agency's (NCA) Threat Leadership Command acted as a gatekeeper, identifying relevant teams of individuals from across the United Kingdom (UK) that would possibly meet these criteria, emailing an invitation to take part in either an online questionnaire or a virtual focus group along with information sheets for each. Those that were willing to take part were either instructed to access the questionnaire link provided in the invitation email or to reply to the invite indicating their interest in taking part in a focus group/practitioner interview.

Data Collection

The study utilised user feedback based on their experience of the training modules. Data was obtained from three sources 1) virtual focus groups/practitioner interviews, 2) online questionnaires, and 3) feedback provided by users during the completion of the modules.

Participants

Responses from 101 practitioners gained from three data sources formed the study sample. The sample included 29 practitioners (28.7%) who provided their opinions on the training via an online questionnaire (there were 31 respondents to the questionnaire however, two did not provide responses to the training specific questions). There were four practitioners (4%) that provided their opinions via virtual focus groups/practitioner interviews. Further feedback was gained from 68 practitioners (67.3%) provided during their completion of the online training modules and provided by CoP having been extracted from their online learning platform.

The online questionnaires were completed between November and December 2022. There were a range of ranks and roles of those who completed the questionnaire, summarised in Table 3 below. Respondents had been involved in the investigation of CSAE for varying lengths of time, ranging between less than a year to more than 10 years' (<1 year, *n* = 4; 1-2 years, *n* = 9; 3-5 years, *n* = 5; >5 years, *n* = 7; >10 years, *n* = 4). There were 22 of 29 respondents that indicated that they had previously used KIRAT in a live investigation. Practitioners were specifically asked approximately how often they had used the tool, of those that had, the responses varied from daily (*n* = 5), weekly (*n* = 10), monthly (*n* = 3), or more specific measures were provided (*n* = 5; e.g., '*every investigation where a suspect has been identified*', *'over 200+ times'*). Of the 29 respondents, 15 indicated that they had previously attended KIRAT training, nine attended an official training event with the other 6 receiving unofficial training within force via colleagues.

Table 3

Online questionnaire respondent's rank and roles

Rank/role	No.
Acting Detective Sergeant	1
Civilian Investigator/Researcher	2
Civilian Police Staff	6
Detective Constable	5
Detective Sergeant	5
Intelligence Researcher	1
NCA Officer	2
Police Constable	3
Senior Officer	1
Team Leader	1
Temporary Detective Inspector	1
Victim ID Officer	1
Total	29

One virtual focus group and two practitioner interviews were held on Microsoft Teams between January and February 2023, with four law enforcement practitioners. Two Detective Sergeants, one Civilian Investigator, and one NCA T/Manager took part. The participants had been involved in the investigation of CSAE for; under one year (n = 2), over five years (n = 1), and over 10 years (n = 1). Three participants indicated that they currently deploy KIRAT as part of live investigations for any relevant referrals (with no further specific information provided regarding how often it is used), one participant indicated that they previously utilised KIRAT but do not use the tool as part of their current role. Of the four, only one had previously attended an official KIRAT training event and three had received unofficial training via colleagues in force.

The live module feedback gained from 68 practitioners (67.3%) was provided during their completion of the online training modules between June 2022 and March 2023. Due to the way in which information is recorded by the online learning platform, and the data therefore provided by CoP, it was not possible to link these comments back to user ID information contained within the system. Therefore, there is no available background data for

this sub-group within the sample in relation to number of years' experience within CSAE investigations, previous attendance at KIRAT training and previous use of KIRAT.

Materials

An interview schedule was developed to be used within the virtual focus groups/practitioner interviews. The interview schedule was designed to include various open-ended questions in-line with an inductive approach, in order to obtain a more detailed responses from participants. The interview schedule included a number of open questions in order to explore the role of participants within their relevant law enforcement organisation, their level of experience with CSAE investigations, previous attendance at KIRAT training events, and their use of KIRAT within investigations. Following this, questions focussed on participants views regarding various factors in relation to KIRAT (examined further within chapter five), Three questions specifically queried participants views of the online training modules, with responses by individual practitioners probed further during the focus groups//practitioner interviews (e.g., *What were your thoughts on the training? Was there anything that worked particularly well or that you think we could improve upon? What was your experience of the online training in comparison to the face-to-face-training?*).

Following the design of the focus group/practitioner interviews interview schedule, the interview questions were then developed into an online questionnaire. The questionnaire contained six initial questions regarding the role and level of experience of practitioners (as outlined above), 14 further questions regarding their views on factors relating to KIRAT, and three questions specifically querying practitioners' experiences of the training (i.e., *What was your overall opinion of the training? In your opinion, was there anything that worked particularly well within the training? In your opinion, was there anything within the training that you think we could improve on?*).

Procedure

Questionnaire data was accessed and downloaded from Qualtrics, a web-based survey tool, in which the questionnaire for this study was hosted. Identifiable information linked to respondents was not collated by the software, the complete questionnaires were further checked and any other identifiable or sensitive information was removed to ensure the data was anonymised. All respondents provided their consent to take part in the study electronically via the online questionnaire, following review of the participant information sheet embedded within it.

Those law enforcement practitioners who had indicated their interest to attend a focus group/practitioner interviews following the original invitation e-mail, were then further contacted via e-mail in order to arrange a suitable date and time for the focus groups/practitioner interviews to take place. All focus groups/practitioner interviews were conducted remotely using Microsoft Teams to offer flexibility to participants regarding their availability to attend. All participants provided verbal consent to take part in the study at the start of the focus group/practitioner interview, following review of the participant information sheet that had been e-mailed to them prior to the focus group/practitioner interview. Interviews lasted between 43 and 57 minutes and were recorded, transcribed by Microsoft Teams using the transcribe function, transcriptions were then checked utilising the focus group/practitioner interview video and audio recording to ensure that these were recorded verbatim. Transcriptions were then anonymised, and the video and audio files were deleted after a period of two weeks. During the interview participants were asked to elaborate on responses given to questions in order to confirm the interpretation of these responses for the purposes of the recording, to improve the reliability of the data.

The live module feedback data was collated by the CoP's College Learn platform as it was provided. This data was downloaded and shared by the CoP for the purposes of this study.

Data Analysis

Transcripts from the focus groups/practitioner interviews were created in real time using CART (computer-assisted real-time transcription) based within Microsoft Teams. Transcripts were first read for familiarity. Interviewee text that addressed some aspect of the research question was then highlighted. Practitioners provided a range of information that would enable the evaluation of the training from the practitioners' perspective. Thematic analysis was utilised to analyse the three sources of data from which 162 quotes were identified that addressed the research question. This qualitative research method allowed for the identification of themes prevalent within the data. This process involved spending time reading and exploring the data to develop an understanding of potential patterns across the data. Coding was undertaken whereby common patterns across responses were gathered to form individual themes. Microsoft Excel was used to undertake this process with individual practitioner responses, in the form of quotes, copied and pasted vertically in columns with a title placed in the top row of each. Coding was iterative and reflexive, themes were revised numerous times as part of this process and moved between the themes, placed across columns

until they fit well into patterns of shared meaning. In order to assess the validity of the themes they were reviewed through by peer debriefing by a research supervisor in order to ensure their interpretation of the data and themes developed was consistent with those produced. Analytical codes were focussed on addressing the research question; evaluation of training and recommendations for improvements in relation to training outcomes. See Table 4 for details of the proportion of quotes allocated to each theme.

Table 4

Frequency of the themes and codes across data sources

Theme / Code	No. of practitioners who mentioned theme	No. of quotes relating to theme/code
User feedback on content delivered	**67**	**105**
Content of the training	20	24
Length of the training modules	19	21
Case scenarios and case studies	26	31
Ease of understanding	18	18
General opinions and comments	10	11
User feedback on how training is delivered	**44**	**57**
Format of the training	7	8
Delivery of information	6	6
Online versus face-to-face training	16	18
Level of experience	3	3
Technical issues	15	15
Corrections required	7	7

Results

Thematic analysis revealed two main themes within the responses provided by participants (presented in **bold**), which are comprised of 11 axial codes (presented in *italics*). The first theme, **user feedback on content delivered** contains codes that focus on 'what' the training delivers, the second theme, **user feedback on how training is delivered**, encompasses codes that detail 'how' this was delivered. Most of the codes include both

positive and negative opinions of practitioners whereby they felt that the training worked well and should stay the same or where the training needed improvement and therefore should be changed. Practitioner quotes comprising all themes are provided in Appendix 9. A provisional logic model for the KIRAT online training has been developed and presents a visual map of findings (Figure 1, pg. 38). The figure focuses on the mechanisms underlying factors in the training that worked well and factors that need to change to ensure outcomes.

1. User feedback on content delivered

The practitioners view of the *content of the training* contained one of the largest quantities of comments (24) by practitioners of all codes. On the whole, opinions were equally balanced in terms of the content working well versus the suggested requirement of some improvement. Practitioners indicated that the training content was comprehensive, informative, helped understanding and that a good level of detail was provided. In addition to this, practitioners found the training to be interesting, clear, well-structured, well-paced and well-balanced. In contrast to this, many others found the content to be repetitive, specifically in that the perceived repetition was not required for user understanding, that it reduced user engagement and resulted in additional unnecessary time required to complete the training. Further to this, the content was described as excessive, complicated, and slow, linking back with similar issues highlighted with the length of time required to complete the training.

The *length of the training modules* links with aforementioned code in that the main point raised being that the individual modules (specifically module two) and the modules as a whole training course, were perceived to be too long. Further descriptions depicted the modules (again specifically module two) as excessive, with some suggestion that the training should be condensed into a shorter learning package and that there were too many modules. In addition to this, some felt the training was time consuming although a singular positive statement within this code indicated that whilst the training was time consuming, it ‘solidified the need for KIRAT’.

The code containing the largest number of practitioner quotes, *case scenarios and case studies,* again presents a large mix of opinion. Comments refer to various different interactive tasks across the four modules including mini case scenarios relating to each individual KIRAT variable in module two, larger case scenarios whereby practitioners are required to identify relevant variables present as per the case information in module three, and the case studies assessment in module four. A number of practitioners indicated that these interactive tasks worked well (in response to an explicit question regarding what

worked well in the training). Specifically, the tasks were reported on positively as they enabled trainees to practice completing KIRAT, practitioners found this practice useful and described them as getting them thinking. Many enjoyed the interaction and scenario-based style of learning that the modules incorporate. However, in much contrast to this, others found these tasks and knowledge checks slow and boring, with them being described as 'constant'. Some disagreed with the risk ratings provided by KIRAT within someone of the case studies and the use of not known answers as part of the case study tasks was also felt to be confusing.

On the whole the training ensured an *ease of understanding* with the general experience of the training being that it was easy to understand and that the course content ensured the understanding of the user. Although a singular comment indicated that some of the information within the training was confusing, there was no further description to enable the identification of the information being referred to. There was some suggestion of changes/updates that could improve the training to make it more user friendly and easier to understand including, providing more in-depth explanations for specific KIRAT variables, updating the buttons used by practitioners to navigate the training and to enable auto-play rather than having a click through format.

Other *general opinions and comments*, often in the forms of singular words, were all positive and referred to the training as good, useful, informative, and fair. This comprised the final code of this theme.

> *It was helpful to provide a better understanding of how KIRAT works and how to use it in investigations. (QP10)*

> *It was very clear, well-structured, and informative. (QP2)*
> *I felt most of the questions were repetitive and unnecessary for understanding of the training. (LF17)*

> *Perhaps reduce some of the repetitiveness as it did not assist in keeping users engaged. (QP7)*
> *Module two is too long. (LF1)*

> *It was quite a long course so if you left it a while between sections you could forget information. (QP18)*

I mean, there's quite a lot of modules, isn't there? So, it's quite a time-consuming e-learning to complete, but that in no way felt like a like a hardship or a duty at all. It really helped to solidify the, the requirement for KIRAT and my understanding of what KIRAT is and where it's appropriate to use it. (FG3)

Giving examples of investigations and being given the opportunity to apply them to KIRAT. (QP15) (what worked well)

The case studies were engaging, it made me take notes to make sure I got the correct information for the KIRAT to be filled out. (QP20)

Too slow and too many knowledge checks, made the training slow and boring. (QP21)

…too many examples - I use KIRAT every day at work so I am already familiar with it. The training is useful but far too many examples so that the user is likely to start to switch off. One or two examples would suffice. (LF2)
Training was relevant and put across in any easy-to-understand way. (QP12)

Some of the explanatory sentences were quite long. It took me a while to break them down and figure out what was being asked. It started to feel more like a trap or a game than a training exercise. (LF48)

Let me fill in a full page of answers rather than having to click submit after each one. (LF22)
Auto slides to next slide and also ability to click onto the next module instead of going out to go back in again. (LF4)

Very helpful. (QP9)
Training was good. (QP19)

Thought it was informative. (QP17)

2. User feedback on how training is delivered

The *format of the training* in that it is interactive in nature was something that was also seen to work well and ensured the engagement of practitioners throughout. The split of the training between different areas of KIRAT also worked to ensure the understanding of

users of the different segments of KIRAT, why the tool is important and how it works in practice.

The *delivery of information* within the training modules has proved to be a little frustrating for some, the pauses between information appearing on screen has led some to suggest that the information provided should be displayed at one time point, which would therefore allow all users to read through at their own pace. Similarly, to this, there was also some suggestion that the audio narration was a little slow. Which again, could be frustrating for users in that they are required to wait for all on-screen text and the audio to complete before they are able to move forwards to the next screen.

When discussing the *online versus face-to-face training*, there was a mixture of opinion on which provided the greatest benefit and which users preferred. Many preferred the online training given that users do not need to travel to attend an event in another location and therefore they did not need to take a whole day away from their roles. In addition to this the training can be completed in the individuals own time and users can re-access the training modules at any time to review the required sections. The training was described as engaging enough to be delivered in an online format and some felt that a full day of face-to-face training would be excessive. Others disagreed in that they preferred the face-to-face training as it provided a greater level of detail than the online training and that trainees could query any points of confusion directly. In contrast to previous opinion, others found the online training to be monotonous compared to the in-person session, others simply indicated that they preferred the in-person training without further explanation. The comments within this code indicate that some of the users here had previous experience of the face-to-face training whereas others perhaps did not.

The *level of experience* of practitioners was a point raised as needing consideration in relation to the delivery of the training. Those with previous experience of KIRAT, whether through previous use or previous attendance at KIRAT training, suggested that the length and content of the training was unnecessary and too long given the amount of detail provided.

Technical issues were experienced by a number of users attempting to undertake the course. There seems to have been a number of instances of the course crashing whilst being undertaken or simply not loading, described as irritating by one practitioner. Some simply stated that the online learning did not work. Where the course has loaded, it has taken a significant amount of time for some. The audio was reported to be of poor quality for some, others queried whether there was audio and/or closed captions were reportedly not working for others. There were several *corrections required*, highlighted across the modules. Some

are simple grammar and spelling mistakes however, other more significant corrections refer to the wording of information provided within case studies that did not match answers, requiring further review.

The interactive nature of the training programme was good. (QP7)

But it's one of the best e-learning packages that I think I've ever done within the agency and I really enjoyed the scenario-based questions that that came after. (FG3)

Partitioning it into the sections of the risk assessment. (what worked well) (QP22)

Drop the pauses when delivering information it is very frustrating waiting for the next sentence. (LF64)

Also the narrator is at too slow a pace as far as I'm concerned. (LF2)

It would be useful if all the text appeared for each slide rather than waiting for it to go with the audio. (LF41)

That the training was online, so no need to travel. (QP18)

I liked the fact that it was online and that you could go back or re-read certain sections if you didn't quite understand. (QP8)

Internet based so it can be monotonous. (QP20)

In person training. (preferred) (LF50)

Doesn't feel necessary for KIRAT 2 users to have to take this course if the functionality has not changed. (LF44)

Previous KIRAT users don't need to go through this all again. (LF5)

For people who regularly use the current version of this form this training input is far too long. (LF60)

The only issue I can think of is that a lot of the other staff and officers were having trouble with the programme freezing and losing their work. Some had to complete it multiple times. (QP8)

Audio is awful jumps and cuts out making it very difficult to understand. (LF37)

...takes too long to load this should not take 2 hours! (LF31)

Grammar mistake on page 71. (LF55)

The use of the term superior in module 2 free text box section surely should read supervisor? (LF12)

There were a couple of disingenuous questions. One detailed the abuse of a daughter but did not give the age. Only in the answer did it specify that the daughter was a child. In another it was not detailed that historic substance abuse issues were not relevant. (LF51)

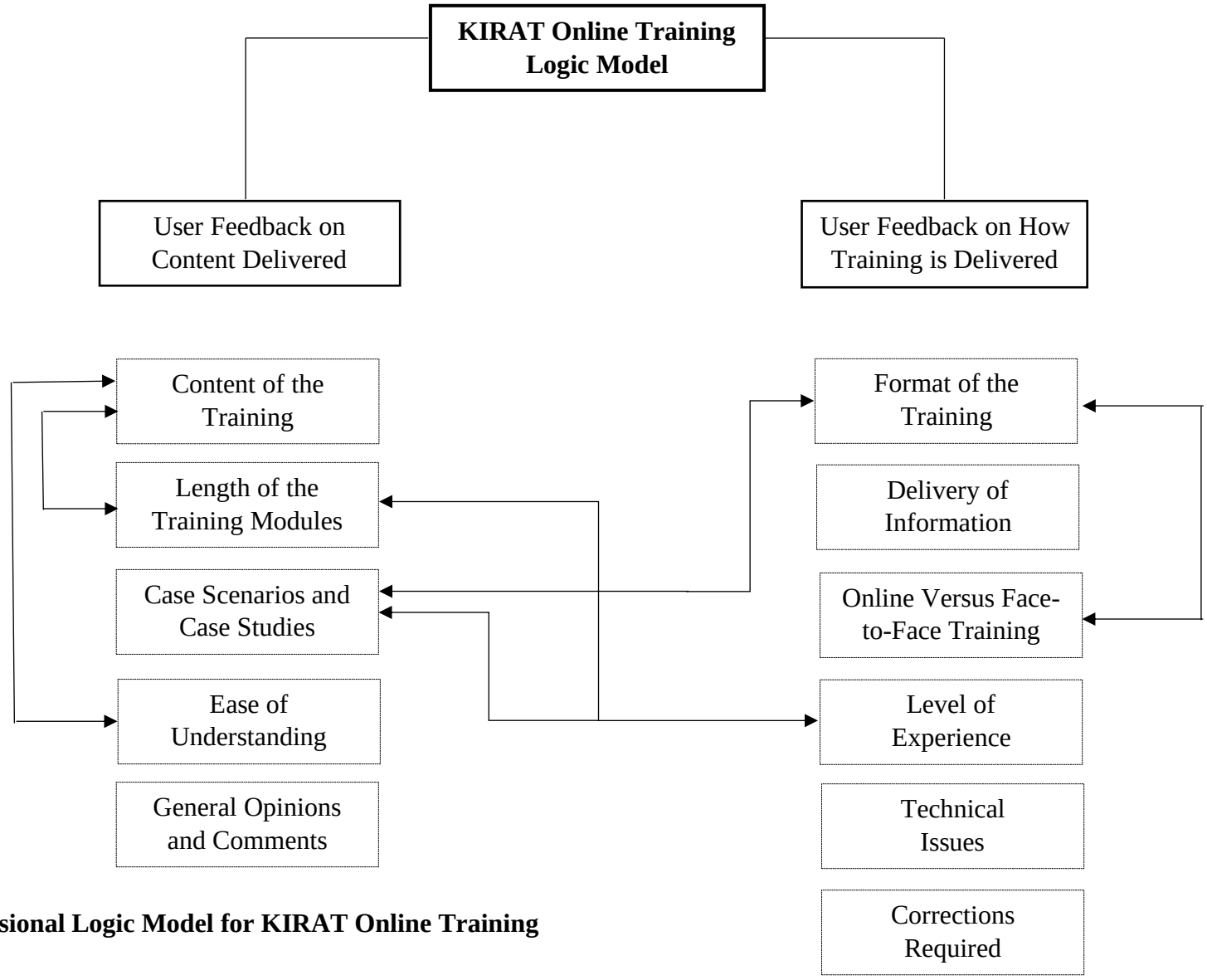


Figure 1: Provisional Logic Model for KIRAT Online Training

Interim Discussion: Study Two

The evaluation findings highlight a number of positive effects of the training that have contributed to outcomes of the training. The comprehensive nature of the course, with easy-to-understand information, aids practitioner understanding for further operational use of the tool. The structure and format of the training, with steps and items broken down into individual sections and points of focus, further supports this outcome by providing the in-depth knowledge of the mechanisms that underpin the prioritisation assessment. The interactive nature of the training, inclusive of various case scenarios and case studies that practitioners are required to engage with, allows training users to practice utilising the knowledge they are provided during the course as they proceed through the modules. This serves to further embed knowledge and provides further confidence to practitioners regarding the use of the tool prior to their deployment of the tool within investigations. The online element of the training was also received favourably and is possibly a key positive effect of the training. The online nature of the course makes it more viable as a long-term solution to previous training delivery issues. It provides an opportunity for practitioners to undertake the training from their own desks, in their own time, and is a source available at later time points for reflection. More importantly, the online format of the training results in better use of officer time and was received positively as it does not take practitioners away from their everyday roles and vital activities that they undertake. The positive effects of the training are possibly highlighted in the training outcomes identified in study one in that a high proportion of practitioners passed the training on the first attempt, with just over half passing having attempted the minimum number of case studies.

On the other hand, there were a number of factors highlighted that could hinder outcomes and the learning effects of the training and should be promptly addressed. Practitioner level of experience within the sample ranged widely and included both those who had and had not attended previous KIRAT training events. The course was perceived to be too long and repetitive by a group within the sample. Upon further examination, it was identified that some of these points could be linked to (via demographic information contained within online questionnaire data) practitioners with previous training experience. However, these findings could not be further explored and contextualised to identify the extent to which the point was being made by those who had previously attended training or not, due to data limitations. The live module feedback data was provided without any demographic information of training users providing the feedback. A change for further

consideration here is the development of a condensed training provision for KIRAT v3 aimed at those who have already previously attended KIRAT training, this is discussed further below as part of future research considerations. These findings link with those identified during study one, in that a large number of practitioners had previously attended training and the high number of practitioners who passed the training on the first attempt. Another factor that could negatively affect training outcomes included disagreement with some of the risk ratings provided within the case scenarios and case studies used across the modules. Whilst this should be further investigated, it is to be expected that practitioners will not always agree with the KIRAT risk scores. It should also be noted that practitioners are encouraged to use their discretion alongside KIRAT (Long et al., 2015; CEOP, 2012) based on information known to them during the investigation. Although the main feedback of the training content was positive, a factor to also highlight that could affect the training outcomes for some was improvements to the explanations of variables, in terms of providing more detailed information was also highlighted. Although there was no further context to these points, a review of the descriptions of items may highlight where further detail could be provided to ensure understanding of all risk factors and the intended implementation of the tool by all.

Further to this, the delivery of information, in terms of the speed of information visibly presented, the speed of the voiceover, and the inability of practitioners to click ahead to the next slide, was a 'frustrating' experience for some that could lead to less engagement with the training. Whilst this is a negative outcome in the experience of training users that should be reviewed to identify any areas for further improvement, it should be noted that the training was designed not to allow users to 'skip' through slides and to instead ensure that practitioners were engaging with the training material. A factor that should also be subject to further consideration to ensure successful outcomes is the ability of practitioners to raise queries with the training team. The training has moved from a face-to-face to an online format for the first time which means that there is no capacity for practitioners to 'ask questions' during the undertaking of the training. Further specific direction on how this can be achieved should be included within the training modules and made clear to practitioners at the time of the undertaking the training. Finally, a minor number of corrections are required for the purposes of the validity of the training in terms of grammar and spelling mistakes. More importantly however, technical issues experienced by training users have been identified as a key risk to the success of the course and use of the tool post-training as a number of practitioners reported that they had been unable to access the training as it had failed to load or that it had 'crashed' during the undertaking of training. Support for police

forces experiencing issues accessing and completing the training should be offered in an attempt to improve practitioner experience and to ensure the training can be undertaken by all.

Concluding Discussion

This set of studies presents the first evaluation of whether the KIRAT online training is an effective intervention in providing law enforcement practitioners the requisite knowledge of IIOC offender risk factors for the purposes of case prioritisation, and knowledge of the application of KIRAT to investigations. Study two also sought to provide context to the research findings and to gain an in-depth understanding of practitioner perspectives of 'what worked' within the training and any potential areas for future improvement. The key findings from these studies have been discussed in the interim discussions outlined above. Study one highlighted the success of practitioners to identify contact offending risk factors prior to training and a high 'pass rate' with almost all practitioners passing the course on the first attempt. Whilst no significant results were found related to context e.g., different sub-groups perform better than others, the logic model can be drawn on in order to improve the current training provision. Recommendations for the undertaking of the KIRAT online training modules by further law enforcement practitioners, based on the results of the studies, are outlined below.

Recommendations

The following recommendations resulting from this research are; (1) KIRAT online training should be completed by all practitioners prior to their use of the tool within investigations; (2) training should be made available immediately (or when required) to those practitioners new to roles in which they are expected to employ KIRAT within investigations or review completed KIRAT assessments; (3) practitioners should continue to apply KIRAT alongside their own discretion, (4) future research exploring the need for booster training, and (5) undertake a process evaluation to explore the implementation and fidelity issues for this practitioners that have been using KIRAT for a number of years.

Study Limitations and Recommendations for Future Research

Kime (2018) reported a limitation of studies including researchers that are connected to interventions, who may have put effort into the development of the intervention for example, as they may find it hard to report neutrally on the evaluation findings. However, as part of the

studies within this chapter, all of the findings and explanations of findings have been reviewed by a secondary researcher (supervisor) in order to ensure that they are a true reflection of the analysis's outcomes. This applies specifically to the thematic analysis and themes developed from the practitioner feedback of the training.

Whilst the outcomes of study one demonstrates the successful completion of the online training by almost 98% of all training users, the sample under study was saturated with individuals with some previous knowledge (whether use, training or through experience with CSAE investigations) of KIRAT. In order to undertake a more thorough evaluation of the KIRAT training with those deemed 'novices' (i.e., those practitioners who have not used KIRAT or attended training), a follow-up evaluation study should be completed as part of future research. It is anticipated that the majority of individuals currently working within roles in which they complete KIRAT as part of investigations, or are responsible for reviewing completed assessments, will have now completed the online training modules as required prior to their use of KIRAT v3. Therefore, future data samples are likely to include mainly those without previous experience of KIRAT, which may alter the study findings. In follow up research, it would also be useful to undertake a repeated measures element to see whether people are maintaining their views or changing their views post-training.

The sample utilised for the qualitative data analysis was quite small in comparison to those who completed the training which may restrict the generalisability of the study findings. The voluntary aspect of participation in the study may have also resulted in a bias in the sample as it is unknown whether those practitioners who did not volunteer to participate represent a different cohort than those who did participate. In future studies, it may be possible to identify a larger number of participants, across a broader range of roles and locations, if the advertisement period for volunteers is extended and if more contact points for sharing the research advertisement can be located. It must be noted that small qualitative samples are common within policing-based research due to the demands on practitioner time related to their roles (CSA Centre, 2022). However, capturing data in real-time during or immediately after the undertaking of training could assist to increase sample numbers.

In relation to the data used in study one, the CoP highlighted a possible reliability issue with the data collated from the final training assessment in module four. Due to the technical operation of the module, practitioners could close the module assessment, prior to completion, after failing to pass a number of the case scenarios and this would not be recorded as a 'failure'. This would therefore mean that data utilised to examine the training assessment, which included the course pass/fail information, and the number of case study

attempts it took practitioners to pass, may be inaccurate. Unfortunately, there is currently no further way in which this can be identified by the CoP however, further investigation of the recording of data in this instance is underway by the CoP. In future studies it would therefore be possible to identify if this was an issue.

A further limitation related to data relates to the qualitative data captured for study two. Due to the way in which the live module feedback was collated and formatted by CoP for the purposes of this research, it was not possible to link the feedback to training user demographics. It was therefore not possible to identify whether certain comments were made by those with more or less experience, those who had previously attended training or not, or those who had previously used KIRAT or not. This may have provided more context to the themes identified within study two, enabling a more established link between the quantitative and qualitative data analyses.

In terms of future research, exploration of a separate condensed online training package for those who have previously attended KIRAT training should be undertaken in light of research findings. This will not necessarily be applicable to UK law enforcement as it is expected that the current training sample contains the overwhelming majority of practitioners with previous experience of KIRAT as completion of the training was a requirement for officers to access KIRAT v3. However, this research would be applicable for other international countries who currently use KIRAT and currently deliver face-to-face training, where the online training provision will be offered in the future.

Another option for future research relates to the data used within study. All of the training user data captured during the completion of the modules and provided by CoP, was not utilised within the study. Practitioners answered questions throughout the modules to check learning after, for example, information provided about individual steps and risk factors. Analysis and evaluation of these answers in future research may provide deeper knowledge regarding, for example, practitioner understanding of individual risk predictors. As discussed earlier in the chapter, practitioners completed mini case scenarios after each of the individual factors in KIRAT are introduced whereby, they are provided with a small paragraph of information and asked to indicate whether the factor is present/absent e.g., access to children, based on this information. Examination of the rate of correct/incorrect answers would provide further support to the idea that the content of the training provides the requisite knowledge to apply KIRAT in practice. It may also highlight any areas for improvement where specific questions were often answered incorrectly. Another piece of data that could be further utilised that was not within this study is feedback data related to whether practitioners agreed or

disagreed with KIRAT risk scores assigned to following the completion of case study examples in module three. Practitioners were asked to indicate whether they agreed with the score or whether they felt the score was too high or too low. This data could be utilised as part of further examinations of practitioner use of discretion, to identify those potentially protective/escalating factors practitioners may base further prioritisation decisions on in practice.

The final point to note for future research, the circumstances of the data capture were that the data for these studies was provided immediately, or within a short timeframe, following practitioner's completion of the training. As such, likely outcomes regarding the implementation of knowledge regarding KIRAT v3 provided as part of the training can only be hypothesised. A follow-up study of practitioner use of KIRAT and their knowledge of contact offence risk factors should be conducted to identify how this knowledge is sustained over time.

Conclusions

The KIRAT online training programme is demonstrated to be an effective measure to provide law enforcement practitioners with the requisite knowledge regarding contact offender risk factors and the application of KIRAT to IIOC investigations. Practitioner feedback established that the training was well received and that there were a number of positive training outcomes. The feedback also highlighted areas for improvement that would increase practitioner engagement in the training and future use of the tool within investigations. This study sought to add to the limited research base regarding the use of mixed method evaluation of law enforcement training, specifically in the field of CSAE. The current study supports the need for the evaluation of law enforcement-based training programmes and the approach used could serve to inform future police training evaluations, in this and other fields. This study further highlights that without robust evaluation procedures, improvements in policing knowledge, perception and effective practices cannot be identified and used for policing and public benefits.

Chapter Five

A Process and Impact Evaluation of KIRAT

Abstract

It is currently unknown whether KIRAT has the anticipated outcomes as originally expected following the introduction of the tool to policing. Despite the widespread use and roll out of several iterative versions of KIRAT in the UK since 2012, an evaluation of outcomes has not been conducted. This study sought to explore *how* KIRAT works from practitioners' perspectives, including intervention effects, and how success might be demonstrated and measured. This study drew on the College of Policing's (CoP, 2015) logic model to develop an understanding of what KIRAT does and how.

Process and impact evaluation were undertaken in order to identify the mechanism within KIRAT that effects positive change for practitioners. An assessment of whether KIRAT is effective, and the strength of its impact was also undertaken. The study examined data provided by law enforcement practitioners during focus groups/practitioner interviews and provided as part of online questionnaires in order to establish a logic model for KIRAT to explore how and why it works in practice. A simple outcome map has been developed and an evaluation strategy designed as a result of this research.

The findings revealed four intervention effects, action/response framework, tool simplicity, practitioner discretion and minimum standard of investigation, that contributed to outcomes of KIRAT. A number of factors that should have been measurable as part of this evaluation, however, were not. There was no evidence that using KIRAT saved practitioners time, also no implications for CPS or offenders were found and were found not to be a key objective of KIRAT. Factors identified as measurable included victim safeguarding and the effective prioritisation of contact offenders. One effect of the use of the tool was identified as reducing victimisation and future economic evaluation to model cost-benefits of KIRAT were suggested. The action/response framework was an additional outcome of use of the tool and additional resources were suggested to address the gap in meeting enforcement timescales.

Limitations of the study related to the small sample size and methods used to identify participants and collate data. Suggestions were made to resolve issues with data collation however, small sample sizes are a common feature of police-based research. Future research recommendations include future prospective studies on the outcomes of KIRAT following the roll out of KIRAT in international countries not currently deploying the tool. A further

recommendation is the further examination of the safeguarding of victims within the UK and finally, an exploration of the efficacy of KIRAT in terms of prioritisation. In summary, in terms of the tools use in practice, this study has found KIRAT to be fit for purpose.

This chapter

As stated within earlier chapters, KIRAT was originally introduced in 2012 in order to assist police forces in the United Kingdom (UK) to deal with a momentous increase of indecent images of children (IIOC) investigations at that time (Long et al., 2016). As a result, KIRAT was developed and rolled out for use by UK policing with two main goals. Firstly, to assist law enforcement practitioners to effectively identify and prioritise those IIOC offenders who shared known risk factors with contact offenders. Secondly, the aim of the tool was also to support the effective allocation of limited police resources based on the outcomes of KIRAT assessments (Long et al., 2016). The current chapter seeks to explore *how* KIRAT works from practitioners' perspectives, including intervention effects, and how success might be demonstrated and measured. The preceding chapter provided a logic model for KIRAT training, this chapter focusses on the tool itself.

Introduction

Resource allocation within law enforcement is an important aspect of current policing due to the financial pressures on agencies triggered by the aforementioned reductions in police spending budgets over the last 10 years (Pepper, 2020; Disney & Simpson, 2017; Long et al., 2015; Brown & Kebbell, 2013). KIRAT's introduction sought in part to assist with this issue within the realm of indecent images of children (IIOC) investigations by providing a resource allocation framework. Despite the introduction of the first version of the tool in 2012 and following revisions and roll outs of two new versions of the tool in 2015 and 2022 respectively, the tool has not been subject to any evaluation to date. It is therefore unknown whether the tool has the anticipated outcomes as originally expected following the introduction of the tool to policing. Anticipated outcomes are deduced from the predictive validity described by Long et al. (2016) and demonstrated here in Study 1. Potential effects of the use of the tool are hypothesised following the economic modelling approach of Giles and Alison (2021) that attempts to demonstrate the socio-economic benefits of targeting dual offenders. However, these studies do not provide empirical data on the intervention effects; whether KIRAT achieves its intended outcomes and what features of KIRAT enable this success.

To demonstrate causality, a quasi-control trial would be the preferred method to demonstrate more effective use of police resources and targeted safeguarding post-implementation and with reference to a control group. Failing that, a simple before and after observational study would help provide proof of feasibility; that KIRAT demonstrably

achieves its intended outcomes. However, due to the widespread use of KIRAT by all police agencies across the UK, including both police forces and the National Crime Agency (NCA), there has been little opportunity to observe pre- and post-KIRAT outcomes resulting from use of the tool. In the current chapter, a process evaluation method is preferred to help elucidate a theory of change. Outcome mapping is utilised as part of this process to map these changes, referred to as outcomes, to show the links between these changes and the activities of the intervention (i.e., KIRAT; Hearn, 2021). This process allows the contribution, or impact, of the programme under study to be further understood (MacDonald & Simister, 2015; Earl et al., 2001).

Defining Impact

Process evaluation can be used to develop an understanding of whether an intervention that has been introduced is the 'right' solution to the problem. This method enables a robust understanding of 'what' happened as a result of the intervention introduced. It also seeks to demonstrate the processes or mechanisms through which the intervention operates to generate outcomes, that is, 'how' the effect happened as experienced by users (Kime, 2018; Public Health England, 2018a). These mechanisms of change of the intervention are also referred to as 'theory of change' in other words, how the intervention produces change in recipients and wider sector organisations (Public Health England, 2018a; Rogers, 2014). Kime (2018) describes process evaluation as a 'health check' (p.27) for interventions. It helps understanding of the fidelity of the intervention and whether it was delivered and implemented as intended (Public Health England, 2018a). It further aids understanding of whether there were any challenges faced in its delivery, participants perceptions of the approach, what worked well and whether the intervention requires improvement (Kime, 2018; Boothroyd, 2018). Various data types can be collated to that end, including quantitative and qualitative data, with the latter providing further in-depth understanding of the perceptions of the intervention from those involved (Kime, 2018).

Process evaluations are helpful not only to explain how interventions work but can also explain why they do not work, for example, due to the intervention not being delivered as planned (Public Health England, 2018a). Findings can shed light on the acceptability of the intervention as experienced by the target audience therefore contributing to better-designed interventions, leading to increased uptake (Public Health England, 2018a). Process evaluation also seeks to examine the impact of the context on how the intervention works and whether improved outcomes are identified for particular groups over others (Public Health England,

2018a). Understanding how an intervention might be improved can also be an important element in decisions regarding whether it is practical to roll out the intervention on a wider scale to other populations and contexts, and possible adaptions as necessary (Kime, 2018; Public Health England, 2018a).

Generally, data utilised within evaluation is collated over two time points, to allow baseline measures to later be tested against post-intervention outcomes to measure the impact and whether there is anything meaningful about the intervention (Public Health England, 2018a; Kime, 2018). Following this, further measures can aid understanding of the economic costs and financial benefits associated with the intervention. However, this is not always possible as interventions may be introduced prior to baseline measures being recorded (Kime, 2018). This is particularly the case for new interventions in response to CSAE when it is difficult to undertake prospective evaluation designs. Therefore, for these studies, researchers have to look back to assume the 'how' and 'why'. This is when process evaluation can prove to be particularly helpful.

Process evaluation techniques have developed out of concerns that intervention developers are not aware of how their intervention worked, nor whether they worked as intended. This is often referred to as the 'black box' problem where evaluations are undertaken and conclusions made based on outcomes, without any explanation or understanding as to how the outcomes might have been produced (Salter & Kothari, 2014; Astbury & Leeuw, 2010; Scriven, 1994). The black box is described clearly by Stame (2004) as "the space between the actual input and the expected output of a programme" (p.58). Advancements in evaluation since the 1990's have seen studies concerned with understanding what works, for whom, in what circumstances, and why (Pawson & Tilley, 1997). Evaluators are therefore in essence, looking inside the 'black box' in order to discover the mechanisms at work (Mark et al., 2000) and the possible causal chain of the intervention. Theory-based approaches have grown in popularity and enable examination of the factors associated with change (Salter & Kothari, 2014; Coryn et al., 2011; Astbury & Leeuw, 2010), including theory of change methods (Stame, 2004).

Logic models is one such approach and is generally used to support process evaluation as they help researchers to plan the implementation and evaluation of an intervention (CoP, 2018). Data collection and analyses undertaken in process evaluation are commonly structured around logic models, which represent the underpinning theory of the intervention (Public Health England, 2018a). Logic models visually illustrate the causal pathways thought to be operating in the intervention and these pathways are the 'processes'

described in process evaluation (Public Health England, 2018a). The mapping of the relationships between the problem under study, the intervention, and anticipated outcomes, allow researchers to identify and illustrate how and why the intervention might/does/does not work (CoP, 2018). A logic model can illustrate the stages of an intervention and the causal pathways theorised to occur, from the delivery of the intervention through to mechanisms of change and outcomes (Public Health England, 2018b). A logic model is produced, typically in the form of a visual graphic, that represents the theory or hypothesis of how an intervention produces the outcomes that it is aiming to achieve (the mechanisms involved: Moore et al., 2015; Public Health England, 2018b). As such, the intervention hypothesis or 'theory of change' is represented in the logic model.

Logic models form the basis of an evaluation and identify, describe, and arrange critical aspects of an intervention such as inputs/resources, implementation/outputs, outcomes/impact, context, and the relationships between them to represent how the intervention produces change (Moore et al., 2015). Therefore, resulting in the exploration of the main aspects of the 'theory of change'. Logic models are useful for the purposes of evaluation as they can assist with structuring data collection and analysis in order to ensure that the main aspects of an intervention and relationships between these can be further explored. These findings can then be used to explain how the intervention works, or does not work, to achieve its outcomes (Moore et al., 2015).

Generally, logic models are developed during the development of the intervention however, a logic model can be designed at any stage of the evaluation including retrospectively. There may be some limitations however, in this approach (CoP, 2018). A logic model template included as part of the CoP's Evaluation Toolkit (Kime, 2018) depicts a step-by-step approach to guide users on the stages of implementing and evaluating interventions (CoP, 2018). The four interlinked steps of the logic model start with the 'Problem', where users are directed to first describe the problem under study and to identify what they know from existing data sources. Secondly, users are directed to think about describing the 'Response', and how users think this will address the problem. Thirdly, the model moves to 'Outputs' and asking users to describe what they expect to be produced as a result of the response. The final step of the logic model focussed on the 'Outcomes' and directs users to describe the changes they expect as a result of the response in the short, medium and long-term (CoP, 2018).

Developing the understanding gained as part of process evaluation is essential as part of an evidence-based policing approach and exploring the consequences of changes in policing

(Kime, 2018; College of Policing (CoP), 2023). An approach has been developed that contains guidance to answer the important questions that inform process evaluation. The EMMIE framework was developed to meet the aim of increasing the use of evidence within research by decision makers in policing and effectively communicating it to policy makers (Croci et al., 2022; Thornton et al., 2019). Designed to originally focus on crime reduction and evaluating systematic reviews (Johnson et al., 2015), it is suggested that the framework can also be applied to primary evaluation studies (Thornton et al., 2019). Tilley (2016) argued that EMMIE could also inform the collection and assessment of evaluation evidence. The EMMIE acronym contains five categories of research evidence to be identified, namely Effect, Mechanism, Moderator, Implementation and Economics (Johnson et al., 2015). '*Effect*' focusses on what the impact of the intervention is (did it work?) and is generally the dominant outcome measure in evaluations. '*Mechanisms*' concentrates on how the intervention works and seeks to understand what it is about the intervention that could explain the effect (how did the intervention produce the desired outcome?). '*Moderator'* questions whether the impact is different for some rather than others (where does it work?) and looks at the circumstances and context associated with different outcomes. '*Implementation*' queries whether the intervention was implemented in the way it was intended (how to do it?). And finally, '*Economics*' relates to the financial impact of the intervention (how much was the intervention and what was the financial benefit?) including direct and indirect costs and further evidence of any cost-benefits due to the introduction of the intervention (Johnson et al., 2015; Thornton et al., 2019; Eck, 2017).

This framework is useful for the undertaking process evaluation due to the focus on understanding the 'how' and 'why'. The CoP's (2018) logic model template is also useful for answering these questions although the focus of the template is placed more so on answering the 'MMI' part of EMMIE.

Evaluative research undertaken in the field of policing studies demonstrates why it is so important to answer the questions contained within the CoP's (2018) logic model template and those within Johnson et al's (2015) EMMIE approach. Giles et al. (2021) undertook an evaluation of investigate interviewing techniques with child sexual abuse (CSA) suspects. Specifically, the two-part study examined the impact of rapport-based interviewing with CSA suspects and whether this resulted in greater evidential yield that could lead to overall cost savings to investigations. The evaluation methods utilised here link to the 'EM' of the EMMIE approach, the *Effect* (what was the impact? And, did it work?) and *Mechanism* (How does/did it work) sections were considered (Johnson et al., 2015; Kime 2018). The results of

the evaluation were able to identify interview strategies that increased evidential yield and those that decreased it. In essence, investigators with high levels of rapport were able to gain further information about victims. These results were then used in the second part of the study, whereby literature-based economic estimates were applied to establish the potential cost benefits from following national Observing Rapport Based Interviewing Technique (ORBIT) training (Giles et al., 2021). Utilising these evaluative methods enabled the identification of the impact of the training and establish potential economic benefits of implementing the approach.

Process evaluation has also been used in other areas of policing dealing with high volume events whereby efforts are being made to better allocate limited police resources to the most at need, i.e. high risk, investigations and reports. A study by Waring et al. (2023) provided the first systematic evaluation of the impact of implementing a dedicated missing persons team (MPT) to respond to missing children. Missing children reports are reported by Waring et al. (2023) as a resource intense issue for policing given the high number of reports where children are mostly found quickly and unharmed. The process evaluation revealed a number of positive effects post-MPT implementation, including a reduced number of missing children reports post implementation of an MPT. The theory of change resulting from the evaluation highlighted several change mechanisms allowing the researchers to identify how outcomes were achieved. This, and the additional outcome map, provided a reference point for other forces wishing to implement an MPT. The evaluation also highlight area's for improvement that would not necessarily have been detected without these evaluative measures. The findings of the evaluation provide important contributions to knowledge around police resource allocation in high-volume, high-risk contexts and provide support for a similar evaluative approach in the CSA domain.

Another study focussed on missing children investigations by Giles et al. (2022) utilised process evaluation in relation to the proposed implementation of a missing persons question set and protocol within a UK police force. The authors utilised a qualitative methodology, constructivist grounded theory, to analyse interviews with police officers and staff in order to create a logic model. Further data obtained from police databases was used to also develop a conceptual outcome map. The outcome map illustrated potential indicators of success that could be used by the police force to measure whether change has occurred as expected (Giles et al., 2022). The use of process evaluation enabled the further identification of possible barriers to successful outcomes and recommendations made to turn these into positive factors. The use of process evaluation and subsequent development of the logic model and

outcome map show the benefits of these methods in understanding how successful outcomes associated with interventions can be achieved, especially within the high-volume, high-risk investigation field. Identifying factors that may hinder outcomes is also an important measure in the implementation of interventions.

A series of studies have been undertaken in Australia (and the US) focussed on Multi-Disciplinary (agency) Teams (MDTs) and Child Advocacy Center's (CACs), which were developed in order to provide support to victims of physical child abuse, CSAE, and their families. Herbert and Bromfield (2016) initially completed a systematic review of previous evaluations of CACs finding a lack of evidence for claims made about the outcomes. Amongst other findings, their review revealed that CACs were not resulting in reduced trauma for CSAE victims, the main implementation goal. There was also no rationale as to how outcomes identified were connected and a lack of exploration of implicit theoretical assumptions. Following this Herbert et al. (2018) conducted a national US-based survey of CACs findings that there were different variations in model, approaches and characteristics of CACs that could impact practice and outcomes. Their following studies (Herbert & Bromfield 2019a; 2019b) subsequently reviewed research focussed on MDTs and the evidence-base identifying the processes by which MDTs work, their effectiveness and contribution to outcomes. This work found evidence that MDTs are effective in improving outcomes for victims yet a lack of coherent theory of change about how outcomes are achieved was demonstrated. The final study subsequently presented a theory of change and conceptual outcome map developed following the identification of assumptions in use across MDTs, regarding the connection between mechanisms and outcomes. It presented a theory of change and conceptual outcome map developed following the identification of assumptions in use across MDTs, regarding the connection between mechanisms and outcomes (Herbert & Bromfield, 2019b). This series of studies is an important example of how the lack of thorough evaluation and examination of contextual matters surrounding interventions, can result in varied impact and unexpected outcomes. It highlights the importance of utilising evaluation approaches such as EMMIE, to guide evaluative research and the need to identify the 'how' and 'why' in order to develop theory of change.

The research literature on prioritising crimes, and volume crimes in particular has a broad scope in the research literature. Volume crimes are defined as crimes which, through their sheer volume, have a significant impact on the community and the ability of the police to tackle it (National Policing Improvement Agency; NPIA, 2009). Volume crime areas in which researchers have sought to identify methods to prioritise suspects includes a broad

range of topics such as domestic burglaries (Curtis-Ham et al, 2021; Goodwill & Alison 2006; Coupe & Griffiths, 2000). These studies have used evidence-based policing methods in order to try and solve issues within policing created by volume crime.

The effective allocation of resources is a common theme amongst the policing research literature brought about by the aforementioned cuts to policing budgets in the last decade (Pepper, 2020). In the CSAE research field, Giles and Alison (2021) highlighted the increasing scale of IIOC offending in the UK along with the rate of individuals also committing contact sexual offences against children within this population. The study sought to demonstrate the economic burden resulting from contact offending and the challenges this offending posed to policing due to limited resources. Giles and Alison (2021) theorised that the use of KIRAT would result in savings to the national economy in terms of reductions in victimisation and revictimization by allocating police resources to those IIOC suspects also identified as potential contact offenders. They argued that police resources could be most effectively used by dealing with these offenders first and their research demonstrated the importance of evidence-based investigative strategies, namely prioritisation tools. The economic estimates provided as part the study findings fall within the scope of the economic evaluation aspect of policing intervention evaluation, as outlined by the CoP's EMMIE approach (Thornton et al., 2019; Johnson et al., 2015). However, as part of the study the authors could not say how the processes resulting in the cost savings would occur. The authors highlight that their study was a 'starting point' of wider discussion regarding the benefits of police action in this area which should include how these benefits may be measured.

A thorough search of the literature only located one evaluative study focussed on a policing tool which aimed at managing sex offenders. A pilot evaluation of the Active Risk Management System (ARMS), a structured assessment process to assess dynamic risk factors associated with sexual reoffending, was undertaken by the National Offender Management Service (NOMS; McNaughton Nicholls & Webster, 2014). This study was sought due to issues with previous tools and pilots, where feedback from practitioners suggested that the tools were too complex and clinical. The evaluation outlined prospective expected outcomes of the tools use in policing practice, it aimed to assess the impact of training on officers, and to explore how officers were implementing the tool. The findings indicated positive outcomes of the pilot, conducted with a small sample of police officers and offenders. The authors indicated that the evaluation was limited due to this, and findings could not necessarily provide the requisite value as to the efficacy of ARMS, its impact on decision-making, and its

applicability across offender types. This pilot was essentially, a first evaluative step in setting out the aims of the tool and how it should be evaluated as part of a larger pilot, as suggested by the authors (McNaughton Nicholls & Webster, 2014).

The lack of identification of process evaluation studies undertaken for sexual offender risk assessment and risk prioritisations tools is possibly an expected finding. This is given that it is not routine for process evaluation to be undertaken as the typical academic approach (methodology) for such tools is to conduct prospective or retrospective predictive validity tests with analyses methods such as Receiver Operating Curve (ROC) analysis. The findings seek to identify whether the tools effectively assess offenders, whether practitioners come to the same decisions when deploying such tools and they focus on the use of quantitative data. However, there is less focus on exploring how the tools work, the way in which they are administered, and features of the tool that may influence outcomes. The majority of these analyses are also done retrospectively, as with previous KIRAT studies (Long et al. 2016) where development and validation samples are used (as per chapter one of this thesis). However, due to the nature of these tools and their implementation, there is often no potential to do prospective design and therefore, it is unknown how such tools meet their objective and how they work to produce outcomes, or even what the outcomes of the tools are. In this context, those implementing tools can only make assumptions about these factors and there is no available outcome map to guide. Specifically, in relation to KIRAT, the assumption is that use of the tool saves time, police resources, and that more efficient and effective management or risk is taking place. However, it is currently unknown if the tool is achieving these outcomes and the impact of the tool.

Research Impact

When looking to define the idea of impact, the Economic and Social Research Council (ESRC) provides a clear and well-established definition of research impact as the demonstrable contribution that excellent research makes to society and the economy (UK Research and Innovation; UKRI, 2022). This includes both academic impact on understanding, theory and application of knowledge, and economic and societal impacts where benefits are experienced by individuals, organisations or nations. The impact of research emanating from UK universities however, focusses on that achieved beyond academia (Penfield et al., 2014). The Research Excellence Framework (REF) assesses the research impact of UK universities and defines impact as the effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of

life (REF2021, 2022). There is an anticipation with the undertaking of research of the positive benefits emanating from its results. Understanding impact is an important factor in this process to make clear what the actual social outcomes of research are that will generate knowledge and contributions to society (Penfield et al., 2014).

A key question facing researchers conducting evaluations of interventions is, how do we evaluate the social impact of research and how do we capture data to measure success. There are additional evaluative measures that can be combined with process evaluation, such as impact evaluation, that give a more robust and rounded understanding of the intervention and its contribution to outcomes (Research to Action, 2023; Hearn, 2021; Kime, 2018). That is, assessing the effectiveness of the intervention to produce change (Boothroyd, 2018; Public Health England, 2018b). As part of this evaluation approach, data is collated related to outcomes that are expected within the problem or area that the intervention is aimed at and trying to improve. The findings then will demonstrate whether the intervention is successful in achieving these outcomes and can identify whether the intervention has a differential impact on certain groups, and what role context plays in the impacts observed (Public Health England, 2018b). Measures taken following the introduction of an intervention enable further insight into its impact and these are generally examined immediately after implementation and additionally some point later in time (Kime, 2018). The use of multiple time points enables indication of whether there are long terms effects of the intervention and whether the impact initially identified is sustained over time (Kime, 2018). Impact evaluations can also include pre/post measures within the design to develop a more comprehensive approach that can compare those engaging with the intervention and those who have not however, this is not always possible, especially with risk tools in policing.

Impact evaluation focuses on questions geared towards those participating in the intervention and what changes resulted for them. Boothroyd (2018) describes process evaluation as a formative evaluation measure whereas impact evaluations are summative in nature. Prescott (2022, differences section) describes this using an example “if formative assessment measures how a student is learning during a course of study, summative assessment is designed to measure ‘how much’ a student has learned after a unit or course has reached its completion”. The theory of change articulates how the intervention is understood to generate this change in the target group and also can specify causation pathways operating in the intervention (Morton, 2023; Pubic Health England, 2018b; Funnell & Rogers, 2012). As discussed above, the theory of change is developed and the intervention is presented as a logic model. This visual depiction of the mechanism involved in the change can be used to

understand the social impact of research in combination with outcome mapping (also referred to as impact mapping; Morton, 2023), a methodology used to assess interventions that plan to bring about change (Research to Action, 2023). Outcome maps visually present an overview of the various steps that link the activities of an intervention to outcomes that are important, which in turn allows for the assessment of the interventions contribution to results (Morton, 2023; Hearn, 2021). These outcomes will vary by the level at which they bring about change, for example, change may be to knowledge and skills, behaviours, policy and practice, or longer-term social change (Morton, 2023). A common barrier to effective impact evaluation is the availability of, or access to, data (Boothroyd, 2018).

Research in the field of the impact of risk prioritisation tools on policing is scarce, with this study unique in its evaluation of the tool for use with investigations of IIOC offenders seeking to assist the management of investigations for CSAE as part of a resource allocation framework. The issue in this area is uncovering how to review the impact of high risk, uncertain, areas that are sensitive to policing. One method is to use practitioners engaging with the intervention as experts that can demonstrate the feasibility and success of approaches. Data from within this study will help explore what will be measured and what the wider impacts for society are, following the implementation of KIRAT. The outcomes illustrated in the current paper will prove beneficial for KIRAT-related work in other countries where KIRAT is not in use by providing a hypothetical theory of change and an outcome map that can be further tested.

The study draws upon the CoP logic model (CoP, 2015) as a guide to develop an understanding of what KIRAT does and how. This study will also seek to undertake both process and impact evaluations in order to identify the mechanisms within KIRAT that effect positive change for practitioners. An assessment of whether KIRAT is effective and the strength of its impact will also be undertaken as part of this. The current study aims to utilise data obtained from focus groups/practitioner interviews and questionnaires provided by law enforcement practitioners (police officers, police civilian investigators and NCA officers) to establish a logic model for KIRAT, exploring how and why it works in practice. The main objectives of the following research are to provide empirical evidence that a) KIRAT fulfils an investigative need, b) that the tool is the right intervention, c) whether there are factors that facilitate or hinder intervention effects, and d) how success can be measured in terms of outcomes and real-world impact. In addition to theory of change, an outcome map is produced for use in future evaluation studies.

Method

Process evaluation can be utilised within both quantitative and qualitative research (Oakley et al., 2006) and are used to explore the implementation of the intervention under study, how the intervention is received and whether the setting under which it was introduced influenced the outcomes (Moore, 2015; Oakley et al., 2006; Craig et al., 2000). Process evaluations enable researchers to gain insight into reasons for the success or failure of an intervention or where there have been unexpected consequences caused by its introduction (Oakley et al., 2006). Where there have been successes, this evaluation can provide further insight into why it has worked and how it can be improved (Oakley et al., 2006). In addition to this, process evaluations can be utilised to examine the views of populations effected by or a part of the intervention to aid in studying the quality of the implementation, contextual factors that affected the intervention and resulted in a variation in outcomes, and the reach of the intervention following its introduction (Craig et al., 2000).

Process evaluation was adopted for this study to explore its implementation from a practitioner's perspective. The College of Police's (CoP, 2021) 'Introduction to Logic Models' provided a framework to explore the introduction and roll out of KIRAT in terms of the 'problem' (the reason for KIRAT's development and roll out), the 'response' (way in which KIRAT will address the problem), the 'outputs' (what is expected to be produced as a result of KIRAT's roll out and use), and the 'outcomes' (measurable short/medium/long-term changes expected in response to KIRAT). The approach was adapted here to include wider and longer-term impacts as outlined in the study research question. A logic model was then created that visually depicts the results of the evaluation.

Sampling Procedure

Participants were recruited using a volunteer (or self-selecting; Rosenthal & Rosnow, 2007) sampling approach, this was chosen due to the value in allowing professionals to volunteer for research rather than being included as directed by employers. The selection criterion for approaching possible participants included being a member of law enforcement (police officer or civilian staff), currently being based within a role dealing with child sexual abuse and exploitation (CSAE), and having completed the KIRAT online training modules. A Senior Officer from the National Crime Agency's (NCA) Threat Leadership Command acted as a gatekeeper, identifying relevant teams of individuals from across the United Kingdom (UK) that would possibly meet these criteria, emailing an invitation to take part in either an online questionnaire or a virtual focus group/practitioner interviews along with information

sheets for each. Those that were willing to take part were either instructed to access the questionnaire link provided in the invitation email or to reply to the invite indicating their interest in taking part in a focus group/practitioner interviews.

Participants

In total 35 respondents were included within the data analysis, 31 completed the online questionnaire and four attended a virtual focus group/practitioner interview. This sample represents 4.2% of the 832 practitioners that completed the KIRAT training modules in whole or in part from the course launch date (June 2022) up until the end of the data collection period.

Online Questionnaire. The questionnaire was open for four weeks and was completed between November and December 2022. There were a range of ranks and roles of those who completed the questionnaire, this included; Detective Constable (*n* = 6), Civilian Police Staff (*n* = 5), Detective Sergeant (*n* = 5), Police Constable (*n* = 3), Police Staff/Researcher (*n* = 2), Temporary Detective Inspector (*n* = 1), Acting Detective Sergeant (*n* = 1), Victim ID Officer (*n* = 1), Team Leader (*n* = 1), Supervisor (*n* = 1), Senior Officer (*n* = 1), Intelligence Researcher (*n* = 1), Civilian Investigator (*n* = 1), NCA Officer - Grade 6 (*n* = 1), and NCA Officer - Grade 5 (*n* = 1).

Respondents had been involved in the investigation of CSAE for varying lengths of time; 13% had less than 1 year of experience, 29% had between 1-2 years' experience (n = 9), 23% had more than 5 years' experience, 19% had between 3- and 5-years' experience, and 16% had more than 10 years' experience. There were 23 of 31 respondents that reported that they had used KIRAT in a live investigation. Of those that had used KIRAT, the number of times participants had deployed KIRAT varied from daily, weekly, monthly, or provided more specific measures (e.g., '*every investigation where a suspect has been identified*').

Focus Group/Practitioner Interviews. One virtual focus group and two practitioner interviews were held on Microsoft Teams between January and February 2023, with four law enforcement practitioners. Two Detective Sergeants, one Civilian Investigator, and one NCA T/Manager took part. The participants had been involved in the investigation of CSAE for; under one year (*n* = 2), over five years (*n* = 1), and over 10 years (*n* = 1). Three participants indicated that they currently deploy KIRAT as part of live investigations for any relevant

referrals, one participant indicated that they previously utilised KIRAT but do not use the tool as part of their current role.

Materials

The interview schedule was designed to include various open-ended questions that addressed the research question, in-line with an inductive approach, in order to obtain more detailed responses from participants. The interview schedule included a number of opening questions in order to explore the role of participants within their relevant law enforcement organisation, their level of experience with CSAE investigations, previous attendance at KIRAT training events, and their use of KIRAT within live investigations. Following this, questions focussed on participants views on 'the problem' that KIRAT helped to address (e.g., *What are the main challenges in CSAE investigations that KIRAT helps to address?*), 'the response' of KIRAT and how it addressed the problem (e.g., *In your own words, what is KIRAT and how does it work?*), 'the outputs' how KIRAT is implemented and whether there are any factors that might help or hinder successful implementation of KIRAT (e.g., *Do you foresee any problems in implementing KIRAT into investigative strategy?)*, and 'the outcomes' that have resulted from this (e.g., *Do you think that KIRAT will help to save police time, focus police resources? If so, in what ways?*). A copy of the interview schedule and questionnaire can be found in the appendix.

Procedure

Respondents to the questionnaire accessed the questionnaire via a link contained within the participant request email. Practitioners then provided their consent to take part in the study electronically prior to the completion of the online questionnaire, following review of the participant information sheet embedded within it. Participants were guided through a number of pages whereby they had to select pre-set answers to questions or provide a written response. Completed questionnaire data was then accessed and downloaded from Qualtrics, a web-based survey tool, in which the questionnaire for this study was hosted. Identifiable information linked to respondents was not collated by the software, the complete questionnaires were further checked to ensure there was no other identifiable or sensitive information recorded.

Those law enforcement practitioners who had indicated their interest to attend a focus group/practitioner interviews following the original invitation e-mail, were then further contacted via e-mail in order to arrange a suitable date and time for the focus

groups/practitioner interviews to take place. All focus groups/practitioner interviews were conducted remotely using Microsoft Teams to offer flexibility to participants regarding their availability to attend. All participants provided verbal consent to take part in the study at the start of the focus group/practitioner interview, following review of the participant information sheet that had been circulated via e-mailed prior to the focus group/practitioner interview.

The interviews were jointly lead with the senior research supervisor, the interview questions were split equally and whilst one researcher asked questions the other would observe and take notes. Responses provided by interviewees were queried to ensure clarity of understanding and the interpretation by the researchers. This was to ensure what practitioners had said was recorded clearly and that the researchers understood the meaning behind responses. There were some interruptions to the interviews both at the interviewer and practitioner sides of the focus groups/practitioner interviews. The researchers experienced some technical difficulty during one session that resulted in difficulties hearing the practitioner. Additionally, as the participants were generally joining meetings whilst based within their offices, there was some interference with the CART transcription that picked up and transcribed background discussions. The senior research supervisor provided training on process and impact evaluations in order to ensure understanding of undertaking this method.

Interviews lasted between 42 and 53 minutes (M = 46 minutes), the total interview time was 139 minutes. Interviews were recorded and transcribed in real time using CART (computer-assisted real-time transcription) based within Microsoft Teams. Transcriptions were then checked utilising the focus group video and audio recording to ensure that these were recorded verbatim. Transcriptions were then anonymised, and the video and audio files were deleted after a period of two weeks. Participants were informed of their right to withdraw from the study up until this time, but that none withdrew. During the interview participants were asked to elaborate on responses given to questions in order to confirm the interpretation of these responses for the purposes of the recording, to improve the reliability of the data.

Data Analysis

A thematic analysis process was utilised in order to analyse the interview transcripts and questionnaire data with the aim of exploring law enforcement practitioners' perceptions and experiences of the impact that KIRAT may have on CSAE investigations, in terms of outcomes for police, suspects and victims. Thematic analysis is a qualitative research method aimed at identifying, analysing, and reporting patterns, referred to as themes, within data

(Braun & Clarke, 2019; Braun & Clarke, 2006) and is flexible in terms of its application (Clarke & Braun, 2018). This method allows researchers to describe data through a process of data interpretation (Kiger & Varpio, 2020) whereby data is coded, codes are gathered, and themes are then constructed. Thematic analysis is reported to correspond closely with other qualitative research methods, such as grounded theory (Watling and Lingard 2012), discourse analysis (Taylor et al., 2012) and ethnography (Aronson, 1995), given the steps by which the process is undertaken that rely on data coding and the identification of themes (Kiger & Varpio, 2020). These themes have a core concept that underpins the observations or quotes within it (Clarke & Braun, 2018). Thematic analysis was identified as the relevant qualitative methodology for use within this study as it allows meaning to emerge from the data with a significantly higher degree of flexibility than other approaches (Kiger & Varpio, 2020) and data from differing sources can be utilised.

The six-stage approach for conducting thematic analysis developed by Braun and Clark (2006) is regarded as the most widely accepted framework. The current study followed this process which involved 1) becoming familiar with the data through the interview transcription process and review of the questionnaire data, 2) all data was coded phrase by phrase in order to identify and derive meaning from the responses, 3) codes were then gathered with other similar codes to form themes, 4) the initial codes and themes were reviewed as further codes were identified in order to ensure their relevance to the study objectives, 5) final themes were defined and described following further examination of the rationale behind groupings and to ensure they reflected the responses provided by participants, and 6) the production of said report.

As part of the process outlined above in vivo coding was utilised. Data that did not pertain to the research question was not coded. This included, for example, introductions, rapport building, general discussions regarding the backgrounds of the practitioners and their policing teams, academic research projects and other social discussion.

Results

A logic model was developed for KIRAT (depicted in Figure 2, pg. 36), via the thematic analysis, and is divided into 11 thematic categories (presented in **bold**) which are comprised of 36 (TBC) codes (presented in *italics*). The first two themes, **volume and lack of resources** and **lack of standardisation** fall within the 'problem' section of the CoP's logic model template. Practitioner quotes comprising all themes are provided in Appendix 10. See Table 1 for details of the proportion of quotes allocated to each theme.

Table 1

Frequency of the themes

Theme	No. of practitioners who mentioned theme	No. of quotes relating to theme/code
Volume and lack of resources	5	8
Lack of standardisation	1	1
National standard for assessing risk	28	57
Focussed allocation of resources	27	44
Prioritisation leads to safeguarding	4	5
Minimum standard of investigation	7	10
Professional discretion	7	24
Issues with items and risk grading	20	35
Professional outcomes for police	22	29
Risk and further harm prevention	12	14
Wider impact	14	20

1. Volume and lack of resources

Practitioners highlighted the sheer *volume* of IIOC investigations as something that was overwhelming the police's capacity to deal with the most serious cases first. The number of IIOC referrals being received and cases being dealt with by the police is reported to have increased significantly over recent years with numbers continuing to rise. In addition to this a *lack of resources* available to the police, in terms of personnel able to support investigations including conducting warrants, to take action against offenders has further compounded this issue, as identified by the respondents.

"The fact that we have too many cases and not enough staff to take action on each case as it comes into us." (QP7)

"The main challenge at the moment is the sheer volume of referrals." (QP2)

"It was just kind of up and up and up the resources didn't improve our end to respond to that increase both within the NCA and within the NPCC forces." (FG3)

*"Obviously, the workload for us, I'm sure the same for, for, you, (*removed), it's unmanageable. We, we, have too much coming into our (*removed) unit and we have to send a certain amount of that work out to division, the low risks as it happens." (FG2)*

2. Lack of standardisation

Another problem highlighted by a practitioner was the *lack of standardisation* of risk prioritisation in that decisions regarding risk were being made on personal experience and opinion. This theme along with *volume and lack of resources* highlights why KIRAT was implemented across law enforcement in the UK.

"So, it was more, it was more around the prior, obviously the prioritisation of those jobs and we had such a, a, vast variety of jobs that were going out to police forces that we were then asking them to prioritise based on nothing more than a gut feel really." (FG3)

The second part of the logic model 'response' focusses on unique aspects of KIRAT as an intervention. The part of the logic model has three themes that sit within it; **national standard for assessing risk**, **focussed allocation of resources** and **prioritisation leads to safeguarding**.

3. National standard for assessing risk

The respondents reported that KIRAT has created *national consistency* across IIOC investigations within the UK, reporting that the tool has created better understanding between differing forces communicating about cases, further supporting cross-border collaboration. This collaboration takes place when two (or more) forces that share a geographical border or locale work together when there is an investigation where, for example, an offender lives within one force area and a victim lives in another. The reported uniformity in *assessing risk* also creates a level of *standardisation* across police forces, with all forces having the same understanding and recognition of the *risk factors* for contact offending. The tool is now recognised within law enforcement as a *risk tool* that has been developed to support prioritisation decisions regarding action taken against IIOC offenders.

The introduction of KIRAT has also reported to have created a *minimum standard* by which forces work to in order to complete the assessment. A respondent highlighted that previously, minimal amounts of information gathering were undertaken by some teams and

how the introduction of KIRAT assisted to provide a baseline for the *collation of information* required at the start of an investigation once a referral had been received.

"It provides a rationalised risk assessment which can be used as the standard practice across all UK forces." (QP4)

"There is confidence that the risks are assessed in a standard way across all investigations." (QP28)

"So, by using the KIRAT assessment we were able to sort of say, you know, this is like a national tool that everybody recognises and everyone understands." (FG3)

"Puts everyone on the same page from the differing forces, helps us know if a job needs doing urgently if we all grade the same as there is a lot of cross border collaboration with forces." (QP20)

"It did. It changed the, the, strategy because it meant that we obviously had to then conduct certain checks that prior to that were a bit of a nice to have rather than a necessary to have...I would say more looking into, into the work around the family and the, the, kind of the, the, situation within the household that prior to that we wouldn't necessarily have gone into that level of detail." (FG3)

It was also highlighted by a respondent that other areas of policing focussed on CSAE-based crime do not benefit from evidence-based tools that support decision-making around risk and prioritisation. They also highlighted how, in some areas, that are still issues with differing opinions based on experience and personal judgement. Here, by implication, KIRAT offers a national standard and consistency and has done for over 10 years. In other areas of CSAE policing there is possibly now appetite for this level of standardisation.

*"Yeah, absolutely. And I attended an academic advisory group. It's probably about 12 months ago now and they were talking about their prioritisation of workloads within different teams. And this academic work group was, it was attended by people from (*removed), but, but so, we had the conversation generally, but they also came back with, a response from all of the teams within the NCA that work within CSAE to say right, how would you prioritise*

this? And one thing they found was all of the answers that came back, there was no kind of standardised approach to risk and prioritisation and that was from a kind of an initial tasking perspective so those, I guess those kinds of issues are still there, but if there's a way to standardise those at any part of the, of the process, then obviously that is really welcome. But it just goes to show how subjective these things are and depending on the team, their focus is on very different things just based on their experience and based on their particular knowledge and their objective, I guess." (FG3)

Some respondents believed that whilst KIRAT had some benefits, it is not, essentially, a crystal ball, in that it can only provide risk estimations based on the information known and available to the police during an investigation prior to a suspect's arrest. This is not necessarily a limitation of the tool. There will be, on occasions as indicated by the respondents, information that is simply unknown to investigators until they attend a suspect's address or until the electronic devices used by a suspect are forensically reviewed. Another respondent also reported that they did not feel the tool is entirely useful, citing that it rounds up information to provide a rating. In essence, this is the general purpose of KIRAT, to collate information based on a number of risk factors in order to provide a prioritisation assessment.

"KIRAT cannot predict what we will find once we arrest a suspect and we have found that a lot of low risk offenders turn out to be our contact offenders." (QP24)

*"(*Removed) low risk KIRAT that resulted in contact offences and 20 years in prison." (QP21)*

"I think KIRAT is okay for a rough idea of risk factors but I don't think it is entirely useful. I don't feel it particularly helps to address anything other than round up information to provide a rating." (QP1)

4. Focussed allocation of resources

There were a range of comments from respondents regarding the way in which KIRAT had aided the **focussed allocation of resources** through *prioritisation* of the volume of cases. KIRAT had assisted investigators to prioritise cases on the basis of risk and therefore allocate resources to those cases where offenders were identified as more likely to

have been previously or concurrently engaging in *contact offending.* The standard format by which KIRAT support decisions regarding the order of enforcement action also supports *resource management* and *taking action*, as highlighted above, with the most 'at-need' cases receiving appropriate resources and enabling teams to plan upcoming 'jobs' and the resources required to support these.

The use of KIRAT is also reported to give structure to enforcement action via the recommended *timescales* provided, and the in-force guidelines, regarding when action should be taken based on individual risk scores. Practitioners also indicated that this grading and the associated timescales for action created a *prioritisation of action* framework in which they work to.

"KIRAT is a tool that enables investigators to make informed decisions about prioritising one IIOC case over another by assessing the level of risk presented by the suspect." (QP2)

"Risk can be objectively assessed so that resources are allocated appropriately." (QP30)

"...and to make decisions around operational requirements to process the investigations." (QP21)

"And in, in, relation to how we should be dealing with them, how fast we should be dealing with them. Um so. So that's basically for me it's just another tool in the box for me. Which either escalates my thought process to get things done faster or slow time in relation to the offender." (FG4)

5. Prioritisation leads to safeguarding

Respondents discussed how KIRAT assists to highlight the *risk to children* posed by offenders which therefore supports the *safeguarding of children*. KIRAT is described to assist law enforcement practitioners to identify immediate risks to children as part of the case prioritisation process based on evidence and intelligence that is known to the police at that time. This prioritisation process further supports the safeguarding of children as those believed to pose more of a risk to children are dealt with as a priority, therefore supporting safeguarding efforts.

"The main benefits, in my opinion, are for when Sergeants are planning the jobs as they are able to prioritise offenders that are believed to be more of a risk to children e.g. if they have direct contact with children etc." (QP8)

"As a result, KIRAT allows us to prioritise the higher risk cases, and take action on those, hopefully reducing any safeguarding risk to children." (QP7)

"KIRAT assesses the risk/potential risk that an individual poses to children based on the facts known at the time." (QP26)

Following on from the 'response' section, 'outputs' forms the third connected part of the logic model. Three themes **minimum standard of investigation**, **professional discretion** and **issues with items and risk grading** fall within this section.

6. Minimum standard of investigation

This theme supports the outcomes of KIRAT. An investigator described an organisational issue regarding the *national standard* whereby there was some disagreement following KIRAT's introduction regarding the organisational level at which the KIRAT assessments should take place (i.e., NCA undertaking KIRAT assessments on referrals prior to disseminating them to forces *or* referrals being sent directly to forces for KIRAT to be completed locally). It was understood that the risk landscape at the NCA was such that a large volume of risk was being held centrally and that this should be dispersed through to forces as quickly as possible to mitigate further harm to victims. This process would also save duplication of effort and was more practical and feasible in terms of workload as the NCA realistically did not have the resource to centrally KIRAT all IIOC referrals. This process therefore ensures efficient use of the tool, where risk was assessed where it was managed – at force level. The mandate for KIRAT's use issued by National Police Chiefs Council (NPCC, 2015) in this regard is positive as it ensures that all IIOC cases are being dealt with in an evidence-led way where risk is managed within a dynamic landscape at local level.

There was some discussion about *KIRAT and other threats* whereby the tool was mentioned as being used as a guide for other CSAE offending that "*is not technically KIRAT"*. Whilst KIRAT includes risk factors that are generally deemed to be risk indicators within other areas of CSAE offending and for other uses such as assessment of recidivism, it is important to ensure the fidelity of the tool in that it is being used as it was designed with

the relevant population of offenders. There is no evidence however, within this evaluation to justify any concerns. As part of this code, *KIRAT and other threats*, a respondent stated that KIRAT assists with highlighting *other threats* to officers posed by offenders. This is an institutional or police-based outcome whereby, for example, the identification of previous criminal offending by a suspect as part of the assessment process can inform investigators of an understanding of the offender in context. This in turn can assist investigators whilst planning the undertaking of warrants and provides an additional unexpected benefit to the police.

"And that was one of the things that we kind of argued about as Intel officers, we would have cases and we'd have huge caseloads, but we wanted to do as much around that case as we could before we sent it anywhere and there was a real push from senior management to stay like that, whilst that would be nice, there's too much work and there's not enough staff to do that, so you just need to get this out. Once you've got a name and an address, you've got a force area just get it out and it was like that doesn't feel like the right way to be progressing these things. But I think as the, as the number of referrals and the number of cases went up, the kind of the, the, time to, I think they saw it is the, I'll always remember this one of the one of the managers spoke to us and said 'the packages that we're providing now, they're, they're, very detailed, they're very good, but it's more of a gold standard and we shouldn't be doing that for routine cases though, you just need, as soon as you've got force area, get it out' and that……that just, just that. That didn't feel right for us to be doing that, but their argument was, but it's not, it's not NCA. It's not NCA business, so that was just frustrating at times." (FG3)

"I think every job that it's eligible for, it's used for. Obviously, we do have other work that comes into our unit that is not technically KIRAT. We might use it just as a guide. We might not, but everything where it has to be used, we're using it." (FG2)

"Offenders/suspects are not only a risk to children but if they have a history of violence and/or convictions, substance abuse etc. this can be a risk to officer safety. Therefore, having this risk assessment tool helps plan for these types of situations by telling officers to wear PPE, approach with caution etc." (QP8)

There was some contrast in responses from practitioners regarding *unknown suspects* whereby one side intimated that KIRAT can be useful where there is not a likely suspect within the investigation, whereas the other indicated that due to seemingly high amounts of unknown offenders KIRAT did not benefit these investigations. Where discussing benefits of the tool with unknown suspects, practitioners are referring to the fact that they can complete KIRAT on multiple individuals to gain an idea of risk whilst attempting to narrow the suspect pool.

"It can be useful when you don't have a likely suspect." (QP25)

"In most cases suspects are unknown so I find this a toothless tool." (QP11)

"I don't see there are, this tool does not predict an unknown suspect's risk to behaviour and…" (QP11)

Unexpected outcomes produced as a result of KIRAT's use is related to *enforcement timescales* not being met due to the number of cases assessed as being higher risk caused by changes to KIRAT v3 (versus v2). Practitioners reported that due to these increases, enforcement action timescales (set within individual force policy's), linked specifically with KIRAT risk scores, cannot always be met. As resources are based on risk, those offenders falling within lower risk scores move further down an enforcement action timeline, this is due to the nature of policing and the need to attend to risk as a priority. This increase in output could negatively affect outcomes by increasing the number of higher risk cases by which immediate investigative action and/or suspect arrests should be undertaken.

"Yeah so, yeah sorry, yes in terms of the guidance for enforcement action to be taken we're not necessarily hitting that and where maybe a high might have been done, you know, in a week now it's stretching out right to the edge, maybe two or three weeks and then something else might come in that's more pressing and that job is being bumped. And then, for something else because you know we've only got a certain amount of enforcement resources, so there's only certain days when action can be taken and things are being pushed out of the way for other more pressing things. But that's, you know, that's, that's how it is. If I mean that's, that's, policing, isn't it?" (FG1)

"Well, there's always going to be the job that is just extremely high with huge reputational risk, vulnerable children. You know it, there could be all sorts of things and you're always going to throw everything at that and, and, then other, other, things will fall by the way side. But we will get to those other things. It's just maybe not as quickly as we had hoped or planned." (FG2)

7. Professional discretion

Practitioners described the use of *professional judgements* alongside KIRAT as a positive feature of the tool, whereby the assessment is used to provide a standard risk score and other information, for example relating children or information regarding the content of IIOC, could then be brought in by investigators to make final decisions regarding case prioritisation and enforcement action. Officers reported on this mainly positively whereby their experience and opinion could be used alongside the tool and where final decisions about the priority of cases still rested with investigators. However, there was some disagreement here with discussion of this being a positive factor, in that it was reported that KIRAT did not provide positive outcomes in this way as previous to the introduction of the tool, action would be taken almost immediately against suspects with access to children. KIRAT can at times be at odds with the views and experience of practitioners for a number of reasons, therefore it is an important aspect of the tool for practitioners to utilise discretion. The us of this discretion seemingly contributes to the success of the tool, without which there may be push back from practitioners regarding its use in practice.

"Each case is different, but this standardises the risk assessment of each case, whilst allowing for risk to be upgraded if required." (QP12)

"Ohh, I, I'd say we've almost got it as policy here the minute it comes in as there's a child at the address, as soon as we've identified that, that becomes our priority over, over, other things, yeah." (FG4)

"No - I'm not convinced it does. Previous to KIRAT in my unit if we identified a suspect had children or access to them by employment or voluntary work, we would class them as high risk anyway and deal with them within 24-48 hours." (QP11)

A *lack of use* of KIRAT was discussed by practitioners in that at times, decisions have been made not to utilise the tool within investigations because of, for example, knowing prior to completion of the assessment that the assigned risk score would be 'low' or in cases involving an undercover online operative (UCOL), where suspects may be assessed quite easily and obviously as 'very high' risk. However, the tool has not been specifically validated for use in UCOL settings. This highlights KIRAT's use as heuristic by some, where recognition of risk factors within the tool and risk score outcomes associated with certain factors results in redacted use of the assessment. Practitioners are now so aware of the tools, it contents and outputs, it can inform their decision-making without the need to complete the full assessment. This therefore saves the use of resource as part of a minimal standard of investigation that KIRAT requires, which could influence on successful police outcomes. Professional judgement and discretion are being utilised to decide whether KIRAT should be used and possibly is not used on occasions where it has been identified as an inconvenience. An understanding of police time within these aforementioned scenarios would provide more depth of discussion around this issue.

"Yeah, I think most of our UCOL, we don't even bother applying the KIRAT as you know it would come out very high straight, straight, off the bat, so yeah, it's not, particularly if they're talking about travelling to meet and, and, that you can see that they are looking to travel to meet, particularly if in an occupation that they have the opportunity to travel and meet. So yeah, it's, yeah, as you said that most of ours where the UCOL's concerned we, we, push them right up to a, to a very high." (FG4)

"A lot of it's based on the subjective kind of feeling of the of the investigator, and if it's something that they're really interested in. If KIRAT's going to come at a low score, they'll…they won't, they don't need to include it." (FG3)

"We also understand that we've had low KIRAT's um, one in particular job we had it ended up as being one of the biggest investigations we had because it opened up this huge avenue of grooming offences by high profile people in different industries. So yeah, it's, you know, again, even when we get the low KIRAT that's always in the back of your mind thinking, we had one category C image on a low KIRAT and suddenly this investigation blew up into overseas all over the world. Type. Yeah, so." (FG4)

8. Issues with items and risk grading

There were a number of *issues with items* cited by respondents regarding the inclusion or absence of specific variables within the risk scoring process. This can be problematic and effect outputs in terms of support and confidence in the tool, as well as fidelity. Practitioners often include information about the IIOC being accessed, shared and/or created by offenders as part of prioritisation assessment. However, these decisions are part of practitioner discretion alongside the use of KIRAT. In addition, issues around risk factors, there are also further issues mentioned by investigators in relation to risk scoring associated with the presence of certain variables within the investigation. Since the introduction of KIRAT v3 respondents here report increases in the number of higher risk cases, which a number of practitioners do not believe is relative to risk in the 'real-world'.

"I fail to see how convictions for shop theft and lower level non-familial offending are relevant to IIOC KIRAT grading. I'm sure there must be some academic basis for the question, but on a day-to-day basis I don't see this as relevant." (QP20)

"I still don't understand why nominals having previous for IIOC isn't considered within the tool for assessing risk. it shows patterns of behaviour, risk of reoffending and the disregard for their actions." (QP1)

*"Yes, the KIRAT is producing too many high and very high referrals. This is not helping us as we need to balance the reasons for the risk level against the real-world assessment of risk. Whilst the KIRAT is great tool, it is providing what i would call too many false positives when for example it could be (*removed) as the suspect has a grandchild. Which automatically seems to assume a level of risk against the child without foundation." (QP21)*

Practitioners also highlighted females and under 18-year-olds as *offender groups* that they currently cannot assess with KIRAT. The tool has only been validated for use on male IIOC offenders over the age of 18 years and there is currently no evidence-base to support the accurate and valid use of the tool with other populations of offenders.

"The fact it is only cis males at the address and those over the age of 18." (QP31)

"Yes - It would be great if we could, at some point, use this risk assessment tool against women." (QP8)

"Yes - Females, need to be added to this tool." (QP21)

The final connected part of the logic model 'outcomes' contains three themes which includes **professional outcomes for police**, **risk and further harm prevention** and **wider impact**.

9. Professional outcomes for police

Practitioners had opposing opinions on whether the use of KIRAT *saves time* as part of IIOC investigations. Some believed an outcome of KIRAT use is that it does save time due to officers' recognition and understanding of the tool, without the need for discussion or explanation around risk factors or scoring etc. Other positive comments highlight beliefs that KIRAT also *saves time* as, in instances where a suspect is deemed to be 'very high' risk by the tool, investigators will not wait for the return of suspect enquiries from third party agencies and that they will proceed with enforcement action based on the information available to them at that time. In opposition to this, others felt that KIRAT did not necessarily result in time being saved. This was due to minimum standards of investigation required to completed KIRAT (in terms of third part enquiries etc.) and to exploit its full value. Comments also related to the facts that offences are still taking place and there is requisite work needed to then be carried out as part of the investigative process. Although officers had indicated in the former instance that KIRAT did save time, they could not quantify how, or how this could be measured.

"And everybody knows it, don't they? Everybody understands it. Everybody in this sort of world, they all know and understand it, so it doesn't need any explanation either. So……that saves time." (FG1)

"I think if you used correctly, then it could. But I think my experience of it was always there, and this is definitely back in the day. I don't know about current, current, practices and current kind of attitudes towards KIRAT, but it was, because we weren't doing it, I don't know whether the NCA, the NPCC forces, were then doing it, so I can't really answer that question to be honest. Because there's still a lot of work that's required in order to then fully complete,

the KIRAT assessment isn't there, and by that point, you've still got an offence and you've still got an offence at the end of the day. However, you look at it……because somebody is, is, in the possession of indecent imagery, so, it's a difficult one, isn't it? Because you have to invest the time to do it properly in order to fully exploit the KIRAT and, and the, the benefits of it so." (FG3)

Respondents again had opposing opinions on whether one of the outcomes of KIRAT was *efficient prioritisation.* Some indicated that the assessment allowed for more effective case triage and associated resource management. *Effective prioritisation* was also displayed in other ways whereby practitioners stated that they generally can review case information and recognise the probable resultant KIRAT score prior to the undertaking of an assessment. This highlights that officers can seemingly reach decisions regarding prioritisation and risk much sooner than they possibly could previously, where KIRAT has supported the professionalisation of a minimum standard of response.

Contrary to this, other practitioners did not feel that KIRAT resulted in *efficient prioritisation* in that other police-based policies are in place to deal with cases where children are believed to be present at a suspect's address, therefore there is 'no need' for the use of KIRAT as part of these cases. Others highlighted similar beliefs and added that where 'lower risk' cases were being dealt with by, for example, divisional teams, enforcement action would take significant periods of time to be undertaken due to a belief that offenders with low risk KIRAT scores pose no risk to children. However, low risk does not mean no risk.

"Yes - If the tool is applied, it allows Forces to direct resources accordingly." (QP3)

"Can generally predict which jobs need to be dealt with in which order before even using KIRAT." (QP9)

"No - to be honest if we do our checks with social services and children are listed at the address, these jobs will be prioritised without the need for a KIRAT assessment. It simply helps order the lower priority jobs. I would like to think I knew which jobs are high risk without KIRAT telling me." (QP20)

"No - We have a policy that HIGH/ VERY HIGH results stay within the (removed) team, anything below goes to the relevant (removed) department. The other departments see the

low & medium as that, and take months to enforce the jobs due to KIRAT labelling them as 'low risk'." (QP1)

Respondents stated that there was an *effective use of resources* due to the use of KIRAT, whereby resources are allocated where they are needed with the most at-risk cases. Again, there was not agreement among all participants about this, some felt that the information required to make resource decisions came from other investigative research however, there was still recognition that KIRAT does assist with the prioritisation of the workload, which ultimately is about the correct resources being effectively applied. KIRAT however, is part of a toolkit that the police have to ensure that an appropriate policing response to investigations.

"Yes - Helps to focus resources and ensure resources are supplied for the high risk. I don't think it will save resources as the risk is still dealt with no matter the level.
Resources can then be allocated appropriately and effectively." (QP27)

"No, information for approaches and investigative strategy are picked up from the research work. KIRAT is just something extra for deciding what team a job goes to, as opposed to being used for anything else." (QP1)

Respondents also believed that the use of KIRAT has resulted in differences in their *investigation approach*. Differing points were made in that the use of the tool has highlighted specific factors whereby investigators will now use their own judgement to further prioritise cases based on access to children by a suspect. This also includes a technological and organisational development by which new IT systems are now being trialled and utilised that could contribute to other outcomes in the future in terms of efficient prioritisation and time saved.

"Yes - Will prioritise the high risk cases with children at the address or child victims." (QP18)

"So, plus we're on the new, we were trialling the new CMT system so that we could access straight away the system that the NCA have with NCMEC so that we could see the referral straight away. See the image straight the way we didn't have to wait for a disc, it made it a

lot, sort of, well, the workload increased quicker because we're not waiting for the imagery to come through to then determine how we sort of deal with it, yeah." (FG4)

10. Risk and further harm prevention

Respondents generally agreed that the introduction of KIRAT had assisted in the *prevention of future abuse* of children. Practitioners gave anecdotal information describing how, as a result of the tool, the risk of further abuse to children was potentially mitigated in cases where abuse was on-going and enforcement action was being taken at a quicker rate due to the tool's assessment of offenders as higher risk. Practitioners specifically stated that it would be difficult, or unfeasible, to measure this impact.

"Yes - It is very difficult to quantify this, but a prompt response to a case where a child may be being abused by a suspect is crucial in order to prevent any continued abuse, and I have no doubt that KIRAT assessments have achieved that." (QP2)

"Yeah, it doesn't reduce the risk because the risk is always there, isn't it? But in terms of the risk of further abuse against a particular child, if we're acting on those with child contacts quicker, then it's got to hasn't it? Yeah. But you can't quantify it." (FG2)

"Yes - I am unsure at how much KIRAT has reduced the risk posed to children but being able to identify high risk offenders who have possible access to children means this offender/suspect can hopefully be caught/arrested before any/anymore abuse happens." (QP8)

Practitioners also believed that use of KIRAT had resulted in *detecting and reducing risk* to children due to offender risk being addressed sooner where offenders are identified as high risk by KIRAT. Again, anecdotal evidence was provided via statements given by practitioners regarding this outcome but there is no way to measure this outcome reliably via the information provided.

"Yes - If high or very high the risk is addressed sooner." (QP19)

"Yes - It identifies quickly the high risk offenders, and those offenders are prioritised which could mitigate the risk to children around them." (QP12)

"So, it probably has helped reduce because when we start getting the high and the very high jobs, inevitably there are kids at those addresses at risk that we wouldn't necessarily have known about before. So, it probably has helped reduce it in that way." (FG4)

However, other contrary opinions of respondents were that whilst KIRAT does prioritise workload, it does not reduce risk.

"No - It prioritises work but I wouldn't say it reduces risk." (QP22)

11. Wider impact

The *impacts on organisation* is a longer-term outcome identified in responses from practitioners where quotes have a broader scope than just the investigation. They link to potential future additional impacts of KIRAT, for example, requesting additional officer support on warrants or additional staff within CSAE teams to support increased numbers of cases receiving higher risk ratings via KIRAT v3. Another broader impact included assistance of KIRAT to better inform safeguarding measures put in place with partner agencies.

"Hmm. I guess if you wanted it too, if you, if it suited your purpose to use KIRAT in that way, I can't actually think of an example right now, but if it suited my purpose I would, I would use it if it meant that I was gonna' get more uniform, you know, help on a warrant, because something was very high then I might use it." (FG1)

"Or, I suppose that the fact that we're getting more and more highs and very highs from a resource point of view within POLIT, I can imagine that, you know, in a year's time when, when, KIRAT 3's been rolling along for a while and, and, we've got more and more highs and very highs and we're not meeting the, the, you know, recommended guidelines for enforcement, I can imagine that that's an argument for more staff. And so I should think it probably will get used then." (FG2)

"Yes - Helped to prioritise those cases where children are exposed to CSE. Helps to better inform safeguarding measures that need to be put in place with partner agencies." (QP27)

The *impact on offenders* received a mixed response from participants, ranging from KIRAT's use not impacting on offenders at all, to there being some impact unknowingly to offenders. This inadvertent impact to offenders was discussed by a respondent as related to the response by officers to the offender upon arrest based on information identified during the investigation whereby other support for the offender could be identified for social and welfare issues. Another inadvertent impact included a practitioner's mention of lower risk offenders receiving less serious penalties whereby those deemed 'low risk' are circumvented out of the criminal justice system (CJS). This was introduction (with a number of qualifying criteria) due to the enormous number of IIOC offenders crippling the CJS, causing huge delays in cases reaching court.

"I mean, any offender who is left hanging, offending, wanting to stop and when we go in the door, they're almost relieved, umm, that could be any offender, regardless of their risk level, so I'm not sure, you know. And I'm not very, that bothered whether it's beneficial to offenders or not. And I, I, can't. I can't say that it it's of any benefit to offenders, it's not a suicide risk assessment, it's you know. If I'm honest, no." (FG2)

"Ohh, right, OK. I don't think there's anything, no, nothing positive for them because inevitably, even if it's a low KIRAT for us, if, if, they were offending in the way they were offending, they're gonna' keep offending thinking that they're not going to get caught, 'nobody's knocking on my door so I'll just…' yeah, so sometimes with those cases on the low KIRAT's, it does benefit us because we know there's no kids there, there's no risk there but when we go through the door, the evidence is still there..." (FG4)

"I would say so because I think a lot of the time you're not looking at the offenders, the person and all of the circumstances that are around that individual in terms of how best to deal with the, with the with the case. Whereas if you're looking at all of those factors and you're looking at that, at that individual as a person, rather than just the offense that they've committed, it then gives you an opportunity to then think about what the appropriate response is, and sometimes it's not just to arrest for image offenses although that will be there, you can put other things in place and you can consider working with other partners around providing that support and whether there's more of a kind of social or kind of a welfare issue around the family in general that perhaps has been noted before, but hasn't really been and nothing's been done about it with this added element of it, and with KIRAT

and things could then increase the profile of it in the urgency of it and that could get then family the help that they need, not just looking at that offence as an image offence and nothing else, taking it as a more holistic approach. I think it definitely lends itself to that because it it makes everybody think more around the individual and their circumstances around that rather than just looking at it's an image offence, X amount of imagery, these grades, yeah, carries this sentence. You know, it's so much, so much more complex than that." (FG4)

"Lower risk offenders may receive words of advice rather than prosecution." (QP12)

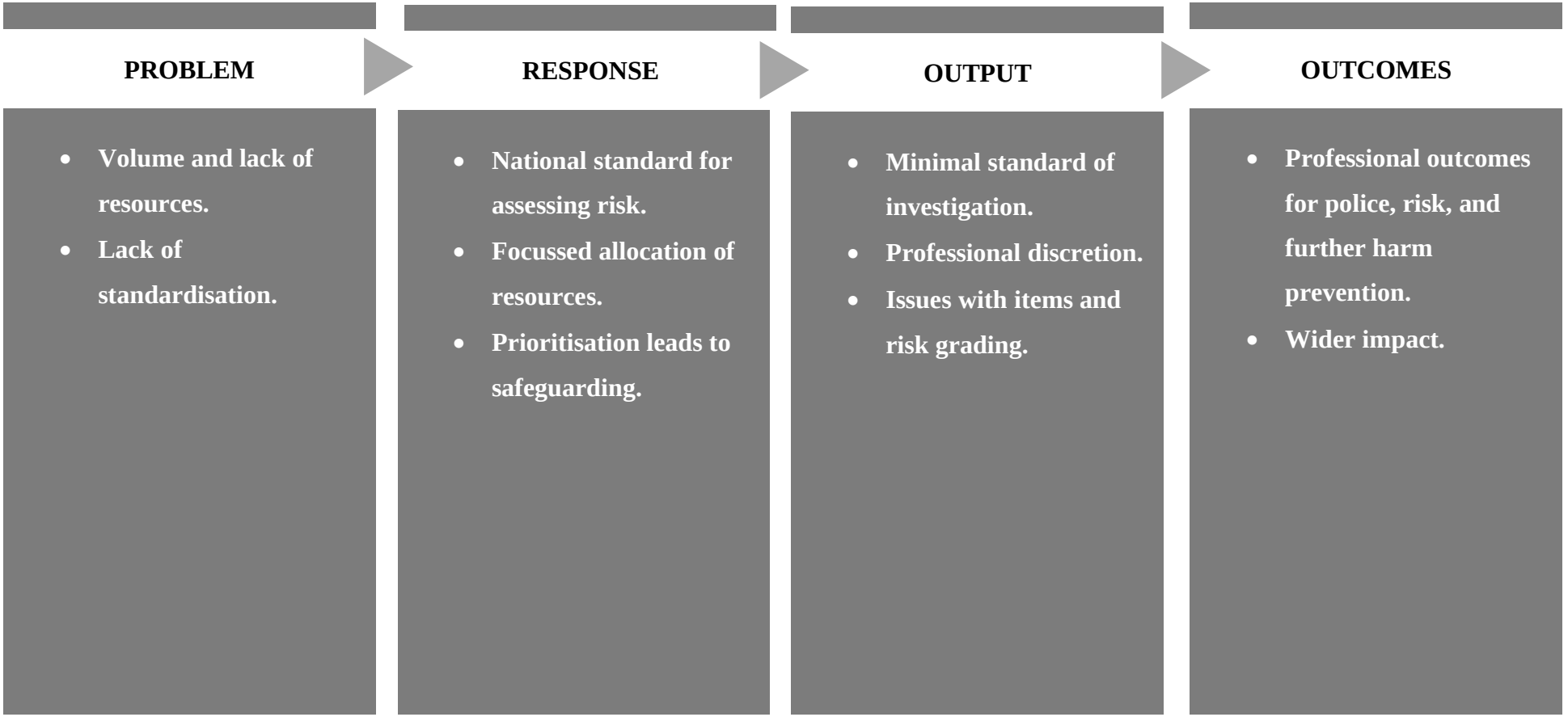
The final outcome was based on there being *no influence on CPS* (Crown Prosecution Service), respondents here mainly indicated that they believed KIRAT's use had no impact on the CPS, some indicated that there was no real need for the KIRAT to be included in these discussions and that CPS were not aware of the tool and had queried the tool with officers. A minority belief was that CPS would possibly accept a lower standard of forensic evidence for offenders in cases assessed as lower risk.

"Not that I am aware of. I'm not sure the CPS are even aware of KIRAT as they certainly never seem to mention it." (QP7)

"No, we're obviously, absolutely having those discussions with CPS in terms of the seriousness of the offending and the risk, you know, the, the, aggravating factors of the offending, but that's not really anything to do with the KIRAT though, is it?" (FG2)

"CPS will accept a lower standard of forensic download for low risk cases for charge." (QP8)

Figure 2: Logic Model for KIRAT (Tool)



Discussion

KIRAT is still viewed as the most appropriate tool for use within IIOC investigations and sits well alongside other policing strategies with the primary goal being safeguarding children from sexual abuse. There are no other tools within the UK, or worldwide, known to be in used within law enforcement organisations with the same aim. The tool was designed to combat the sheer volume of IIOC cases received by law enforcement and the overwhelming need to prioritise those cases in which offenders posed a risk of contact sexual abuse to children. KIRAT has achieved this aim. The key findings of this study collectively provide a provisional theory of change and outcome map that law enforcement can draw on. Unexpected potentially negative outcomes are also discussed and caveats provided to address these.

Intervention Effects

In terms of intervention effects, the introduction of an action/response framework was reported to lead to the safeguarding of children. The action/response framework introduced by KIRAT set suggested enforcement action timescales against the different KIRAT risk levels. This framework provided a prioritisation system in which recommended timescales are provided for enforcement action to be taken against those deemed 'higher risk' by KIRAT. Additional timescales are also recommended for the 'lower risk' groups. This prioritisation system has led to the safeguarding of children potentially at risk of abuse, or risk of further abuse, in a timelier manner. This framework has also encouraged the more efficient allocation of resources to those identified as the tool at higher risk of contact offending, at a time where this resource allocation is a policing priority (Pepper, 2020; Disney & Simpson, 2017; Long et al., 2015; Brown & Kebbell, 2013).

A further intervention effect is the simplicity of the tool. Reported originally by Long et al. (2015), practitioners have confirmed their assumption. The previous lack of standardisation across risk prioritisation of IIOC investigations prior to the introduction of KIRAT has resulted in this development in the tool. KIRAT is simple and easy to use, the straightforward nature in its application therefore results in easy implementation at law enforcement level. This in turn will lead to practitioners being more likely to apply the tool as part of IIOC investigations. If additional risk factors were added to KIRAT, or there were other changes to the tool significantly altering its current format, this may lead to the tool not being as acceptable to practitioners (American Psychological Association, 2002), which could affect future implementation.

Practitioners use of discretion alongside KIRAT is an additional intervention effect. Practitioners' ability to use discretion, based on their own experience, ensures the implementation, and continued use of the tool. This supports the intended use of KIRAT as originally prescribed in that the tool should not replace officer experience, it should complement it (as outlined in chapter four; Long et al., 2015; CEOP, 2012). Rigid use of the tool would not be supported and it is discretion that provides some room around risk factors and risk ratings that practitioners have highlighted issues with. There are often operational variables that practitioners may take into consideration as part of the prioritisation process that appear to be significant indicators of risk and have relevance. These factors may not have been found to contribute to risk identification as part of academic research however, there are circumstances that do not always fit within KIRAT that officers should have the flexibility to make decisions on. For example, IIOC content, whilst not predictive of dual offending in Long et al. (2015) could provide evidence of access to children which is prioritised within KIRAT. This finding supports the idea that officer discretion should always play a role in investigative decision making.

An unexpected intervention effect identified as part of this evaluation was the minimal standard of investigation introduced by KIRAT. Implementation of the tool has resulted in all cases being subject to the same level of investigation in order to identify information required to complete the assessment. Prior to KIRAT's implementation, cases deemed as 'lower risk' would not necessarily attract additional investigative attention. There is now a minimal standard required for all cases, even those deemed as low. An important factor here is that there is still risk within those cases deemed as 'lower risk'. Following KIRAT assessment it may be apparent that risk is in fact higher than first assumed. A minimal standard of investigation, therefore, helps to ensure all cases are given due consideration against evidence-led risk factors.

Measures of Success

There were a number of factors that should have been measurable as part of this evaluation however, they were not. There was no evidence that the use of KIRAT saved practitioners time, despite previous thinking. The reasons for this are clear in that due to the minimum standard of investigation now afforded to all cases, regardless of the risk score, each case still goes through the same investigative process. Whilst completion of the actual KIRAT form may be quick and simple (Long et al., 2015) that does not result in investigation time savings. There was also no indication of an impact of KIRAT on the Crown Prosecution

Service of on offenders generally. In terms of the latter, the results of this study indicate that police officers do not consider this as a key objective for KIRAT.

There were a number of factors that were identified as measurable as part of future work. Improvements in safeguarding is a factor that could be measured prospectively as part of further KIRAT roll outs in international countries that currently do not use the tool. Due to the retrospective nature of the current study, it is not possible to undertake pre- and post-training measures of improvements in safeguarding as an outcome of KIRAT. However, a prospective quasi-controlled trial (experimental design) could be used in the future whereby pre- and post-KIRAT roll out measures can be taken and analysed. This is discussed in Giles & Alison's (2021) paper, regarding opportunities of future prospective studies. With regards to chapter three of this thesis (KIRAT EU & INT) opportunities to undertake this study could be presented following the validation of use of the tool with other international populations of offenders. In terms of the UK position and the measurement of improvements of safeguarding for children in the UK, this could be examined through the assessment of information regarding children safeguarded by the police in future investigations. This could measure, of those children safeguarded, the number that were victims of contact offending and the number likely to become victims (based on investigative information). Due to the current implementation and use of KIRAT, this would provide an opportunity to assess the outcomes of investigations where offenders had been subject to prioritisation.

Finally, it was identified that efficient prioritisation could be measured within future studies. Examination of those offenders that were prioritised and the subsequent number that were then identified as contact offenders could be assessed by using an outcome map and could further be modelled. Data collection would include the number of contact offenders, the number of children victimised (in terms of contact offending) and the number of children at risk of victimisation. Gaining answers to these three questions as part of law enforcement investigations would enable the undertaking of this measurement to assess whether current prioritisation is efficient, which would provide clearer outcomes to the results of this study.

Impact

The wider longer-term effects of KIRAT revealed as part of this study include reducing victimisation via safeguarding. Previous studies have shown that reducing victimisation saves economic costs on a vast social scale (Giles & Alison, 2021). It is not ethically viable to question victims about the offending committed against them and subsequent harms caused. Therefore, the model developed by Giles and Alison (2021) could

be applied to KIRAT based on the lifetime cost savings generated by lifetime reductions associated with being the victim of CSAE. Undertaking this economic evaluation would enable the financial benefits of KIRAT to be revealed and would further support any international efforts to roll out KIRAT by demonstrating cost-benefits of the tool. The ability to economically model the cost of this saving is also in-line with the final 'E' from the EMMIE framework, providing a more rounded evaluation of the implementation of KIRAT (Johnson et al., 2015).

The interruption and prevention of offending is an additional impact identified. The requirement of resources within CSAE teams dealing with IIOC cases could possibly make these teams more effective to achieve this goal. It appears that whilst enforcement action timescales for higher risk suspects are consistently met, those for lower risk are not. The large number of low risk cases awaiting further investigative and enforcement action highlight a resourcing issue. Additional resource, in the form of more officers that were made available in some capacity to support the undertaking of warrants and other investigative action, could address this issue. Practitioners highlighted that the demand on their teams, in terms of cases versus number of staff, could negatively affect timescales of enforcement action being met. The ability to access additional resources, in the form of local policing teams to conduct warrants or increases in the number of officers with these teams, could address this gap.

The action/response framework introduced by KIRAT has impacted on the timescales by which law enforcement are taking action against offenders, based on risk scores provided by the tool. Whilst each force or agency has their own timescales, they are loosely fitted to those suggested. It is clear that this framework needs protecting to ensure that practitioners can meet timescales in order to effectively respond to cases. A common thread is that the 'higher risk' cases are always dealt with in the set enforcement timescales, whereas those cases with offenders deemed to be 'lower risk' can experience delays due to receipt of additional 'higher risk' investigations. To address this problem, staff/officer's numbers in teams dealing with IIOC could be increased to keep up with workload or local officers could provide more assistance as part of the undertaking of some warrants for 'lower risk' offenders.

Study Limitations

The small sample used as part of this research study, specifically data collated as part of focus groups, could be a limitation of this study. Focus groups were reduced to practitioner interviews on two occasions due to limited numbers. Despite this, a relatively simple

outcome map has been developed and three key data points (number of contact offenders, number of children victimised and number of children at risk of victimisation) can be used in future studies to further model a theory of change. Four intervention effects were identified in this study based on this sample.

The data collection method could be improved upon in future research as this may have contributed to the small sample. In retrospect, the inclusion of the online questionnaire with the KIRAT online training package may have resulted in a higher yield of questionnaire participants. Additionally, the advertisement for the focus groups could have also been included here. The request for participants to engage in the online questionnaire and focus groups were made via an email circulated to UK police forces and the National Crime Agency (NCA). However, it is uncertain whether this email reached the target audience due to difficulties establishing relevant points of contacts across regions. Additional participant recruitment could have provided further enrichment to the data obtained as part of the logic model. However, it must be noted that as recorded within other previous police-based research (CSA Centre, 2022) recruitment of practitioners whose primary concern is to meet the demands of their roles, is difficult within all areas of policing research. The response rate of X can be considered as expected given this knowledge.

Finally, the inclusion of ethnography, whereby officers would be observed applying KIRAT and where the operational impacts of KIRAT could be observed, may have provider a further source of data that could have added to the findings and assisted to answer the research question.

Recommendations for Future Research

Future research should include prospective studies of the impact of KIRAT within other countries where KIRAT is not currently used. These would allow for the comparison of the pre- and post-KIRAT roll out effects on the identification of contact offenders, the safeguarding of children and cost-benefits of tool implementation. In the UK, further exploration of police response times in relation to the KIRAT risk scores and to what extent they are being met, would enable examination of whether the inability to meet these thresholds compromises safeguarding goals. Further examination of the use of discretion alongside KIRAT and the discretionary decisions being made by practitioners in relation to risk posed to children, would allow for the examination of the scope of discretion in prioritisation assessments. In the UK, an observational study of the implementation of KIRAT in practice within police forces would enable the measurement of the effectiveness of

the tool in practice. The measurement of the number of contact offence victims, and children likely to become future victims, amongst the numbers of children safeguarded would enable further exploration of the outcomes of the tool.

Implications

The implications of this study include the new knowledge developed in relation to a potential theory of change with regard to prioritisation tools for IIOC offending. A logic model has also been produced that can be used in future designs with international law enforcement agencies. Wider societal impacts of the tool have been identified in terms of the safeguarding of children from abuse, and shorter-term impacts include the action/response framework guiding the allocation of policing resources. In terms of the tool's use in practice, this research has found KIRAT to be fit for purpose. Elements of the action/response framework, the simplicity of the tool, practitioner use of discretion and a minimal standard of investigation have all contributed to the tools use. The study has also identified that the true efficacy of the tool does, however, lie in in pre- and post-KIRAT roll out controls.

Conclusions

The focus groups/practitioner interviews and online questionnaire have been used within this research effectively to gain rich qualitative data to undertake this evaluation. There were four intervention effects identified as part of the evaluation and without these, the use and efficacy of the tool would be reduced. A simple outcome map has been developed and an evaluation strategy designed as a result of this research, such that more effective evaluation strategies can be used in the future. Further focus should now be on economic impacts of KIRAT, and the examination of outcomes as related to investigations, in terms of the identification of contact offenders and the safeguarding of victims. These areas of focus would further strengthen KIRAT's position and appeal to other countries currently attempting to tackle the effective prioritisation of IIOC investigations.

Chapter Six

Discussion

The aims of this thesis were broadly threefold; development and cross-validation of KIRAT for international use, demonstrate the effectiveness of the KIRAT online training programme, and explore how KIRAT works, the effects of its use and if it is effective in practice. The outcomes of the research chapters start by demonstrating that KIRAT can be applied internationally with high levels of success and that theories of offending underpinning KIRAT hold internationally. Further, the findings of this study demonstrated significant results where information regarding previous contact sexual offending against children were absent, supporting the contribution of other dynamic risk factors to the KIRAT model. The KIRAT online training was demonstrated to work well in the UK, although due to the saturation of the sample with practitioners with previous knowledge of KIRAT, further testing is required with a purely novice sample. A number of intervention effects of the training were also identified as contributing to successful outcomes of the training, with a number of areas of improvement also identified. These results have therefore led to the suggestion that the training programme could be included as part of future KIRAT roll out in international countries. Finally, four intervention effects related to KIRAT's use in practice were identified as contributing to successful outcomes for policing. These include action/response framework, tool simplicity, practitioner discretion and a minimum standard of investigation. Impacts of the tool were identified as reducing victimisation and future economic evaluation to model cost-benefits of KIRAT were suggested. These outcomes may also additionally be benefited from by said future international countries. Limitations of the data should, however, be taken into account in relation to these results due to the subjective nature of the data.

This thesis has aimed to ultimately, extend knowledge related to theories surrounding risk prioritisation models, methods used within such research, and practical implications for law enforcement and practitioners who are at the frontline. Contributions to theory, methods and practice will be discussed below.

Contributions to Theory, Methods, and Practice

The findings produced within Chapter Three, which focussed firstly on the development of KIRAT in Europe and cross-validation of the tool internationally, revealed

the relative homogeneity of risk factors for contact sexual offending against children within IIOC populations. These results also confirmed that a relatively simple resource management tool can be used by police forces across these countries, and potentially the world, confidently to prioritise risk, safeguard children from harm, and for the effective management of resources.

KIRAT is not a structured professional judgement tool. However, the research has demonstrated that evidence-based actuarial measures combined with practitioner measures of discretion, provide the most effective way to prioritise risk within policing investigations. This study further supports previous research in that those at most risk of previous and/or concurrent contact offending can be identified by nature of a small number of variables which hold true across a number of countries. Similar to the successful use of structured professional judgement by clinical professionals in the context of recidivism risk assessment (Logan, 2016; Hart & Boer, 2010), the use of police-based practitioner discretion allows for police decision-making within this assessment process. The findings support this use of discretion, its use was reported positively by practitioners and contributed to successful outcomes related to the deployment of KIRAT. In addition, the use of officer discretion alongside KIRAT ensured its implementation in policing practice and the continued use of the tool following training. This implementation is often reported as a major hurdle within evidence-based policing research (Telep & Lum, 2014). This supports the original intended ethos of KIRAT which directed that it should be used to complement officer experience (Long et al., 2015; CEOP, 2012).

An additional theoretical contribution of this thesis following on from the last, is that KIRAT arguably sits within the National Decision Model (NDM). This model, specifically used within the context of policing in the UK, is the primary decision-making model for the Police Service (College of Policing [CoP], 2014). The model was designed to provide a simple, logical and evidence-based approach to police decision-making in often complex and difficult circumstances (Association of Chief Police Officers [ACPO], 2012). The NDM was developed as part of efforts to ensure police practitioners were focussed on delivering the key missions of policing, to enhance the use of practitioner discretion, and to support the effective allocation of limited police resources (ACPO, 2012). Within this framework practitioners are encouraged to make structured rationales of what they are doing within investigations and why. In the context of KIRAT this translates to practitioners understanding individual offenders in context, understanding factors that may influence risk and others that may act as protective factors outside the scope of the assessment. Practitioners therefore use their

discretion to influence the prioritisation order of investigations and the following investigative actions following completion of assessments. The outcomes of this thesis support this use of practitioner discretionary decision-making alongside use of the tool. KIRAT therefore sits comfortably within the NDM framework and within the culture of evidence-based policing.

The findings produced within this research additionally demonstrated the utility of dynamic risk factors as part of risk prediction, similar to recidivism research outcomes (Hart & Boer, 2021; Craig & Rettenberger, 2016; Beech & Craig, 2012; Ward et al., 2006; Thornton, 2002; Hanson & Harris, 2004, 2001, 2000b). In contrast, the dynamic factors included within KIRAT do not mirror those within sexual offender recidivism tools given their lack of accessibility by the police during the investigative process. Departing from recidivism assessments utilised with convicted offenders, KIRAT diverges in its use focussing on offenders that are known (by way of an antisocial and/or criminal history) and additionally those that are unknown to the police. Therefore, the demonstration of the predictive utility of the dynamic factors included within KIRAT resulting from this thesis is key to exhibit the effectiveness of the tool where previous criminal history data is absent. The findings from this study, which demonstrate the utility of both static and dynamic risk predictors, maps the theories underlying KIRAT onto established theories of sexual offending.

The combination of general anti-sociality and criminality features in the backgrounds of some dual offenders in-line with theories suggested by Marshall and Barbaree (1990), Hall and Hirschman (1991), and Ward and Siegert (2002). Opportunities to offend by way of access to children, either opportunistically or purposefully created, are mapped within theories of offending (Ward & Siegert, 2002; Hall & Hirschman, 1991; Finkelhor, 1984; Cohen & Felson, 1979). Overcoming inhibitors and the resistance of victims is also presented within Finkelhor's (1984) preconditions theory are factored within KIRAT by way of the inclusion of behavioural facilitators to offending. Finally, disinhibition linked with substance misuse is also part of KIRAT's model and features heavily within theories of child sexual offending (Salerno, 2014; Becker et al., 2003; Abracen, 2000; Marshall & Barbaree, 1990; Finkelhor, 1984). The core element of the tool is previous criminality, the inclusion of factors related to disinhibition, and destabilisers to identify past and concurrent, rather than future, contact offenders has enabled the tool to effectively prioritise based on risk and support the effective allocation of resources. KIRAT was designed with not only theory in mind, but also policing requirements therefore it is a practical policing tool, rather than a purely theoretically

driven model. Data that appears naturalistically within the policing context has been shown to be an effective actuarial tool of concurrent and historical offending. The aforementioned theoretical concepts have been shown holds true for offenders within those international countries included within this thesis. Thus, suggesting that these theories will be applicable in additional countries globally, possibly with the exception of those with significant cultural differences, for example those that feature with a permissiveness of underage children e.g., Japan (Velasco, 2014; Hatano & Shimazaki, 2004).

The final contribution that this thesis makes to theory links to the successful findings of the cross-validation of KIRAT. Whilst there is some evidence that theories of offending hold internationally, it is important to then consider and develop an understanding of how best to implement a structured professional judgement process within wider international police agencies. Other international law enforcement agencies may not routinely collate the breadth of information required for completion of KIRAT. Therefore, the minimal standard of investigation, as seen as an outcome of KIRAT as part of the logic model, would potentially support an improved standard of investigations for those agencies that do not currently collate such information. The international work has shown that if, as a minimum, these actuarial measures from within KIRAT are collated, combined with officers receiving training that provides them with a good awareness of risk, those practitioners will develop the investigative expertise required to make sound discretionary decisions alongside KIRAT to ensure the effective safeguarding of children.

The international dataset containing 1,148 IIOC offenders is the most comprehensive individual sample of its kind to date in a study of this nature. This data enabled the development and cross-validation of the KIRAT EU tool utilising data provided by 12 countries from around the world. This is more than any similar tools within the field of IIOC offending, for example, the Child Pornography Offender Risk Tool (CPORT; Savoie et al., 2022; Eke et al., 2019; Soldino et al., 2021; Black, 2018; Seto & Eke, 2015). This was achieved using information that law enforcement agencies generally already capture; however, the tool provides a framework for evidence that should be captured where this is not the case. In the development of the tool, methodological innovation was also due to the application of an existing method to a new domain, whereby historically recidivism methods have been used to produce risk prediction tools. It is important to note that whilst the above sample is potentially the most comprehensive in this field to date, there are limitations of the data that arise from its size and construction.

The accuracy of the KIRAT EU tool, whereby diagnostic performance of the model for the total sample was AUC 0.898 and highly significant differences in risk classification between the dual and non-contact offenders from all countries ($p < .001$) were found, demonstrated that predictive validity was high. Additionally, the problematic issue related to the question over the utility of the model without factors related to previous convictions or allegations for contact offending against children has been resolved. The KIRAT model has been evidenced as highly predictive in the identification of dual offenders without the inclusion of these factors. This supports the notion of other factors are needed within the model above and beyond previous evidence of child sexual offending to assist with the effective identification of risk. This is key given that some offenders are unknown to law enforcement at the start of the investigative process and due to the high prevalence of underreporting of this crime type (Insoll et al., 2022; HM Government, 2021; Cullen et al., 2020; National Sex Offender Public Website, 2012; Quayle, 2008; Sheldon & Howitt, 2007).

The development of the logic model of the tool within this thesis has provided a starting point for understanding of where the future research should be directed. The study does point to the use of quasi-control trials to further tests the mechanisms within the logic models but also would enable for further examination of whether the outcomes are measures in a way that could be anticipated. This future follow-up would therefore be research by design rather than by opportunity. As we now understand the mechanisms underpinning what KIRAT does and how within British policing, this lends itself to examine whether these mechanisms would hold true in other countries or whether, for example, other geographical or organisational offence features would impact on such mechanisms. This could be, for example, where countries do not experience high levels of IIOC offending, where law enforcement practitioners do not receive adequate CSAE training or hold the requisite knowledge to enable the effective use of discretion to identify risk, or where officer/police staff numbers are not adequate to undertake high numbers of warrants. An understanding of the international policing landscape needs to be gained in order to anticipate where changes in the logic model may occur.

Another methodological innovation of this thesis is the use of regression models to explore the success of the online training programme. The training study examined a wide range of contextual factors, such as the expertise of practitioners, to identify whether any factors related to success within the training. This highlighted that the sample under study was saturated with practitioners that already had previous experience of KIRAT, therefore the study was not a true test of the effectiveness of the training programme. The outcomes of the

study did however, provide positive indications of the effectiveness of the training given that almost all 'novice' practitioners with no previous knowledge of KIRAT passed the course on the first attempt. Whilst the findings of the regression analyses highlighted that the training was successful, it was also identified that efficiency savings (in terms of time) could be made for those practitioners that had previously attended training. This suggests that a streamlined version of the course could be developed in order to ensure the effective use of practitioner time. This is particularly important in light of pressures on already limited police resources (Pepper, 2020; Disney & Simpson, 2017) and given that the time to complete training is taken from a practitioner's everyday role within CSAE teams (Kime, 2018). Therefore, the methods used within this study highlighted that those new to CSAE with no previous experience of KIRAT should undertake the full training at the earliest opportunity. Those that have previously attended training could potentially undertake the streamlined version, subject to further analysis. This is an additional contribution to practice. The overall outcomes of this study support the national mandate for KIRAT training prior to the use of the tool. They also provide a guide for the training protocols for those other countries who already use KIRAT and efficiency savings that could be made for those practitioners who have already received training and used the tool in practice, versus those who have not.

A number of contributions to practice have resulted from this thesis. This academic study has been undertaken within a policing decision-making context in order to support law enforcement efforts to ensure the effective safeguarding of children and the efficient use of resources. This fits within the evidence-based policing agenda and the CoP's (2015) logic model as using the right need, the right tool, identify how the tool works and what success should look like.

This thesis has also demonstrated the requirement for on-going evaluation of KIRAT. There is a need for further commitment to evaluation within the UK but also internationally as part of the evaluation framework suggested. Due to the widespread use of KIRAT within the UK, a number of evaluative measures of the tool cannot be undertaken. As part of future KIRAT deployments in international countries, evaluating pre- and post-KIRAT intervention effects would be beneficial to understand more about the tools impact on operational policing. For example, accessing recent offender data from a country would enable the examination of contact offenders to create a baseline measure for further future testing. Another evaluative measure could be utilised as part of a waited list control study. In order to avoid any issues with the delay to KIRAT's roll out, this method would enable the

accumulation of knowledge around the efficacy of KIRAT, whereby the logic model could be tested and outcome data could be obtained which is not now obtainable in the UK.

The successful cross-validation of KIRAT EU and the success of the online training indicates that both can be rolled out further internationally. As part of this consideration should be given to translations of each given that they will be huge undertakings. This should be undertaken in in collaboration and included as part of future funding models so that, for example, those countries wishing to gain access to KIRAT bear the cost of the training translations. There are a number of factors that may impact on this including the initial language barrier and also potential legislative and cultural issues as part of the translation process.

For those countries that do not currently undertake a high level of intelligence gathering with IIOC investigations, this study demonstrates why it is helpful to have a minimal standard of data capture to commit to. It also demonstrates that consideration of offender factors not simply just related to their previous offending history should be considered. Whilst past criminality, specifically for child sexual offending, has again been found to be a reliable predictor of risk, this study demonstrates the contribution of other factors to risk prediction. Therefore, the study provides further evidence nationally, and internationally, of why these factors are important to identify and the benefits therefore in time and efforts in undertaking KIRAT training.

The KIRAT online training programme was demonstrated to be an effective intervention achieving its intended outcomes with most practitioners passing the course on the first attempt. Whilst there are some caveats around this figure due to the saturation of the sample with those with previous knowledge of KIRAT, the examination of the 'novices' group also indicated a high pass rate on the first assessment attempt. The KIRAT training figures demonstrate an increase from 270 officers and staff trained between 2012 to 2017 to 832 practitioners that had completed the online training modules (in whole or in part) between June 2022 and March 2023. This represents a substantial increase in the reach of the training and the practical implications associated with demonstrating the effectiveness of the tool could be used within future research to further explore the cost-benefits of this alternative online training method. The KIRAT training logic model can also be drawn upon in order to improve the current training provision for continued use within the UK. Additionally, these results could also have practical implications for other international law enforcement agencies that currently use KIRAT, and for other countries in the future, with the potential for wider roll out of the online training. This would allow other agencies to

ensure fidelity of the tool, consistency of its use in practice, and use of the tool as intended whereby contact offenders are prioritised for investigative action. Further, international countries could also benefit from the effective delivery of the training in this updated format but more importantly, provide opportunities to save law enforcement officers time and agency resources (Kime, 2018), and to circumvent possible disruption to face-to-face training delivery caused by the Coronavirus pandemic.

A final practical implication of this research is the suggestion that KIRAT could be utilised to potentially support requests for additional officers to support the undertaking of warrants and/or within CSAE investigation teams. Due to the numbers of warrants currently being processed and the potential impacts of changes to KIRAT version 3 on the number of higher risk offenders, it is key to understand how law enforcement teams are setup to respond.

Reflexivity Account

The research ideas contained within this thesis are based on work that I have been involved in as part of my role within research projects. These have been undertaken jointly between a team based within the Psychology Department at the University of Liverpool (UoL) and the CSAE Threat Leadership Team at the National Crime Agency (NCA). As outlined in the Methodology, I have been well positioned to undertake this research as I have often worked closely with practitioners within the NCA and across police forces in the UK and internationally. I have undertaken much work with international partners regarding the research and roll out phases of KIRAT. I have also contributed to the design and development of both the face-to-face and the online training programmes. I work within a jointly based academic and law enforcement team, future work regarding future threats in this field requires the continued on-going support of academics and practitioners dedicated to the protection of children from harm. Without the continued support of both agencies, this and future work would not be possible.

The role I have held alongside the undertaking of this research has provided greater access to data and to practitioners that I would not have been able to achieve without it. This has enabled a larger sample of quantitative data to be included within the studies and has enabled the collation of rich qualitative data, including the opinions and experiences of practitioners, due to my access to them. However, my role may have also resulted in some unintended negative consequences, specifically related to the qualitative data collection within the focus groups/practitioner interviews. As practitioners were aware of my role, they

may not have been as forthcoming to report issues with the training or provide more negative opinions in response to the questions being asked. Whilst the aims of the research were made clear to all practitioners, and that the evaluation was being undertaken to also identify any areas for improvement in relation to the training, this negative impact could still have resulted from my presence at the focus groups/practitioner interviews. It is additionally important to note here that my role within the research projects may have also influenced my analysis of qualitative data utilised within Chapters Four and Five. Cohen and Crabtree (2018) reported that researchers may interpret study outcomes in more of a positive light where they have some involvement with the intervention. The inclusion of parameters outlined in earlier chapters, such as the review of all coding and theme development by a project supervisor, have been undertaken in order to reduce the potential for this bias.

General Limitations

There were a number of methodological limitations experienced during the undertaking of this thesis. Firstly, research undertaken within a policing context will often naturally result in issues accessing data, especially where police data relates to offenders and victims. This can be for a number of reasons including, for example, researchers are often reliant on practitioners to access, collate and provide data, an often-time-consuming job that takes practitioners away from their everyday roles. Data access can also be an issue where sensitive topics are under study and due to General Data Protection Regulations (GDPR; 2016) which sets restrictions on certain data content dependent on its use. Furthermore, accessing data that is held on policing systems that are for the purposes of crime recording can prove difficult. There are a number of national databases used for different policing purposes, crimes may be grouped under general crime recording codes that do not allow for the distinction between different crimes within a similar area, for example child exploitation. Therefore, individual crimes have to be searched manually. Where new crime threats evolve, these systems often play catch up with the recording of specify types of offending, making it difficult to capture figures related to emerging crimes or identify such investigations for further their inclusion within research.

Limitations of the international research are mainly related to gaining access to data, data sharing, the reliability of data provided, and language barriers. Due to the varying ways in which data is recorded and stored within police agencies across different countries, differing degrees of offender information were available for use within this thesis. Some agencies are more rigorous in data recording than others, resulting in richer data provided by

some of the countries. This however, may have been linked to the financial position of such agencies, where some had funds available to request additional support for data collection from other officers and/or researchers based within the agency. Data collection by agencies in other countries was the result of officers undertaking this work alongside their roles within CSAE investigations teams. Some agencies are also restricted in offender data they are able to access after a specific time period due to legislative issues. For example, during the data collection period Spanish agencies were unable to provide conviction data where these had been received more than five years previously. Data sharing was also a limitation due to the fact that confidential offender, and in some cases victim, information was being shared with an agency (the National Crime Agency; NCA) based outside of the host country. For some countries, this resulted in summary data of variables under study being provided rather than complete redacted offender case files. Every effort was made to ensure that key data was not missing from the offender data provided by countries through extensive discussion regarding the factors under study via emails, phone calls, via document sharing, and even via face-to-face discussion. However, there is some possibility that some relevant information, as per the KIRAT European and international study, was not included within data provided. This links to the reliability of the data provided. Finally, language barriers also created some limitations within the study, again related to the aforementioned points. Whilst every effort was made to ensure understanding of the KIRAT research and the factors under study, it is possible that language barriers created some confusion and the data provided may have been missing some key information related to the variables under study. Language barriers should be taken into consideration therefore as part of the undertaking of further work with international countries. This applies not only to data collection related to the further cross-validation of KIRAT, but also to the undertaking of, for example, further process evaluation.

Another data issue related to the low response rate to the focus groups/practitioner interviews, only 4.2% of 832 practitioners who undertook the KIRAT training responded to requests to support the evaluation study. However, a wider group of practitioners could have been accessed to support this research which may have resulted in further knowledge as part of the study outcomes. Increasing the data collection timeframe and seeking out participants through other routes could have resulted in a larger sample. The email request for participants was sent to either regional police force email addresses relevant to the investigation of CSAE and police officers deemed to be known lead policing contacts within IIOC investigation teams. However, these email request may not have been disseminated further to other police officers and staff or those contacted may have moved on from their post (a regular feature

within policing). In the future efforts to obtain a more comprehensive list of email contacts could assist data collection and requests for data collection support could have been made at made as part of joint law enforcement meetings whereby KIRAT is on occasion subject of discussion. Further, increasing the timeframe for data collection could have resulted in the availability of more practitioners to take part in the focus groups/practitioner interviews. These limitations also apply to the online questionnaire. Requests for practitioners to complete the online questionnaire were made jointly within the aforementioned email in which participants for focus groups were requested. Wider requests for participants and a longer period of data collection could have also assisted to result in a larger questionnaire sample.

Recommendations for Future Research

There are a number of recommendations for directions for future research. Firstly, the application of KIRAT to offenders within other countries would enable further cross-validation of the tool. Knowledge regarding the wider applicability of offending theories underpinning KIRAT could be advanced if further testing were undertaken in countries deemed to be culturally different in terms of sexual offending. This may be particularly prudent for child sexual offenders from Asian countries (Tanaka et al., 2017; Hatano & Shimazaki, 2004).

In the future there may also be additional emerging threats within the IIOC field whereby it would be beneficial to examine these in the context of KIRAT. For example, KIRAT has to date not yet been validated with female and adolescent IIOC offenders and there are growing calls from policing practitioners for the further investigation of the applicability of the KIRAT risk predictors to these groups. Live-streaming of child sexual abuse is has also been identified as an emerging threat by the NCA (2021). This has direct links to those offender populations subject to research as part of KIRAT development as 'live-streamers' are deemed to be contact offenders by proxy. These offenders do not commit hands on abuse but either direct a facilitator to commit contact abuse as per the offender's instruction as they watch the abuse take place via a live video feed (often from an overseas location), or where offenders are in contact with victims directly (usually based within the same country) to commit sexual acts upon themselves via live video streams (NCA, 2021). It would also be beneficial to examine whether the predictive utility of KIRAT EU as compared to the personal opinion of police officers, is more valid as a prioritisation method and an effective use of limited police resources.

A follow-up evaluation of the effectiveness of the KIRAT online training should also be conducted with a sample deemed to be 'novices', whereby practitioners have not previously attended KIRAT training and have not previously used the tool within IIOC investigations. This would allow researcher to reveal the true effectiveness of KIRAT, in terms of providing the relative knowledge to deploy KIRAT within investigations and also regarding the importance of risk factors for dual offending. A follow-up process and impact evaluation, whereby attempts were made to access a wider sample via focus groups/practitioner interviews and online questionnaires, would also strengthen the theory of change and provide more insight into practitioner experiences of the use of KIRAT in practice.

Due to KIRAT's already widespread use throughout UK policing, it was not possible to undertake a number of evaluative measures within this thesis in order to demonstrate the tool's impact on the effective use of police resources and targeted safeguarding of children post-tool implementation. Therefore, as previously discussed, a prospective quasi-controlled trial (experimental design) could be used as part of KIRAT's roll out within new countries whereby pre- and post-KIRAT measures can be taken and analysed. Failing that, a simple before and after observational study would help provide proof of feasibility; that KIRAT demonstrably achieves its intended outcomes. Within the UK, measurement of improvements to the safeguarding of children could be examined through the assessment of information regarding children safeguarded by the police in future investigations. The number of children safeguarded could be measured and of those, the number of victims of contact offending and number of those likely to have become victims. This would enable opportunities to assess the outcomes of investigations where offenders had been subject to prioritisation.

Moving forwards there is now a research framework to support further KIRAT evaluation. Within Chapter Five, the CoP's logic model (2018) was drawn upon to develop an understanding of what KIRAT does and how. This model was also cited as useful to answer the 'MMI' part of the EMMIE model (Johnson et al., 2015) which has to some extent been achieved. Within the additional of the further evaluative studies discussed, researchers would be able to gain higher quality evidence of the outcomes associated with KIRAT and also answer the other two categories within the mode, 'Effect' and 'Economics'. This has previously been discussed by Giles & Alison's (2021), regarding opportunities of future prospective studies and the reduction of victimisation saving economic costs on a vast social scale.

Conclusions

This thesis has highlighted the threat posed by IIOC offending to law enforcement agencies and the efforts by KIRAT to support practitioner decision-making to identify those offenders who pose the most risk to children. The scope of the deployment of KIRAT is potentially global. Research and reports highlight the worldwide problem of IIOC offending and the common strain experienced by law enforcement agencies across countries to manage the sheer volume of cases that require further investigation. Supported by an effective online training package, and research findings contained within this thesis that demonstrate the tool to be fit for purpose, efforts should be made to share KIRAT with international policing partners. Future directions of research suggested would support the further embedding of the tool and would potentially enable cost savings to the economy related to its use, to be identified. Further evaluation would move knowledge towards impact and social value.

These studies have added to the literature aimed at solving issues facing policing created by volume crime, in which high-risk low-incidence offending occurs. KIRAT has been developed for law enforcement to assist practitioners to protect children. The associated online training has been developed to ensure practitioners receive the required knowledge for successful tool deployment in investigations. The value of KIRAT to policing has been identified in order to ensure its implementation in practice and to support its wider roll out. The police and law enforcement agencies hold a vital role in the protection of children from harm, it is imperative that practitioners are provided with academic support in this endeavour to achieve this goal, as part of an evidence-based policing approach.

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Appendices

Appendix 1. Definition of the variables in KIRAT EU.

Any conviction CSO: Existence of any conviction or caution for a contact sexual offence against a child: includes rape (intentionally penetrated the vagina, anus, or mouth of a child with his penis), assault by penetration (intentionally penetrated the vagina or anus of a child with a part of his body or anything else) and sexual assault (intentionally touched a child).

Any allegation CSO: Existence of any allegation for a contact sexual offence against a child: includes rape (intentionally penetrated the vagina, anus, or mouth of a child with his penis), assault by penetration (intentionally penetrated the vagina or anus of a child with a part of his body or anything else) and sexual assault (intentionally touched a child).

Any conviction or allegation other sexual offence: Existence of any conviction or allegation for a non-contact sexual offence against a child (not including rape, assault by penetration and sexual assault) or any sexual offence against an adult.

Four or more significant convictions: Total number of four or more significant criminal convictions of any sort for any offence. A significant conviction is defined as one where the court could impose a custodial penalty or community service. This does not necessarily have to be the sentence imposed for that offence, but within the sentencing limits for that offence. Convictions can be from the same court appearance or several court appearances.

Prison: The individual has been previously imprisoned for any offence (includes all offences).

Any close and unsupervised access: The individual has close and unsupervised access to children for any reason.

Online incitement: The individual has caused or incited a child to engage in sexual activity using the Internet for such purposes.

Offline incitement: The individual has caused or incited a child to engage in sexual activity whilst they were physically before each other (offline).

Online grooming: The individual communicated online with a child in a way that was sexual or encouraged sexual behaviour. This could be chatting in a sexual way and/or

arranging/encouraging a child to meet. A behavioural rather than a legal definition of grooming is used.

Offline grooming: The individual has been involved in offline grooming, defined as having offline access to a child and manipulating their trust in some form (whether through financial inducements, or befriending a neighbourhood child) to achieve sexual satisfaction.

Taking or producing IIOC: The individual has produced their own first generation IIOC, either when these are actual abuse victims (regardless of whether they are the actual abuser or not) or pseudo-images.

Taking IIOC offline: The individual has produced their own first generation IIOC (actual abuse victims or pseudo-images) whilst they were physically before each other.

Sexual communication: There is evidence or intelligence that the suspect is known for engaging in explicit sexual communication that encourages abuse, or describes the abuse of a child (with a child or adult).

Any conviction: There is evidence or intelligence that the individual has been previously convicted for any significant criminal conviction of any sort for any offence.

Domestic abuse: There is evidence or intelligence that the individual is known for the perpetration of domestic abuse.

Substance misuse: There is evidence or intelligence that the suspect is known for substance misuse.

Appendix 2. Examples of Mixed Methods Police Training Evaluations

Further recent examples of police-based training evaluations include a study from Ireland based on a pilot of intellectual disability (ID) awareness training (Gulati et al., 2021). The outcome of quantitative analysis demonstrated positive changes post-training, compared to baseline, on officer's knowledge of IDs and how to deal with individuals with IDs in the course of their work. Responses to semi-structured interviews assessed utilising thematic analysis provided understanding of officer's experience of the training and their future confidence dealing with individuals with IDs. The evaluation was deemed successful in terms of both the training delivered and evaluation methods employed in order to inform future police training initiatives.

A suicide awareness and prevention course was developed and evaluated by Marzano et al. (2016) for frontline British Transport Police (BTP) officers within the UK. A questionnaire investigating the impact of training on officer's attitudes, confidence and knowledge of suicide awareness was completed by 53 officers pre- and post-training. A further 10 officers engaged in focus groups exploring the officer's views and experiences of the training program and their opinions on its impact in practice. The evaluation highlighted significant improvements in attitudes, confidence, and knowledge of BTP officer's following the training and the feedback highlighted areas for improvement. The evaluation also highlighted the need for further research on the longer-term impacts of the training. These outcomes lead the authors to announce the success of the training program, corroborated by the trainees.

An Australian study evaluating an online financial crime investigation training program collated pre- and post-training data from a sample of 1,403 police officers from the Queensland Police Service (Drew et al., 2020). Responses to a survey utilising a Likert scale, queried demographic information of respondents, their current knowledge of financial crime, attitudes towards it and confidence dealing with it, and were examined using quantitative analysis. The evaluation enabled the researchers to conclude that the training was a positive influence on officers' perceptions, attitudes, knowledge, and confidence of financial crime, and that their negative perceptions of investigating it had been reduced. The evaluation was able to make further recommendations for greater investment by police agencies in Australia in officer training of financial crime investigation (Drew et al., 2020).

An evaluation of a training workshop for law enforcement practitioners in the US aimed at increasing first responder's communication, knowledge and skills when working

with deaf and hard-of-hearing people (D/HH) during domestic abuse emergencies, was the first of its kind to use a mixed methods approach (Engelman & Deardorff, 2016). A total of 41 training participants engaged in a training workshop and completed a pre- and post-training questionnaire and semi-structured focus groups, providing both quantitative and qualitative data. The evaluation identified the need for a standardised training practice within this field and provided further evidence based on developing best practice for evidence-based training.

A doctoral dissertation undertaken and successfully completed by Schlosser (2011) evaluated the training practices within a US-based police academy which aimed to prepare police recruits to work within racially and ethnically diverse communities. The study again, used a mixed method approach and analysed data from interviews, observations, and written documents. Despite the findings of the study identifying no significant changes in police recruits racial attitudes and beliefs post-training as compared to pre-training, the benefit of the evaluation was that it highlighted that racial issues were not being addressed by the training as intended. Schlosser (2011) also was able to utilise a variety of data types to provide voices to those involved in the training.

Another USA-based study employed a mixed methods approach to evaluate the effectiveness of a police training workshop aimed at providing officers with the skills to de-escalate situations with trauma-exposed youths (Mehari et al., 2021). Responses from 98 police officers and recruits were analysed and indicated that officer knowledge of adolescents and the potential impact of trauma they had experienced had increased and anxiety of working with adolescents had decreased post-training. The qualitative feedback revealed the training as well received by officers and recruits, and that their acceptance of the training and training content was linked with their reported willingness to further use the information learnt in practice. The study authors reported that the combined quantitative and qualitative results could potentially provide evidence that the workshop could be beneficial to positively impact officers understanding of adolescents. Demographic information from officers and recruits, in the form of gender, personality type, and officer status, were also explored within the study as potential moderators of the effectiveness of the intervention (Mehari et al., 2021).

A similar US-based study by de la Fontaine et al. (2022) undertook a mixed method evaluation of a training programme for police officers aimed at identifying and responding to the needs of children exposed to violence (CEV). de la Fontaine et al. (2022) utilised quantitative data analyses to evaluate change between the pre- and post-training survey

answers of 150 officers aimed at examining officer's knowledge, practice and attitude with regard to their roles as first responders to the emotional needs of CEV. The survey included both multiple-choice and open-ended questions. Practitioners also provided demographic information including number of years in law enforcement, level of educational attainment, previous child work experience and previous child-focussed training in order to assess whether officer performance varied as a function of demographics. The training course and evaluation methods were again reported as successful. Quantitative findings showed the course to positively affect post-training knowledge, practice and attitudes towards officers dealing with CEV and qualitative thematic analysis findings identified themes supportive of the research aims. In the paper, de la Fontaine et al. (2022) cite the use of a mixed methods approach based on the recommendations set by the US's National Institutes of Health (NIH) working group (Creswell et al., 2011). An approach utilised in almost all of the studies summarised

Appendix 3. KIRAT Evaluation Focus Group/Practitioner Interview: Participant Information Sheet

Version 1 - 01.09.22

Title: Process Evaluation of the Kent Internet Risk Assessment Tool (KIRAT) Training Programme

You are being invited to participate in a research project being undertaken on behalf of the National Crime Agency. Before you decide whether to participate, it is important for you to understand why the project is being undertaken and what it will involve. Please take time to read the following information carefully and feel free to ask if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your friends, relatives and colleagues if you wish. We would like to stress that you do not have to accept this invitation and should only agree to take part if you want to. Thank you for reading this.

What is the purpose of the study?

The University of Liverpool is conducting a process evaluation of the KIRAT Training Programme. The purpose of this evaluation is to gain your feedback on KIRAT training and to understand the impact that KIRAT may have on child sexual abuse investigations (outcomes for police, suspects, victims). We are seeking to understand how this impact might be achieved.

Why have I been chosen to take part?

You are being contacted because you took part in the KIRAT Training Programme. Your views and experiences are important to understanding how well this programme might be envisaged to work and why.

Do I have to take part?

Your participation in this project is completely voluntary. You do not have to take part. Additionally, you are free to withdraw your participation at any time whilst you are being interviewed, without needing to explain.

What will happen if I take part?

You will be asked to take part in a video focus group lasting around 60 minutes. Focus groups will focus on what worked particularly well in the training, what could be improved upon, the impact training had on you, the positive outcomes you anticipate following this training and how these might be measured, any barriers you anticipate in the implementation of KIRAT in your investigative practise. Focus groups will be audio recorded, transcribed, and then audio recordings will be deleted. You will be free to decline to answer any questions asked and may withdraw from the focus group at any time whilst being asked questions.

How will my data be used?

The University processes personal data as part of its research and teaching activities in accordance with the lawful basis of 'public task', and in accordance with the University's purpose of "advancing education, learning and research for the public benefit.

Under UK data protection legislation, the University acts as the Data Controller for personal data collected as part of the University's research. The Principal Investigators act as the Data Processors for this study, and any queries relating to the handling of your personal data can be sent to Dr Susan Giles (s.p.giles@liverpool.ac.uk).

Further information on how your data will be used can be found in the table below.

How will my data be collected?	Video focus groups using Microsoft Teams. Focus groups will be recorded and transcribed, and then recordings will be deleted.
How will my data be stored?	Data will be stored on the university's password-protected secure network drive. Audio recordings will be deleted once transcribed.
How long will my data be stored for?	Data will be anonymised and stored for a period of 10 years.
What measures are in place to protect the security and confidentiality of my data?	The data will be stored on the university's password-protected secure network drive at all stages of analysis.

Will my data be anonymised?	Your data will be anonymised. It will not be possible to link this back to you.
How will my data be used?	Your data will be analysed and used to produce practitioner reports and academic publications.
Who will have access to my data?	The Principal Investigators, Dr Susan Giles, Hayley Rhodes, Dr Michael Humann, and Professor Laurence Alison. They will act as curators, overseeing research access.
Will my data be archived for use in other research projects in the future?	Your anonymised data will be archived on Dr Susan Giles's and Hayley Rhodes password-protected secure university network drive for use in research projects overseen by Susan, Michael and Laurence.
How will my data be destroyed?	After a period of 10 years, Dr Susan Giles and Hayley Rhodes will delete data from their password-protected secure university network drive.

Expenses and / or payments

No payments are provided for taking part in this study.

Are there any risks in taking part?

There are no known risks to taking part in this study. If you do experience any discomfort, please make this known to the researcher immediately.

Are there any benefits in taking part?

The findings of this project will be fed back to the National Crime Agency to inform future strategy around the use of KIRAT and KIRAT training.

What will happen to the results of the study?

The results of this study will be used to produce practitioner reports for National Crime Agency, along with informing academic publications. We shall seek permission from National Crime Agency prior to publication in an academic journal.

What will happen if I want to stop taking part?

You are free to withdraw at any time whilst you are being interviewed. After the focus group, data will be transcribed and anonymised, and audio recordings will be deleted. We shall wait a period of two weeks before deleting this information. This will give you an opportunity to withdraw following the focus group. After this time, it will no longer be possible to withdraw your data.

What if I am unhappy or if there is a problem?

If you are unhappy, or if there is a problem, please feel free to let us know by contacting Dr Susan Giles (s.p.giles@liverpool.ac.uk), and we will try to help. If you remain unhappy or have a complaint that you feel you cannot come to us with then you should contact the Research Ethics and Integrity Office at ethics@liv.ac.uk. When contacting the Research Ethics and Integrity Office, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

The University strives to maintain the highest standards of rigour in the processing of your data. However, if you have any concerns about the way in which the University processes your personal data, it is important that you are aware of your right to lodge a complaint with the Information Commissioner's Office by calling 0303 123 1113.

Who can I contact if I have further questions?

If you have any further questions about this study, please contact the Principal Investigator, Dr Susan Giles.

Appendix 4. KIRAT Evaluation Focus Group/Practitioner Interview: Participant Consent Form

Version 1 – 01.09.22

Research ethics approval number:

Title of the research project: Process Evaluation of the Kent Internet Risk Assessment Tool (KIRAT)
Name of researcher(s): Dr Susan Giles, Hayley Rhodes, Dr Michael Humann, Professor Laurence Alison

1. I confirm that I have read and understood the information sheet dated 01.09.22 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that taking part in the study involves a video interview, in which the audio will be recorded. I understand that this audio recording will be transcribed and then deleted.
3. I understand that my participation is voluntary and that I am free to withdraw from the interview without giving any reason and without my rights being affected. In addition, I understand that I am free to decline to answer any particular question or questions.
4. I understand that my interview will be transcribed and anonymised after two weeks, and so it will not be possible to withdraw my data from the study after two weeks, and I will be unable to request access to the information I provide.
5. I understand that the information I provide will be held securely and in line with data protection requirements at the University of Liverpool for a period of 10 years. I understand that other authorised researchers may access my anonymised data under the supervision of Dr Susan Giles, Dr Michael Humann, Professor Laurence Alison to support future research.
6. I understand that signed consent forms will be retained on the university's secure password-protected network drive for a period of 10 years.
7. I understand that confidentiality and anonymity will be maintained and it will not be possible to identify me in any publications .
8. I understand that quotations may be used in research reports, but that I will not be identifiable from those quotations.

I agree to take part in the above study.

_____ _____

_____

Participant name Date Signature

Principal Investigator

Dr Susan Giles,
University of Liverpool,
Department of Psychological Sciences,
Eleanor Rathbone Building,
Bedford Street South,
Liverpool, L69 7ZA
Tel: 0151 795 0668
E-Mails: s.p.giles@liverpool.ac.uk

Appendix 5. KIRAT Evaluation Focus Group/Practitioner Interview: Interview Schedule

1. Before we begin, can we go around the room and do introductions – telling us your name, role, how long you've been involved in CSA investigations, have you previously attended KIRAT training and whether you have previously used KIRAT in a live investigation
2. In your own words, what is KIRAT and how does it work?
3. From your view, what are the main challenges in CSA investigations that KIRAT helps to address?
4. What were your thoughts on the training, was there anything that worked particularly well or that you think we could improve upon? PROBE – exhaust this question, gaining views from everyone in the focus group.
5. Do you foresee any problems in implementing KIRAT into investigative strategy (pick up any misconceptions here, or variables officers still feel are important but are not included in tool)?
6. What are the benefits of having a standardised risk management tool?
    a. Probes - Does you think that KIRAT will help to save police time, focus police resources? In what ways?
    b. Are there any other policing benefits, e.g. developing investigative strategy or approaches towards suspects?
    c. Will (or has) KIRAT helped to reduce the risk posed to children? In what ways? How much risk has been reduced?
    d. Are there any positive outcomes for offenders? (e.g. lower risk offenders)
    e. Has KIRAT helped influence discussions between the police and CPS or do you think there is the potential for it to do so (e.g. helped to establish what types of factors should and should affect sentencing decisions such as SC level and quantity of images)
7. Is there anything else you would like to mention?

Appendix 6. KIRAT Evaluation Questionnaire: Participant Information Sheet

Version 1 - 01.09.22

Title: Process Evaluation of the Kent Internet Risk Assessment Tool (KIRAT) Training Programme

You are being invited to participate in a research project being undertaken on behalf of the National Crime Agency. Before you decide whether to participate, it is important for you to understand why the project is being undertaken and what it will involve. Please take time to read the following information carefully and feel free to ask if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your friends, relatives and colleagues if you wish. We would like to stress that you do not have to accept this invitation and should only agree to take part if you want to. Thank you for reading this.

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Why have I been chosen to take part?

You are being contacted because you took part in the KIRAT Training Programme. Your views and experiences are important to understanding how well this programme might be envisaged to work and why.

Do I have to take part?

Your participation in this project is completely voluntary. You do not have to take part. Additionally, you are free to withdraw your participation at any time without needing to explain.

What will happen if I take part?

You will be asked to complete a questionnaire. The questionnaire will focus on what worked particularly well in the training, what could be improved upon, the impact training had on you, the positive outcomes you anticipate following this training and how these might be measured, any barriers you anticipate in the implementation of KIRAT in your investigative practise. You will be free to decline to answer any questions asked and may withdraw from completing the questionnaire at any time by closing the web browser.

How will my data be used?

The University processes personal data as part of its research and teaching activities in accordance with the lawful basis of 'public task', and in accordance with the University's purpose of "advancing education, learning and research for the public benefit.

Under UK data protection legislation, the University acts as the Data Controller for personal data collected as part of the University's research. The Principal Investigators act as the Data Processors for this study, and any queries relating to the handling of your personal data can be sent to Dr Susan Giles (s.p.giles@liverpool.ac.uk).

Further information on how your data will be used can be found in the table below.

How will my data be collected?	Once you complete the questionnaire the information you have provided will be collated via Qualtrics, the online survey tool. The data will then be accessed via password by the researcher team and downloaded to the university's secure network drive.
How will my data be stored?	Data will be stored on the university's password-protected secure network drive.
How long will my data be stored for?	Data will be anonymised and stored for a period of 10 years.
What measures are in place to protect the security and confidentiality of my data?	The data will be stored on the university's password-protected secure network drive at all stages of analysis.

Will my data be anonymised?	Your data will be anonymised. It will not be possible to link this back to you.
How will my data be used?	Your data will be analysed and used to produce practitioner reports and academic publications.
Who will have access to my data?	The Principal Investigators, Dr Susan Giles, Hayley Rhodes, Dr Michael Humann, and Professor Laurence Alison. They will act as curators, overseeing research access.
Will my data be archived for use in other research projects in the future?	Your anonymised data will be archived on Dr Susan Giles's and Hayley Rhodes password-protected secure university network drive for use in research projects overseen by Susan, Michael and Laurence.
How will my data be destroyed?	After a period of 10 years, Dr Susan Giles and Hayley Rhodes will delete data from their password-protected secure university network drive.

Expenses and / or payments

No payments are provided for taking part in this study.

Are there any risks in taking part?

There are no known risks to taking part in this study. If you do experience any discomfort, please make this known to the researcher immediately.

Are there any benefits in taking part?

The findings of this project will be fed back to the National Crime Agency to inform future strategy around the use of KIRAT and KIRAT training.

What will happen to the results of the study?

The results of this study will be used to produce practitioner reports for National Crime Agency, along with informing academic publications. We shall seek permission from National Crime Agency prior to publication in an academic journal.

What will happen if I want to stop taking part?

You are free to withdraw from completing the questionnaire at any time by closing the web browser. Once your completed questionnaire is received it will be anonymised. After this time, it will no longer be possible to withdraw your data.

What if I am unhappy or if there is a problem?

If you are unhappy, or if there is a problem, please feel free to let us know by contacting Dr Susan Giles (s.p.giles@liverpool.ac.uk), and we will try to help. If you remain unhappy or have a complaint that you feel you cannot come to us with then you should contact the Research Ethics and Integrity Office at ethics@liv.ac.uk. When contacting the Research Ethics and Integrity Office, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

The University strives to maintain the highest standards of rigour in the processing of your data. However, if you have any concerns about the way in which the University processes your personal data, it is important that you are aware of your right to lodge a complaint with the Information Commissioner's Office by calling 0303 123 1113.

Who can I contact if I have further questions?

If you have any further questions about this study, please contact the Principal Investigator, Dr Susan Giles.

Appendix 7. KIRAT Evaluation Questionnaire: Participant Consent Form

Version 1 – 18.11.22

Research ethics approval number:

Title of the research project: Process Evaluation of the Kent Internet Risk Assessment Tool (KIRAT)

Name of researcher(s): Dr Susan Giles, Hayley Rhodes, Dr Michael Humann, Professor Laurence Alison

1. I confirm that I have read and understood the information sheet dated 18.11.22 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that taking part in the study involves completing a questionnaire.
3. I understand that my participation is voluntary and that I am free to withdraw from the study without giving any reason and without my rights being affected. In addition, I understand that I am free to decline to answer any particular question or questions.
4. I understand that once my completed questionnaire is submitted, it will be anonymised and that after this point it will not be possible to withdraw my data from the study, and I will be unable to request access to the information I provide.
5. I understand that the information I provide will be held securely and in line with data protection requirements at the University of Liverpool for a period of 10 years. I understand that other authorised researchers may access my anonymised data under the supervision of Dr Susan Giles, Dr Michael Humann, Professor Laurence Alison to support future research.
6. I understand that signed consent forms will be retained on the university's secure password-protected network drive for a period of 10 years.
7. I understand that confidentiality and anonymity will be maintained and it will not be possible to identify me in any publications
8. I understand that quotations may be used in research reports, but that I will not be identifiable from those quotations
9. I agree to take part in the above study.

_____ _____

_____

Participant name	Date	Signature

Principal Investigator

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Appendix 8. KIRAT Evaluation Questionnaire: Virtual Questionnaire

1. How long have you been involved in child sexual abuse (CSA) investigations?
   Please indicate the number of months / the number of years and months.
2. What is your rank?
3. Have you previously attended KIRAT training?
   If you answered Yes to 3, please indicate whether you attended an official KIRAT training event (i.e., hosted by representatives from the National Crime Agency and/or the University of Liverpool) or if you received unofficial training (i.e., from a colleague in force).
4. Have you previously used KIRAT in a live investigation?
   If you answered Yes to 4, please indicate how often you have used the tool.
5. Please describe in your own words, how does KIRAT work?
6. In your opinion, what are the main challenges in CSA investigations that KIRAT helps to address?
7. What was your overall opinion of the training?
8. In your opinion, was there anything that worked particularly well within the training?
9. In your opinion, was there anything within the training that you think we could improve on?
10. Do you foresee any problems in implementing KIRAT v3 into investigative strategy?
11. What are the benefits of having a standardised risk management tool?
12. Are there any factors that you feel are important, in relation to the prioritisation of suspects, that you still feel are important but are not included in KIRAT v3?
    If you answered Yes to 12, please explain your answer below.
13. Do you think that KIRAT will help to save police time and focus police resources?
    If so, in what ways?
14. Are there any other policing benefits that KIRAT provides?
    For example, developing investigative strategy and approaches towards suspects.
15. Will (or has) KIRAT helped to reduce the risk posed to children?
    If so, in what ways and how much risk has been reduced?
16. Are there any positive outcomes for offenders related to the use of KIRAT?
    For example, lower risk offenders.

17. Has KIRAT helped to influence discussions between the police and Crown Prosecution Service or do you think there is a potential for it to do so?
    For example, establishing what types of factors should affect sentencing decisions in court, such as access to children or category/quantity of images.
18. Is there anything further you would like to mention?

Appendix 9. Chapter Four: Thematic Categories and Quotes

1. User feedback on content delivered

A number of the slides were very repetitive and instructions were repeated over and over again. (LF30)
Some of the content is quite repetitive. (LF16)
I felt most of the questions were repetitive and unnecessary for understanding of the training. (LF17)
I'm sure this type of content is helpful to certain people however for me it was unnecessarily excessive and could be condensed into working handouts. (LF13)
Some parts seemed quite repetitive. (QP2)
I thought it was very comprehensive. (QP15)
Perhaps reduce some of the repetitiveness as it did not assist in keeping users engaged. (QP7)
It was very clear, well structured and informative. (QP2)
It was fine, though it seemed more complicated that perhaps it actually is to complete the KIRAT. (QP4)
The training and information provided was interesting and helping with understanding when filling in the KIRAT tool. (QP1)
It was helpful to provide a better understanding of how KIRAT works and how to use it in investigations. (QP10)
Very good, the online package was informative, and the assessment was fair and honest. (QP16)
The training was thorough and informative. Provides clear info as to what the KIRAT is and its limitations. (QP27)
It was very useful and comprehensive. (QP28)
Good e-learning package. Level of detail is just right. (QP29)

Quite straightforward. It was a little repetitive and took a while to complete, but it was extremely clear. (QP30)
So the, the, the explanation around it and the rationale behind it was really clear. And so anyone who had never seen KIRAT before would fully understand what the process was and it you, you know the common sense thing, it was laid out in such a clear and concise way that there was no confusion. (FG3)
The online training was also quite monotonous and repetitive in places where it maybe didn't need to be. (QP7)
It was very informative and gave me enough insight into KIRAT to effectively grade incoming investigations. (QP15)
Did at times feel a little repetitive. (QP10)
The content of the training was all you needed. (QP31)
...and slow in places. (QP2)
If any new colleagues come into the office and, we are looking at new intelligence officers coming in to, to, the department, being able to help them understand before they do the training to sort of help them in the same way as I was helped with doing KIRAT. If they've got any questions on the KIRAT process, but I think they won't have any issues cause I think the training was, yeah, well, well, based, well-paced and yeah, well balanced. (FG4)
Um, so yeah, but with this one it, it, so it was engaging you could actually, didn't have to skip through anything, it was interesting all the way through. So yeah, it. Yeah. (FG4)
It was a little too long (QP3)
Just felt it was too long (QP3)
This module was too long (LF70)
FAR TOO LONG (LF61)

Found this session too long (LF45)
TOO LONG AND BORING (LF33)
too long (LF31)
Its far too long (LF20)
far too long and repeatative (LF21)
I thought the process was too long. (LF14)
Too long (LF9)
Module two is too long. (LF1)
It was quite a long course as mentioned above. (QP18)
A lot of this course feels excessive. If the three separate modules could be condensed into one with the option of additional handouts/reference materials then this would be easier to take in/process. As it stands if my role were to involve me carrying out KIRAT risk assessments on a daily basis then I'd still need to look up/research how to do it for the first few times until I'd learnt it whilst working. (LF19)
It was quite a long course so if you left it a while between sections you could forget information. (QP18)
If online training is the future, maybe condense it into a shorter package as again, trying to keep your users engaged is key and it did seem to drag on a bit. (QP7)
More time efficient, whilst we appreciate the tool helps with CSA investigations, the training needed to be snappier and impactive… (QP21)
This unit is tooo long and slow (LF10)

In today's day and age with current workloads at the points they're at many points within this course feel laboured to the point whereby it's a chore to reach the end of each module. If this could be condensed into a single module with more reference materials (such as handouts print offs material which can be used alongside our day jobs) then I feel people would absorb the information easier. Please take into account that I personally tend to learn through doing (as opposed to reading/doing tests) - there are some that will find this course just fine. (LF18)
I mean, there's quite a lot of modules, isn't there? So, it's quite a time-consuming e-learning to complete, but that in no way felt like a like a hardship or a duty at all. It really helped to solidify the, the requirement for KIRAT and my understanding of what KIRAT is and where it's appropriate to use it. (FG3)
It is good overall but too long. This makes it difficult to find the time to pay full attention to the whole course meaning it is best done at home where there are fewer distractions. (LF3)
The case scenarios got you thinking. (QP3)
The examples that you have to do as practice/test to ensure you have understood correctly. (QP4)
The interactive scenarios. (QP9)
The knowledge checks were useful, as well as the case studies. (QP12)
Giving examples of investigations and being given the opportunity to apply them to KIRAT. (QP15)
The examples were a really useful way to apply and reinforce the learning. (QP2)
Too slow and too many knowledge checks, made the training slow and boring. (QP21)
it is always good to work through scenarios to get experience of the form. (QP24)
The scenario questions were useful. (QP26)
The practical questions helped to practice using the KIRAT tool. (QP27)
Enjoyed the scenario based questions. (QP29)
The elearning tests at the end. (QP31) *(factor that could be improved upon)*

The case studies were engaging, it made me take notes to make sure I got the correct information for the KIRAT to be filled out. (QP20)
The examples are really clear and concise and extremely good to get you thinking and understand what KIRAT is all about. (LF69)
I think some of the questions are a bit unclear. There were a lot of 'not known' answers whereas in the other training modules there were hardly any answers of 'not known'. (LF68)
All this is based on is what you know from the limited intel. In reality a lot of these answers in my opinion should be not Known as you don't know what outside the intel i.e IP download the suspect is upto i.e is the suspect grooming a child he may well be in reality and you are marking it no when it is in fact not known until you enforce a warrant and as such I disagree with some of the answers if you don't know something its not known not No like there is nothing like No Risk if its not known at the time its unknown risk and as such I will always grade what I don't know as unknown. (LF52)
dont agree with all risk gradings. (LF46)
Not given enough information and you are making assumptions not supported by the available information. I do not agree with these assessments and the assumptions you expect from us. Ultimately my scoring would be the same. (LF34)
We can only complete the kirat on the information we know at the time of completing and as you say this is an ongoing assessment. Some of your answers of Not Known suggest that we should be psychic and think he/she is committing because we don't know they aren't when in fact the question asks if there is any evidence or intelligence and to my mind this is a yes or no answer. There are always going to be things we don't know but when we do know them then we can revisit the kirat if necessary. The answer Not known causes no end of confusion! (LF29)
...some of the questions were worded in a way that made me select the wrong option despite knowing what the correct answer was. (QP20)
The current training on NCALT for version 3 was very prescriptive with no margin for error on some of the training scenarios. I found this a little frustrating on having already used other versions of KIRAT for years. (QP25)

I also found the examples and question sections very useful/helpful. (QP8)
...constant knowledge checks/tests made it feel too repetitive. (QP21)
Okay but I thought some of the answers to the scenarios wouldn't be answered like that in the real world. Some of the questions should be yes or no answers, not I don't know, because the known intelligence/answer is either yes or no! (QP26)
But we all started to doubt our ability. We were thinking it well, but do we not know how to risk assess? Because that's what I've been doing for years. That's not wrong. And then but thinking, well actually we've, we've, got that got that wrong and it yeah we were really questioning ourselves all of us. (FG2)
...constant follow up questions are not required. (LF10)
...elearning package, particularly the tests at the end, were a bit contradictory and I didn't agree with some of the answers. (QP31)
If I have a criticism, it's gonna be around the fact that, umm, some of the not known answers. I thought some of the questions were quite ambiguous and the not known answers, I myself had to go off and do the extra 1, the extra scenario and which I didn't agree with because I didn't agree with the not known. I can't remember which way round I put it now, but I think the question was something like based on the evidence you've got. Umm. Is it an, my answer would have been no, in actual fact, the right answer was not known. And I was like, well, no, it's not known cause the question says based on what you know well based on what I know the answer was no. So, I thought that was quite ambiguous. (QP19)

my only criticism was exactly the same was those not known's and I did exactly the same as you, (Officer 1). I was like, no, I don't know that. And you know. No, that's not it. And then it was not known. And then I had to go back and do that. You know, I thought I just need to, you know, lock into the whole way this training is and make sure I pass it rather than just trying to stick to my guns and do what I thought was right. And so yeah, that that was probably my only criticism. It was just a bit ambiguous really cause quite often you are in possession of that information. And I suppose we're just putting our real life hats on the training which wasn't working and then causing us to fail it. But we all did it. I think we all fell, you know, foul of that so. (FG2)
too many examples - I use KIRAT every day at work so I am already familiar with it. The training is useful but far too many examples so that the user is likely to start to switch off. One or two examples would suffice. (LF2)
A bit ambiguous in places. When you have assessed someone as being Very High risk you are just going to act on that immediately. It matters not whether you consider something is either no or Unknown. (LF66)
I thought the training was extremely helpful and easy to understand. (QP8)
Training was relevant and put across in any easy to understand way. (QP12)
Some of the explanatory sentences were quite long. It took me a while to break them down and figure out what was being asked. It started to feel more like a trap or a game than a training exercise. (LF48)
No, I think it was. No, the training was good cause it gives you good understanding and gives a good background to why the KIRAT tool is there and we can be used. So, no, I thought the training was, that there wouldn't be anything I would really change and, and, it was it was a good level for everyone to understand. I know a lot of other investigative teams have looked at it as well because it helps them understand why we, we, decide something's low, medium or high. (FG4)
I thought that the course was very good and really ensured the understanding of the user. (LF24)
Well set out and easy to follow, with good explanations. (QP10)

There are too many click buttons - it would be much more user-friendly if when you selected an answer it automatically submitted it. It would also be better if you could select the answer for each section of KIRAT at once and submit as a whole rather than having to press submit for each line. (LF38)
It is only at the assessment stage that 'not known' answers are covered. Should be covered within the training. (LF35)
In some of the sections I think the answer should be Yes or No. There is no need for Don't know.
let me fill in a full page of answers rather than having to click submit after each one. (LF22)
Need to be able to refer back to the different elements whilst completing the assessment the topic headers isn't enough information. e.g. need some of the fine detail to establish whether the topic header is relevant to the subject example. (LF23)
its difficult because its a dry subject anyway, maybe get the narrator to just say IIOC (eye-oc) instead of eye eye oh see every slide :) (QP20)
No but I think the Kirat questions in Section 1, 3 & B should not include Not Known as a possible answer. (QP26)
Address ambiguity around allegations when the offender was under 18 years old. (QP9)
autoplay from one slide to the next. (LF6)
Auto slides to next slide and also ability to click ontothe next module instead of going out to go back in again. (LF4)
Online vs Offline offending should be better explained especially with the example of the hidden camera- this is not 'online' which would require either telephone or internet connection it is simply 'from a distance'/'not in the same vicinity as the victim/s'. (LF42)
Think it would be easier if you were ticking every box with a yes or no answer rather that just ticking the yes boxes re the questions. (LF53)

I've obviously completed the online training, which I thought was really, really good actually. (FG3)
Good. (QP6)
Good. (QP13)
Good. (QP17)
Very helpful. (QP9)
Informative. (QP5)
Training was good. (QP19)
Thought it was informative. (QP17)
Good. (QP24)
The training format was good. (QP18)
Every training there has ever been has been fair and to the point. (QP25)

2. User feedback on how training is delivered

The visual aids, the interactivity. QP16
Partitioning it into the sections of the risk assessment. (QP22)
They way that it was interactive taking you through scenarios. (QP28)
The interactive nature of the training programme was good.(QP7)
To be fair, I've had a quick canvas of my team and everybody said that they felt it was good, that it was interactive. And it made, we all know what online training can be like and you have to take some tablets to stay awake. But in actual fact that that wasn't the case. So, they like the fact that it was interactive. (FG1)
But it's one of the best e-learning packages that I think I've ever done within the agency and I really enjoyed the scenario-based questions that that came after. (FG3)

I really liked the, the scenario-based questions where you then have to pick your kind of your progress and stuff that was really good and the fact that it was broken down into the different areas of KIRAT as well. So that you fully understood which, what each segment was about and also why that was important and why that has been viewed as required as part of KIRAT. (FG3)
I would say exactly the same, I think as online training goes it, it was actually not too bad and quite engaging and it was nice that it was in the the sections of the risk assessment… (FG2)
Drop the pauses when delivering information it is very frustrating waiting for the next sentence. (LF64)
Too many pauses it gets very frustrating waiting for the next sentence. (LF65)
It would be useful if all the text appeared for each slide rather than waiting for it to go with the audio. (LF41)
The delay between paragraphs appearing on the same page is a little slow at times and you are left not knowing whether to click next or not.

I think the only thing that I found was that often you would read through it and you'd be you'd be done reading it and it would take quite a long time for it to then move to the next slide. But I totally appreciate that some people can read that stuff a lot quicker and can kind of digest it and process it a lot quicker than others so I understand it kind of goes, you know, it gives people that time to to kind of understand it and fully, you know, fully understand it before moving to the next slide, but that was the only thing there was no way to skip if you'd read it and.....…So that was the only thing, but I understand that that was probably intentional because people would just be like, skip, skip, skip, skip, Skip. I've done it, so I I do understand that, but there were times when I just thought, OK, I get that. …And I'd I'd have liked to been able to move on, but I couldn't. And. But yeah, I I do understand the reasons for not doing that. So it's it's a point, but it's probably a bit for moot point really. But otherwise no. (FG3)
Also the narrator is at too slow a pace as far as I'm concerned. (LF2)
I don't think it's hugely complex that it needs face to face. I think it's, as long as you've got other practitioners around you that you can bounce off of, I I don't. I don't really feel the need for it to be face to face. (FG2)
That the training was online, so no need to travel. (QP18)
No happy with the way it is delivered online. (QP11)
Online*)* (QP19)
Internet based so it can be monotonous. (QP20)
For online training it was relatively engaging so overall good. (QP22)
The training in person was far more engaging than the recent online training. Training in person with NCA staff members as well as other practitioners allowed for a wider learning experience - as important questions were asked, and discussions took place as well as sharing of experiences. This does not happen with online training, which usually takes place individually and there is no scope for asking questions or discussing issues. (QP7)
I also appreciate since Covid, capacity for training in person is reduced, so this is a reasonable alternative. (QP7)

I liked the fact that it was online and that you could go back or re-read certain sections if you didn't quite understand. (QP8)
In person training was fine, elearning package, particularly the tests at the end, were a bit contradictory and I didn't agree with some of the answers. (QP31)
Right. But you know, at the end of day it is a static assessment. It's not going into someone's home and, and, making observations in that environment that might need a bit more discussion with a trainer. It's it is a fairly black and white tool. You either have this information or you don't have this information. So I think online. (FG2)
In person training (LF49)
In person training (LF50)
No, I, I, agree. I was going to say, I don't know what benefit a whole day would have been unless there was something in there that wasn't on the online training, but it wasn't complex, and if you've got an understanding of the world anyway, and assuming you're not gonna put anybody through it, that isn't in our world, then they would understand what the questions were, and why they were being asked. So I don't. I wouldn't necessarily think that it would need any more than that. (FG1)
In person training was fine… (QP31)

I, I, was happy, I was happy with the online training, to be honest with you, because sometimes if you go on a course, you don't get that same one-on-one as you do when you're doing an online course yourself. Um, you can do it at your own pace. And um, yeah, I don't think it's something really that people would struggle with doing it online, to be honest with you. (FG4)
Um. I probably did all the modules over a two-day period, split it up because of the work commitments, they couldn't sit there, for all you know, the whole time to do anything. So yeah, I split it over 2 days so it didn't, it didn't really take that long to do. And I think because of the way in which it was presented, it wasn't difficult then because I use KIRAT every day, I could go straight on and use it practically. Then it's not like some courses where you've gotta wait for a password and username and then that takes weeks and then you've forgotten how to use the system and yeah. It's it is, it was a lot easier being able to go jump straight on and, and use the system. (FG4)

I would rather do the online training. And I'm not normally one for that, I'm definitely an advocate of face to face and having discussion around it, but I find, I think I found with the KIRAT that I attended, there was a lot of questions and a lot of, a lot of people were kind of saying, well, it should be this, it should be that and it kind of it confuses things more. So I think rather than being sat there and say right this this is it, this is the the tool, this is what it's for and this is what it's not for, and the the consolidation exercises kind of helped to reinforce that without spending a whole day away from your role. And sometimes I think, it can be, it can be a bit when you're doing a face to face training, it all depends on the person that delivers that is delivering that training as well, and sometimes that can detract from the message, and a lot of people go into a day's worth of training thinking, oh gosh, I've gotta do this, which I know people do with mandatory e-learning as well, but, I don't, I think for something like that, it helps to have the time to properly work through it at your own pace, and I think that's something that face to face training probably wouldn't allow and people that were maybe struggling to understand a point, wouldn't necessarily in in a face to face training go back and say, or put their hand up and say can you just go through that again, cause most of the time people are just like we just want to get this over with and we wanna go. So it gives people the time to fully, to fully digest it and to understand it in their own, in their own time and work through those, those kind of scenario based questions on their own, so there's no hiding behind other people there because more often than not, if you're in a group training situation, there's always somebody that will speak up and there's always someone that says, well, this is how it's done and everyone just goes well I'm glad you know because I don't know, whereas the, the e-learning, it forces you to actually think about it and to engage with the process, which I think makes a massive difference. So for me it would be, yeah, the the e-learning was best. (FG3)
Doesn't feel necessary for KIRAT 2 users to have to take this course if the functionality has not changed. (LF44)
Previous KIRAT users don't need to go through this all again. (LF5)
For people who regularly use the current version of this form this training input is far too long. (LF60)
Upgrade the Force's hardware!! (LF67)
almost every page crashed and had to be reloaded on Edge. (LF56)

The pages were constantly crashing so it was a bit irritating to complete (LF57)
kept crashing throughout. had to keep going back over pages to move forward (LF58)
Having to view of browse down makes extremley slow (LF43)
audio quality is extremely poor (LF40)
The pages where it went through the whole KIRAT process struggled to load properly on my machine. (LF36)
Audio is awful jumps and cuts out making it very difficult to understand. (LF37)
TOO LONG TO LOAD (LF33)
...takes too long to load this should not take 2 hours! (LF31)
Online learning does not work (LF25)
E-training does not work (LF26)
Some of the slides are slow to load. (LF15)
Course states there is Audio but unable to get this to work and using the CC option did not provide any additional content. Is there Audio or Not? (LF28)
The only issue I can think of is that a lot of the other staff and officers were having trouble with the programme freezing and losing their work. Some had to complete it multiple times. (QP8)
Module 3.4 Case 2 Summary. Correct. States: "(sensitive information)." This is an incorrect statement as the example given says that the undercover officer is posing as the "mother of a twelve-year-old child". (sensitive information). (LF59)
Grammar mistake on page 71. (LF55)
There were a couple of disingenuous questions. One detailed the abuse of a daughter but did not give the age. Only in the answer did it specify that the daughter was a child. In another it was not detailed that historic substance abuse issues were not relevant. (LF51)
Ensure the answers in the final assessment are specific to the questions being asked. (LF47)

The use of the term superior in module 2 free text box section surely should read supervisor? (LF12)
In one of the questions regarding suspect known for domestic abuse (sensitive information). (LF8)
(4) I felt that some of the questions could have other answers that are subsequently incorrect. In particular scenario 1 when the question asks whether the suspect has made concrete arrangements. I answered no but the answer was yes. I disagree. He said he wants to meet privately however I do not consider this to be 'concrete plans'. Again some of the questions you could easily argue are correct are subsequently incorrect without the option to explain the rationale for the answer. I found this part of the software a bit disappointing. (LF7)

Appendix 10. Chapter Five: Thematic Categories and Quotes

1. Volume and lack of resources

The main challenge at the moment is the sheer volume of referrals. (QP2)
Obviously, the workload for us, I'm sure the same for for you, (Officer 1), it's unmanageable. We we have too much coming into our (removed) unit and we have to send a certain amount of that work out to division, the low risks as it happens. (FG2)
It was so, I was probably working within the Intel teams back then, on a year on year basis, particularly when it came to like NCMEC referrals and stuff, the increase was just exponential. (FG3)
Yeah, I think things like this are so important, though, because anything that makes the job better or more effective in terms of how we approach this, because it's just such a massive beast that we just will not ever get on top of cause it the problem is just so big and anything that we can have that, can standardise that and make it more effective and actually make it, I don't know just more, just more professional. (FG3)
Massive increase from what I've seen, and we particularly note it this year. Normally around Christmas time, referrals tend to slow down a bit. We know this later. If that's because there's not many working at the NCA to put the referrals through, but we didn't see that at all. It actually increased. I think we had more in December than the whole of October, November to together. (FG4) *referring to image caseload*
There was very little that we could do about that particularly understanding and acknowledging the volume of things that we were sending out, it was just, you know, it was relentless and it still is relentless. Like that's not, that's not changed at all. It's just got more and more so. (FG3)
It was just kind of up and up and up the resources didn't improve our end to respond to that increase both within the NCA and within the NPCC forces. (FG3)
The fact that we have too many cases and not enough staff to take action on each case as it comes into us. (QP7)

2. Lack of standardisation

So, it was more, it was more around the prior, obviously the prioritisation of those jobs and we had such a, a, vast variety of jobs that were going out to police forces that we were then asking them to prioritise based on nothing more than a gut feel really. (FG3)

3. National standard for assessing risk

Ensuring a standard national risk assessment. (QP3)
It provides a rationalised risk assessment which can be used as the standard practice across all UK forces. (QP4)
Provides a standardised risk assessment tool to assist with managing the enforcement action of offenders. (QP10)
KIRAT helps standardise assessment of risk across CSA investigations. It supports both experienced and inexperienced officers make accurate assessments based on a significant amount of previous research. (QP30)
And so it allows us to have a process to farm some of that work out. And we all know low doesn't necessarily mean low, but we have to threshold it somewhere and it allows us to do that in a very structured and corporate way that, that, the rest of the country are doing as well. So it's, you know, kind of safe process. (FG2)
There is confidence that the risks are assessed in a standard way across all investigations (QP28)
We would always do the checks around the individual and try and confirm whether there were children, you know, they've been in a position of trust. All of those obvious ones that undoubtedly, you know, elevate the risk. But it was just collating all of those things together, umm and sometimes we didn't have the time to do all of that within the NCA, so it was something that KIRAT kind of forced us to, to make a more, a more complete package really, which was something we always wanted to do, but there was pressure on us to get things out and it was just an argument to say, well, if we're having to do this, it's the right thing to do because we're sending half a job out and expecting other people to pick up our work and they don't have the resources either. (FG3)

So rather than just saying like we think this is bad because XYZ, it was like KIRAT says it's this and we found that quite useful when, when, dealing with forces that had limited resources and because we have NCMEC that come into the NCA and we've got the CSE Bureau that are firing out stuff left, right and centre it was quite important that we were able to sort of say, look, we within the NCA, we do appreciate that there is limited resources in action in these sorts of cases, so where possible we want to assist and highlight those that we feel you know, demands kind of a more urgent kind of response. (FG3)
every Force is using the same process and if you transfer an investigation then you know that the score is correct. (QP24)
It provides a base for assessing risk which can be used by every force. (QP26)
All Police Forces and other agencies that work CSA investigations have a common risk-assessment tool. Make it easier when disseminating cases to different Agencies. (QP29)
Means everyone who uses it is on the same page and understand what it means. (QP31)
Consistency both locally and nationally. (QP2)
It ensures standardisation throughout the Country. (QP3)
All grading is the same across the board and across forces. (QP6)
So, by using the KIRAT assessment we were able to sort of say, you know, this is like a national tool that everybody recognises and everyone understands. (FG3)
I guess, you've, everyone's doing the same process, um, which means that, you can transfer it from one police force to another police force cause the KIRAT is going to be exactly the same. If we transfer something into (removed) and we say it's high, then they would run exactly the same process and it would come up with high. So, I think using that same tool across all the forces definitely makes it a lot easier that suddenly somebody isn't going to go ‘oh no that’s actually a low we won't bother’, because I think that the risk stays exactly the same. You know it's going to get dealt with in the same way. (FG4)

Puts everyone on the same page from the differing forces, helps us know if a job needs doing urgently if we all grade the same as there is a lot of cross border collaboration with forces. (QP20)
Provides the police service with a level of uniformity. (QP21)
Useful for transfer of cases and consistent approach when prioritising. (QP22)
Every force will be using the same tool to prioritise cases. (QP7)
That the same Risk Assessment completed in one Force area in the UK will be interpreted & understood in exactly the same way & without ambiguity or misunderstanding, which if it didn't exist might lead to downgrading of an assessment. (QP4)
. And so KIRAT was great for that because it allowed us to have that kind of universal understanding of the risk and the threat that we believe, or that we that we were able to kind of evidence and we were able to say, based on the intelligence we have this, this is the, this is the assessment and it was one of those things that you couldn't really argue with because everybody understood what KIRAT was. So yeah, in in that. In that respect, it was really, really useful. (FG3)
I think it's a benefit that everybody nationally is using the same tool. So, if you transfer cases between forces, you transfer the KIRAT or you say the KIRAT 3 has being done, provided they're all using KIRAT 3 which I think they probably are now, KIRAT 3 has resolved as, and you send that form across, everyone's gonna be singing from the hymn sheet. So that's, that's, a big benefit because otherwise I think it could be fairly subjective because what I might think is high, somebody else is gonna be like no, umm and vice versa. So I think the fact that we're all on the same page is a huge benefit. (FG1)
I think KIRAT is okay for a rough idea of risk factors but I don't think it is entirely useful. I don't feel it particularly helps to address anything other than round up information to provide a rating. (QP1)
Identifying the risk level of offenders based on the collection of information. (QP12)
Difficult to risk assess without it. (QP13)
Based upon a series of questions assesses the risk posed by the potential subject. (QP5)

KIRAT uses known information about a suspect and uses that information to assess their risk. (QP10)
It is a risk assessment questionnaire that allows for the prioritisation of cases on a risk basis. By filling in the answers to the questions provided, based on the intelligence and research completed - the spreadsheet provides a risk assessment grading. (QP7)
information gathered which identifies a risk. (QP18)
Identifies risk. (QP19)
Assists in highlighting risk and dealing with same. (QP5)
It is a good basis to have for a foundational understanding of the potential risk posed by an individual. (QP10)
Provides a clear understanding of the risk levels to users. (QP27)
Oh no. You couldn't have foreseen that risk, or that ongoing offending through a static risk assessment. No, you would only find out that risk by entering the home address, and reviewing devices and you know, investigating what you've got in front of you. (FG2) *can't always foresee risk in 'low' cases*
Because we're, we're, only basing it on what's, what's, come in, uh, as (Officer 2) said we've had loads that are absolutely horrendous because we only know what we know at that time. We know the full picture once we've gone through and the devices have been interrogated, so the KIRAT will only be on what we know at the time, so the offending is still taking place, isn't it? So, has it reduced the risk? I don't know. I don't know. No, I don't know. (FG1)
KIRAT cannot predict what we will find once we arrest a suspect and we have found that a lot of low risk offenders turn out to be our contact offenders. (QP24)
(sensitive information) low risk KIRAT that resulted in contact offences and 20 years in prison. (QP21)
KIRAT is a risk assessment tool to which looks at different factors (work, previous convictions, access to children) to pick up any aggravating factors that might alter the risk carried by an individual under investigation. (QP1)
It achieves this by focussing on academically proven factors such as whether the suspect has children, whether they have previous convictions and whether they are in a position of trust. (QP2)
It asks questions relative to the previous offending, including sexual, of subject along with grooming/activity/comms and travelling ability to meet a child. (QP40)

KIRAT is a risk assessment tool based on factors. (QP6)
It is a risk prioritisation tool that asks a series of pre-defined questions that is aimed at providing a risk grading influenced by the responses to those questions. There is also additional factors that can be added to provide additional considerations around any risk score. (QP27)
KIRAT produces a risk level for a subject based on answers to a number of simple questions. (QP30)
Right. OK to me, KIRAT, is the, the, risk assessment tool instead of, leads you through the set of questions to work out how much of a risk our offenders are. (FG4)
And that's the thing that sort of stuff, it's never when we look into one of the other things I was going to say that I found quite interesting is when you look at their previous offenses and how that then changes the KIRAT rating, particularly around like domestic and stuff, that makes perfect sense. But everyone's just looking if there's no CSE offences, if there's no previous CSE offences, then there's no relevant offences. And I was like, I disagree with that. Massively disagree with that. And I really liked the fact that KIRAT was saying, you know, well, actually, that is an indication of an increased risk around, around that individual and, and, their, the possibility of them going on to escalate and then contact to them if they're not already. So yeah, I really like that. But that is definitely something that they wouldn't ordinarily, it would just be a case of PNC. PND checked done, no CSE offending, and I previously, as the offender insight, there's more to it than that. (FG3)
KIRAT is a risk assessment tool on all males (over 18 years of age) in a household. (QP8)
It is used as a tool to assess the risk of a known person in an IIOC investigation… (QP20)
Tool used to provide a risk assessment for adult male offenders to understand their potential risk to children and or the public.. (QP21)
KIRAT is a tool to aid in the risk assessment of individuals who are sharing/possessing IIOC. (QP24)
Risk- assessment tool to allow officers to prioritise CSA investigations. (QP29)

So KIRAT was quite good in making us…kind of responsible for doing our bit correctly and as completely as possible, which was exactly right, which is what we should have done, but there was pressure internally around stats and things like that, and people always get a bit worried about risk and carrying huge backlog, but it was about doing it properly rather than just chucking it over the fence to a force and things. So yeah. (FG3)
It did. It changed the the strategy because it meant that we obviously had to then conduct certain checks that prior to that were a bit of a nice to have rather than a necessary to have...I would say more looking into, into the work around the family and the, the, kind of the, the, situation within the household that prior to that we wouldn't necessarily have gone into that level of detail. (FG3)
So, there was a lot of conversation and a lot of discussion around policy, local policy decisions, to not even action some IIOC cases at all and just save them as intelligence, so it was important for us then to have to have that option to sort of say look based on this, we understand you're not prioritising these sorts of cases over other like contact offenders or whatever else, but there is a requirement for you to perhaps look at some of these that are flagging up as high risk as a result of KIRAT. (FG3)
Yeah, absolutely. And I attended an academic advisory group. It's probably about 12 months ago now and they were talking about their prioritization of workloads within different teams. And this academic work group was, it was attended by (*removed), but so, we had the conversation generally, but they also came back with, a response from all of the teams within the NCA that work within CSA to say right, how would you prioritize this? And one thing they found was all of the answers that came back, there was no kind of standardized approach to risk and prioritisation and that was from a kind of an initial tasking perspective so those, I guess those kind of issues are still there, but if there's a way to standardise those at any part of the, of the process, then obviously that is really welcome. But it just goes to show how subjective these things are and depending on the team, their focus is on very different things just based on their experience and based on their particular knowledge and their objective, I guess. (FG3)
Yeah, absolutely. And I attended an academic advisory group. It's probably about 12 months ago now and they were talking about their prioritization of workloads within different teams. And this academic work group was, it was attended by people from

within the NCA, but also people from forces and things, but so, we had the conversation generally, but they also came back with, a response from all of the teams within the NCA that work within CSA to say right, how would you prioritize this? And one thing they found was all of the answers that came back, there was no kind of standardized approach to risk and prioritisation and that was from a kind of an initial tasking perspective so those, I guess those kind of issues are still there, but if there's a way to standardise those at any part of the, of the process, then obviously that is really welcome. But it just goes to show how subjective these things are and depending on the team, their focus is on very different things just based on their experience and based on their particular knowledge and their objective, I guess. (FG3)

4. Focussed allocation of resources

KIRAT helps to apply some order to the volume and helps investigators to prioritise on the basis of risk. (QP2)
It assists in the prioritisation of enquiries. (QP15)
How to prioritise case loads. (QP17)
How workloads are prioritised. (QP18)
Prioritises workload. (QP19)
KIRAT assist in prioritising each referral. (QP24)
The main things which KIRAT is good for is prioritising one job over another one. (QP25)
Prioritising enforcement. (QP28)
Brings all the risks together on one page to provide a risk score which can then be used to prioritise jobs. (QP26)
The KIRAT helps to prioritise and manage operational demands when taking action against any identified subjects. (QP27)
The risk score can help with prioritisation of jobs. (QP31)
It gives you something to prioritise the workload. (FG2)

Static risk assessment tool to help prioritise workload. (QP22)
KIRAT is a tool that enables investigators to make informed decisions about prioritising one IIOC case over another by assessing the level of risk presented by the suspect. (QP2)
It's the risk assessment tool that we would use to risk assess a suspect or somebody who, in our case it would be a suspect, cause we wouldn't do it if it was the suspect, to do the threat harm and risk and and see where he, or she would lie. And in terms of what I would use it for and within my world it would then, depending on what the KIRAT risk assessment comes out at would be, would then depend on how I prioritized the jobs. (FG1)
I would use it for online, uh child abuse image offenders, adults and use it to prioritise workload. Umm. Yeah, I would say that's probably what, yeah, that's the main thing we would use it for, and use it as a guide to that prioritisation. I suppose there's other things that that will feed into the risk assessment process that will alter that final risk assessment potentially 'cause that is, it is just a static assessment at the end of the day and they'll be more dynamic things that will feed into it. (FG2)
...I think it certainly helps prioritise things… (FG4)
Prioritising workload. (QP18)
Prioritising workload. (QP19)
It's a decision-making process that is agreed, and you know, it's to make our decisions about our prioritisation of work. That's the benefit, obviously. (FG2)
Deciding the order / priority to undertake jobs. (QP9)
Risk can be objectively assessed so that resources are allocated appropriately. (QP30)
Right. Yeah. So, so, that's how we would plan for the next week unless we have something come in like a high respond or, or, a UCOL where they're gonna meet up or anything like that, that's going to change the dynamic for the following week. But that's generally how we do it. (FG1)

Also means that it limits the scope for criticism from the public/media/management on how workload is managed. (QP7)
Yeah, I don't know about (Officer 2), but over here, we at the end of every week, we allocate the jobs for the next week. So, there's a report produced at the end of every week for the DI. So that will detail going forward into the following week, which jobs we're, which jobs we're going to do the warrants on and any safeguarding ones. So, we always warrant over here, we do two warrants every Tuesday and two warrants every Thursday, one in the north and one in the South of the force. And then any safeguarding jobs that don't require a full team will be done Monday, Wednesday, Friday. So, if you just need two DC's and someone from the digital forensic unit to go out, they'll be done Monday, Wednesday, Friday and potentially might even be done on the same warrant day. It's a fairly straightforward warrant, not too complicated, and we're done and dusted. (FG1)
Risk posed by suspects including those most likely to be contacting offending or go on to contact offend. (QP16)
Assessing the risk of an individual as most likely to contact offend. (QP17)
A risk assessment tool that is used in IIOC cases to assess the risk the offender may commit contact offences. (QP9)
A series of tick boxes with yes or no answers to predict the risk of someone committing contact offences against children. (QP11)
KIRAT is an assessment tool that aides to identify the risk of an offender changing from non-contact to contact sexual offences. (QP12)
It uses data to assess the risk of a particular person and looks at how likely they are to commit contact sexual offences. (QP13)
It creates a standardised approach to measuring the risk or likelihood of contact offending by a suspect in an online IIOC investigation. (QP15)
KIRAT is a risk management tool for IIOC investigations, prioritising the individuals most likely to also be committing/have committed contact child sexual offences. (QP16)

Its a tool to assess the risk of potential offenders committing contact offences. (QP28)
Assists with identifying the risks that an iioc offender may be contact abusing. (QP31)
So KIRAT is a risk assessment tool that is used as part of the, well not, well towards the end of the investigation process, more so once you've gathered information around your individual, once you've got an individual's real life identity and you're able to conduct checks to answer some of the, the, the questions that that KIRAT requires you to know in order to then assess the risk that that individual poses of, offending, I guess contact offending. (FG3)
It gives me a structure and time scale to help me resolve incidents. (QP20)
It, it, sort of helps us in relation to making decisions on how fast we deal with offenders and that that's the main thing for me… (FG4)
And in, in, relation to how we should be dealing with them, how fast we should be dealing with them. Um so. So that's basically for me it's just another tool in the box for me. Which either escalates my thought process to get things done faster or slow time in relation to the offender. (FG4)
Ability to action the highest scoring KIRAT case first. (QP29)
...that other things it also gives us an extra credibility when we're looking for warrants that we can sort of say that the, the, the person that we looking at is being deemed as a very high risk or a high risk offender. So yeah, it helps with, with, warrant applications as well. (FG4)
...the grading is used as a means of helping me prioritise my order of attendance and action at a particular job. (QP20)
Yes - Prioritising enforcement action. (QP10)
...and to make decisions around operational requirements to process the investigations. (QP21)

5. Prioritisation leads to safeguarding

The main benefits, in my opinion, are for when Sergeants are planning the jobs as they are able to prioritise offenders that are believed to be more of a risk to children e.g. if they have direct contact with children etc. (QP8)
As a result, KIRAT allows us to prioritise the higher risk cases, and take action on those, hopefully reducing any safeguarding risk to children. (QP7)
Risk to children and risk to organisation. (QP6)
KIRAT helps officers and staff assess the immediate risk an individual/suspect may be against children. This is particularly helpful when working within certain timescales. (QP8)
KIRAT assesses the risk/potential risk that an individual poses to children based on the facts known at the time. (QP26)

6. Minimum standard of investigation

In most cases suspects are unknown so I find this a toothless tool. (QP11)
It can be useful when you don't have a likely suspect. (QP25)
I don't see there are, this tool does not predict an unknown suspect's risk to behaviour and… (QP11)
I think every job that it's eligible for, it's used for. Obviously, we do have other work that comes into our unit that is not technically KIRAT. We might use it just as a guide. We might not, but everything where it has to be used, we're using it. (FG2)
Offenders/suspects are not only a risk to children but if they have a history of violence and/or convictions, substance abuse etc. this can be a risk to officer safety. Therefore, having this risk assessment tool helps plan for these types of situations by telling officers to wear PPE, approach with caution etc. (QP8)

Yeah, both of that. So if, if, if it was really limited Intel rather than looking to do everything around it, if you only had a couple of images then it's not really, it's not really necessary, it's not really relevant, and if it's a really, if it's a case with loads of images, loads of high risk images or loads of high category images, then it just needs to go, you know that sort of attitude. So, it was almost like it's, it's, time consuming, or it's not really, it's not really necessary because it's, it's just this case is just kind of admin and we're just getting it out. So there's a number of different scenarios there where you just be like, well KIRAT would be good to do. But actually, we haven't got time to do it or we've got another 10 jobs that are just waiting to be progressed so. (FG3)

And that was one of the things that we kind of argued about as Intel officers, we would have cases and we'd have huge caseloads, but we wanted to do as much around that case as we could before we sent it anywhere and there was a real push from senior management to stay like that, whilst that would be nice, there's too much work and there's not enough staff to do that, so you just need to get this out. Once you've got a name and an address, you've got a force area just get it out and it was like that doesn't feel like the right way to be progressing these things. But I think as the, as the number of referrals and the number of cases went up, the kind of the, the, time to, I think they saw it is the, I'll always remember this one of the one of the managers spoke to us and said ‘the packages that we're providing now, they're, they're, very detailed, they're very good, but it's more of a gold standard and we shouldn't be doing that for routine cases though, you just need, as soon as you've got force area, get it out’ and that.....…that just, just that. That didn't feel right for us to be doing that, but their argument was, but it's not, it's not NCA. It's not NCA business, so that was just frustrating at times. (FG3)

Yes. So, these, I'm talking about back in the day now when I was kind of working on a case investigation team, so the, the, ones that we would be dealing with were not the routine NCMEC just chuck him out into forces. These were cases that were a bit more bit more complex, but the, the, volume was still such that they didn't want us doing too much work on it and we pushed back on that saying we can't expect forces to do all this work when, they're under so much pressure and they're not just dealing with online referrals or referrals from the NCA, they're dealing with, you know, contact offences. They're dealing with all of these other things. And this is just gonna fall to the bottom of the pile. And unless we do the work to highlight any risk and allow them to make an informed decision as easily as possible, because otherwise it's just gonna fall into the, you know, there's no there's been no risk identified., it's an image account, an image offence, it's an image case. It'll it's gonna have to wait because we've got XY&Z on our caseload at the moment. So… (FG3)
Yeah so, yeah sorry, yes in terms of the guidance for enforcement action to be taken we're not necessarily hitting that and where maybe a high might have been done, you know, in a week now it's stretching out right to the edge, maybe two or three weeks and then something else might come in that's more pressing and that job is being bumped. And then, for something else because you know we've only got a certain amount of enforcement resources, so there's only certain days when action can be taken and things are being pushed out of the way for other more pressing things. But that's, you know, that's, that's how it is. If I mean that's that's policing, isn't it? (FG1)
Well, there's always going to be the job that is just extremely high with huge reputational risk, vulnerable children. You know it, there could be all sorts of things and you're always going to throw everything at that and, and, then other, other, things will fall by the way side. But we will get to those other things. It's just maybe not as quickly as we had hoped or planned. (FG2)

7. Professional discretion

We would use professional judgment at the end because there might be other things that would come into play. (FG1)

So, but I don't think it'll be difficult operationally to, you know, it's you can still use a lot of common sense with it. (FG4)
No - I'm not convinced it does. Previous to KIRAT in my unit if we identified a suspect had children or access to them by employment or voluntary work, we would class them as high risk anyway and deal with them within 24-48 hours. (QP11)
the age of the child is just something that we would look at that might just escalate things for us within our sort of decision making on how fast we get into the address because it could be a medium KIRAT with young children and we still might take that as a priority over high job... (FG4)
Each case is different, but this standardises the risk assessment of each case, whilst allowing for risk to be upgraded if required. (QP12)
And, and, I think that the risk is what the risk is. So if it, if it comes out as a high it, it will always be a high, but, you know the things that are making it high, whatever those things are, if they're not, you know, relating to sort of imminent risk then it, it wouldn't be as urgent as you know the high with the child there that is open to social services or the case where the man's a teacher. You know, obviously those things for very different reasons are going to a slide up and down the scale. But the risk is what the risk is essentially. It's just how it's then treated and it is just guidance at the end of the day isn't it so, but there'll be some discussion on our crime report, we have a little decision tab on our crime report and we would just articulate something on there. (FG2)
Whatever the risk assessment comes out as the risk assessment is it's just that I I might make make mention in my comments that I think based on everything else that that has resolved as high, but in actual fact it might be a medium. But I wouldn't change the KIRAT risk assessment no because it is what it is based on the facts that, we can input. (FG1)
And you have to prioritise within those you've got 5 high, you've got 5 highs and then you gotta prioritise within those five fives. Why are they high? So like my 80 year old man. Well, he's actually not gonna be a high, but KIRAT's gonna tell me he's a high. In fact, I think he came out as very high. But but no, he's not. So he'd be right down my list of 5 highs. (FG1)

And everybody else would kind of shuffle around. We got kids at home. What are the age of the kids on my 5 highs are they, are they sort of 15/16 year olds that perhaps can speak out or are they 3-4 year olds that can't. So, then that would kind of move it all around as well. There's just lots of factors I think. (FG1)
Yeah, and also the and the images that we get sent through, um, that also does sort of influence you in some ways, because if you've got very young children, and and sort of toddlers and babies in in the images that sort of does influence you in some ways to say, yeah, this one definitely needs to be prioritised over one where there's late teenagers in the images and stuff, yeah. (FG4)
But you know, if we've got an address where we know there's three 6, 8, 9-year olds, and they look, and whoever is there is looking at that sort of age that really then thinks, yeah, we could have, yeah. (FG4)
You can't, I know there's this it's yes and no so it's very sort of almost black and white, although you can use discretion and some because we might get something that comes out as a medium because somebody's got a previous conviction for shoplifting and you think, well, okay on, those instances you know where the mediums are concerned, that might just drop down the list of mediums where you know, it's not a priority compared to someone who's got a child at the address. (FG4)
Yes - generally we always prioritise suspects who have access to children but KIRAT does assist in the cases where initially we didnt think there is as much risk around a suspect. (QP24)
Yeah, that's, that's, the thing. And, and, that's, that's, one of the things that the magistrates always ask when we see that they've got access to children, they always ask, how we manage the risk around those children as well. So yeah, it's sort of we, we, sort of say once we see there's children involved, our thought process is here at (police force name) right, that's it, there's a child at the address we sort of fast track it even if it comes in as a, a, medium KIRAT, we sort of treat that then as something that needs to be looked at sooner rather than later. (FG4)
Ohh, I, I'd say we've almost got it as policy here the minute it comes in as there's a child at the address, as soon as we've identified that, that becomes our priority over, over, other things, yeah. (FG4)

I mean, it was it, it's quite common sense, I would say KIRAT. So, a lot of the factors in it are things that you can't really argue would increase the risk, which I guess is the beauty of it. But some of it is, around the CSE stuff, it can be so subjective and you go to different forces and their attitude and their local kind of response and their local policies around certain things dictate their action to it. So even with KIRAT, there were some that were just like, well, we don't do this or we'll save it for intelligence. (FG3)
Yeah, I think, I kind of made reference to it earlier in alluded to the fact that people would do kind of half a job before trying to send it out, so it would be like we can't answer KIRAT because we don't have that information and it would be an excuse not to do it rather than a reason to do their job properly and to get all of that information that was available in order to enable them to fill out KIRAT and do it. (FG3)
And there was always an argument around well if it's not purely, you know, if it's not images, although there was so much that was image based, anything outside of that, even if there was just any kind of anomaly they would say, well, that means that KIRAT's not relevant or that kind of supersedes KIRAT or whatever, which with these cases quite often there's a lot of complex kind of, things that, that mean... (FG3)
a lot of it's based on the subjective kind of feeling of the of the investigator, and if it's something that they're really interested in. If KIRAT going to come at a low score, they'll…they won't. They don't need to include it. (FG3)
No, it would be awful. KIRAT's really good cause it holds people to account as well. And I think that's why a lot of people may be try and skip it and avoid it. But if something comes out as high risk, you have to do something with it. Whereas I think without it, it’s quite easy for the receiving force to say image offences, local policies, we don't do that, and in reality, that's not right. Regardless of how, you know, under resourced you are or how how stretched you are you, you still have to, you know, fulfill your responsibility to safeguard young people and to hold these offenders to account. So it's really positive in that respect, I think. (FG3)
But in terms of our UCOL side of things because we're not dealing with image offenders as such, we don't feel that it's appropriate for a lot of our subjects. So, we don't, we don't do it routinely, no. (FG3)

Yeah, I think most of our UCOL, we don't even bother applying the KIRAT as you know it would come out very high straight, straight, off the bat, so yeah, it's not, particularly if they're talking about travelling to meet and, and, that you can see that they are looking to travel to meet, particularly if in an occupation that they have the opportunity to travel and meet. So yeah, it's, yeah, as you said that most of ours where the UCOL's concerned we, we, push them right up to a, to a very high. (FG4)
When we first started doing the UCOL stuff, there was a, a, conversation with our operational teams and it was like 'you should be using KIRAT' and we were like I'm pretty sure we shouldn't, this doesn't feel right and we all sort said no, no, no, no, no. And there was a real push from Ops to say no, you have to use this, you have to use it. That's that. You know that's the NCA process and we were saying no, no, no, no, no, no, this doesn't fit, and, and, so we, we, didn't do it because, but this argument rambled on and on, and then I did the e-learning and I was like, no, we were exactly right in our initial understanding, but when that's questioned and when it's challenged, you do begin to doubt yourself. So, completing the training just helped to reassure myself and our team that whilst it was incredibly valuable, it wasn't appropriate for the work that we were doing... (FG3)
we also understand that we've had low KIRAT's um, one in particular job we had it ended up as being one of the biggest investigations we had because it opened up this huge avenue of grooming offences by high profile people in different industries. So yeah, it's, you know, again, even when we get the low KIRAT that's always in the back of your mind thinking, we had one category C image on a low KIRAT and suddenly this investigation blew up into overseas all over the world. Type. Yeah, so. (FG4)

8. Issues with items and risk grading

I fail to see how convictions for shop theft and lower level non familial offending are relevant to IIOC KIRAT grading. Im sure there must be some academic basis for the question, but on a day to day basis I dont see this as relevant. (QP20)
I think the question relating to access to non biological children is important to know but I am not sure it should automatically increase the risk to (X) without any other aggravating factors. (QP26)

However KIRAT v3 does create more 'Very High' outcomes which have to be over-rided by Professional judgement. (QP25)
Yeah, yeah, we, we'll treat it in the same way, yeah, and yeah, we, we, understand then that we call it like a false (sensitive information). If it's just because somebody's got a shoplifting offence, we know they're not necessarily doing anything where children are concerned, this just that one thing is pushed it up that (sensitive information) and we know that it's not, yeah, it's. So we do look at it that way as well, yeah. (FG4)
Um, probably, probably not, because as I said that this is just an extra tool for us to use and risk assessment because by the time we've identified that and applied the KIRAT, we're already thinking that we need to get in there sooner rather than later. So, I don't know if adding another box on to say are the children under a certain age would make any difference because I think more so, all POLIT's would probably think the minute a child's been identified at the address of a similar age to what we've seen in images we'll all be thinking the same that we need to go in sooner rather than later. So yeah, I don't know if it would need to, to, have anything extra in there. (FG4)
I still don't understand why nominals having previous for IIOC isn't considered within the tool for assessing risk. it shows patterns of behaviour, risk of reoffending and the disregard for their actions. (QP1)
The access to non-biological child question means there are far more high risk cases. (QP9)
Yes, the KIRAT is producing too many high and very high referral's. This is not helping us as we need to balance the reasons for the risk level against the real world assessment of risk. Whilst the KIRAT is great tool, it is providing what i would call too many false positives when for example it could be high as the suspect has a grandchild. Which automatically seems to assume a level of risk against the child without foundation. (QP21)
An increase in high risk cases. (QP22)
We're finding there's more highs and there's very highs. (FG2)
We're having a lot of, high stroke very highs coming through on the KIRAT 3 that we didn't have on the KIRAT 2. (FG2)

I feel there needs to be review mandatory review periods to any risk assessments. Perhaps applied to low or medium risk to ensure risk is relevant to the current intel picture. (QP27)
Plenty of challenges because obviously it's since the new version has come in there are a couple of areas that raise the risk a bit and so we are seeing more highs and very highs, because of the child. And I don't necessarily disagree with that, but it does mean that the time periods of the recommended time periods to execute warrants in. From our, we're slipping on that. Because there's more highs and very highs. (FG2)
We had one recently where the KIRAT resolved as very high, but in actual fact the suspect resolved as very high because of (sensitive - removed) but in actual fact the suspect was an 80-year-old man who was immobile, had carers three times a day, was glued to his laptop. He was not going to be any risk to anybody. But without, but with the KIRAT on its own, you would think we would go charging out the door, but every, (inaudible)…taken into account that the actual fact that…(inaudible)… so we moved him down the chain a bit and then we sort of go off with the other people that are UCOL jobs or, you know, stuff that is more high, high risk. So that's that's that's what we're finding. (FG1)
Yeah, it's, it's, certainly with that one question, cause I think on the old KIRAT it just said, have you got access to children and if you said that it would, it would say yes, that might push it to a (risk score). But I think now you've added in the extra bit with, um, non-biological children as well, that then (sensitive information) to a (risk score) if you have a yes in both those boxes, but that's about the only real change that I've seen with anything where the children are concerned. But even we know looking at that, it might be a false (risk score) you might still be a (risk score) but again, that's just that we look at, you know, when we sort of making decisions on when when we're actually going to deal with things. (FG4)
So the obvious one would be the, the, grading of the imagery. A lot of people would look at that as the higher the grades and of the imagery, the higher the risk, which is not necessarily the case as we know. (FG3)
And the volume as well, although volume is an indication of kind of the level of interest, I guess, it's still not kind of the only reason why you would kind of prioritize a case. (FG3)

It's, yeah, I think, I think, that it's influenced it in the way that I mean, sadly, sometimes, yeah, OK, you're not gonna get an accurate KIRAT because, on the new system, for instance, if you've got an 18-year-old who's got a 15-year-old step sister at the address. It might push it to (risk score) straight away whereas, that 18-year-old might not necessarily have access to the 15-year-old and you know it's not. So sometimes we will look at that and think, OK, it's coming as (risk score) we look at the risk and think no the 15-year-old is there's nothing that suggests that anything has happened or is gonna happen there. (FG4)
Yes - as above, no consideration for offenders who have previously been charged or NFA'd for IIOCS. The fact they are re-offending should be a red flag. how many images have they shared, mainly what category should all be factors that affect KIRAT. (QP1)
Yes - Previous convictions can sometimes increase the risk when the convictions are old and not really relevant. (QP3)
Yes - I am still slightly baffled as to why previous IIOC offences are not included in the section about previous convictions/offences. To me, if someone has committed IIOC offences previously, this does raise the risk level significantly as it means they have not been rehabilitated. (QP7)
Yes - The platform used I.e suspect are generally far more dangerous if using KIK / WICKR as opposed to facebook / instagram. (QP9)
No - I think KIRAT is a comprehensive tool and cannot think of anything additional that would assist in furthering its accuracy or effectiveness. (FG10)
Yes - Previous referrals from the NCA. (QP11)
No - I think KIRAT covers all relevant areas. (QP12)
Yes - Ages / vulnerabilities of children as a 19 yr old male having access to his 17 yr old sibling will automatically be (sensitive information), likewise a 19 yr old with access to his 5 yr old sibling would also be (sensitive information) but I would have more concerns about the latter. (QP22)

Yes - My concern is that if you state access to children is unknown the score stays the same as if there is no access to children but surely there has to be a higher risk not knowing? (QP24)
Yes - Age of the suspect - specifically under or over 18. (QP27)
But (inaudible)…then I think we would always need (inaudible)…the form that would incorporate everything that we we look at and I'm sure (Officer 2) also does the same in her department. You'd have a form that's like 400 pages long. So we would be looking at PNC stuff, PND, stuff, all the local Intel that we've got on our systems. You couldn't incorporate that in, in, the form, I don't think because everybody force would have different systems anyway, different things they'd be looking at what the SNT teams might, might, know about that, that person. There's all sorts of things that, we would take into account. Well, I would take into account certainly with my professional judgment that at the end of it. (FG1)
Yeah, I would agree. And I, I, think if you start adding more layers into it, making it more complex, we'll just make it more rigid and we need to have that flexibility and… (FG2)
...a burglary conviction 15 years ago does not make them (sensitive information) risk just because they may have completed time in prison. (QP11)
The fact it is only cis males at the address and those over the age of 18. (QP31)
I think females who are suspects should have KIRATs conducted. (QP1)
Yes - It would be great if we could, at some point, use this risk assessment tool against women. (QP8)
Yes - Females, need to be added to this tool. (QP21)

9. Professional outcomes for police

Yeah, I think that there would have had to have been a lot more justification at, you know, with professional judgment only really to justify why something was taking longer than something else, and that's, so that would have necessitated quite long write up so I would imagine. And so, it, it, does a, it, it, allows us to threshold in, in quite, you know, easy chunks without having to go into too much detail apart from maybe a few lines to say why something's perhaps slightly higher or lower risk than, the KIRAT comes out. (FG2)
And everybody knows it, don't they? Everybody understands it. Everybody in this sort of world, they all know and understand it, so it doesn't need any explanation either. So……that saves time. (FG1)
I suppose it saves us the time of having to wait for a lot of inquiries that we do, if we, if we're going to do HMRC enquiries or DWP inquiries and, and, things like that, if something comes out very high we wouldn't wait for those inquiries to come back we were would just think 'we've gotta get in there now and do this today or tomorrow', it's not something, so it, it probably does help save time like that. (FG4)
I think if you used correctly, then it could. But I think my experience of it was always there, and this is definitely back in the day. I don't know about current, current, practices and current kind of attitudes towards KIRAT, but it was, because we weren't doing it, I don't know whether the NCA, the NPCC forces, were then doing it, so I can't really answer that question to be honest. Because there's still a lot of work that's required in order to then fully complete, the KIRAT assessment isn't there, and by that point, you've still got an offence and you've still got an offence at the end of the day. However you look at it……because somebody is, is, in the possession of indecent imagery, so, it's a difficult one, isn't it? Because you have to invest the time to do it properly in order to, fully exploit the KIRAT and, and, the, the, benefits of it so. (FG3) No - Offences are still being committed. (QP19)
Can generally predict which jobs need to be dealt with in which order before even using KIRAT. (QP9)

We you know, we know, and, and, you can almost gauge yourself now before filling in the form what it's gonna come out as cause you use the form that often you can almost straight away say this is gonna come out as… Yeah. So, it's… (FG4)
No - to be honest if we do our checks with social services and children are listed at the address, these jobs will be prioritised without the need for a KIRAT assessment. IT simply helps order the lower priority jobs. I would like to think I knew which jobs are high risk without KIRAT telling me. (QP20)
Yes - it helps certainly within the team for us to prioritise our work. (QP20)
No - We have a policy that HIGH/ VERY HIGH results stay within the POLIT/ ISOT team. anything below goes to the relevant PVP (protecting vulnerable people) department. The other departments see the low & medium as that. and take months to enforce the jobs due to KIRAT labelling them as 'low risk'. (QP1)
Yes - it helps to prioritise workloads. (QP24)
And I would say anything that is looking to prioritize resources and, and, to assess the risk is obviously a positive. And would all contribute to safeguarding children because we know that we don't have the resources to, to answer to everything, so anything that helps everybody to prioritize these sorts of things is a is a huge godsend and is valuable, but in terms of how valuable it is I I'm not sure how you would measure that. (FG3)
No - I do not believe a yes, no answer can predict what is in someone's mind or what they might be capable of. I think we get a far better picture of someone risk once we meet them and examine digital devices. (QP11)
Yes - It allows for investigations to be focused on the most risky offenders, and prioritise those investigations. (QP12)
Yes - It allows us to threshold our workload as we cannot deal with everything, low risk is passed to division. (QP22).

Yes - Yes, on two notes: - KIRAT is an extremely simple tool to use so can be applied quickly and easily. (QP30)
No - Because sometimes the elevated scores don't necessarily relate e.g. someone having any conviction regardless of whether it's CSAE related or not getting a *(sensitive information)* risk score. (QP31)
I think the training was useful, particularly for newer members of the team, to highlight the various risk factors that officers need to be alert to. This knowledge will help them when formulating forensic strategies and will assist them to prioritise other similar types of investigation. (QP2)
Having recently undergone a significant change in the way our department works, KIRAT has become even more useful in determining how and when cases will be enforced. (QP7)
Yes - If the tool is applied, it allows Forces to direct resources accordingly. (QP3)
Yes - Focused the risk. (QP26)
Yes - I'm not sure that it will actually save time, but it will certainly ensure that resources are being focussed on the right cases at the right time. (QP2-13/1)
Yes - Police resources and staffing levels can be and unfortunately limited, and so being able to use police time and resources more efficiently is extremely beneficial to the department/force. (QP8-13/1).
Yes - With a standardised tool, it assists with prioritising enforcement action which focuses resources. (QP10)
Yes - Helps to focus resources and ensure resources are supplied for the high risk. I don't think it will save resources as the risk is still dealt with no matter the level. (QP27)
Resources can then be allocated appropriately and effectively. (QP30)

No, information for approaches and investigative strategy are picked up from the research work. KIRAT is just something extra for deciding what team a job goes to, as opposed to being used for anything else. (QP1)
Yes - Will prioritise the high risk cases with children at the address or child victims. (QP18)
So, plus we're on the new, we were trialling the new CMT system so that we could access straight away the system that the NCA have with NCMEC so that we could see the referral straight away. See the image straight the way we didn't have to wait for a disc, it made it a lot, sort of, well, the workload increased quicker because we're not waiting for the imagery to come through to then determine how we sort of deal with it, yeah. (FG4)

10. Risk and further harm prevention

Yes - It is very difficult to quantify this, but a prompt response to a case where a child may be being abused by a suspect is crucial in order to prevent any continued abuse, and I have no doubt that KIRAT assessments have achieved that. (QP2)
Yes - I am unsure at how much KIRAT has reduced the risk posed to children but being able to identify high risk offenders who have possible access to children means this offender/suspect can hopefully be caught/arrested before any/anymore abuse happens. (QP8)
I suppose at the risk of potential further abuse, yes, probably. (FG2)
Yeah, it doesn't reduce the risk because the risk is always there, isn't it? But in terms of the risk of further abuse against a particular child, if we're acting on those with child contacts quicker, then it's got to hasn't it? Yeah. But you can't quantify it. (FG2)
Yes - It can ensure a timelier response which will reduce risk. (QP3)
It helps inform safeguarding strategies. highlighting the risk. (QP27)

Yes - If any children are identified through the intelligence assessment along with details of any contact offending/access to children & documented in the KIRAT, then this automatically raises the Risk & requires action to be taken. It is better to identify that action is required in the first instance & raise this than to do nothing & an opportunity is lost to prevent harm. (QP4)
Yes - It certainly allows us to prioritise the offenders who pose the most perceived risk to children. (QP7)
Yes - It identifies quickly the high risk offenders, and those offenders are prioritised which could mitigate the risk to children around them. (QP12)
Yes - If high or very high the risk is addressed sooner.
No - It prioritises work but I wouldn't say it reduces risk. (QP22)
Yeah, the risk is still there, but I suppose you're going for the high person who's got contact with children……quicker than you would be going for the low person who doesn't. So, in that sense, I'm, guessing yes. But you, you, can't really, because you know we've had loads that that, you know, horrendous levels of offending but... (FG2)
Yeah, that's the problem, isn't it? Cause it makes sense. It makes sense that that would be the case, right? And without KIRAT, that wouldn't have even been flagged as a risk element. So, in that respect, it definitely would be, it would have assisted in the safeguarding of children and, uh, yeah, I don't know. Like you say it's difficult one, isn't it? (FG3)
So, it probably has helped reduce because when we start getting the high and the very high jobs, inevitably there are kids at those addresses at risk that we wouldn't necessarily have known about before. So, it probably has helped reduce it in that way. (FG4)

11. Wider impact

Hmm. I guess if you wanted it too, if you, if it suited your purpose to use KIRAT in that way, I can't actually think of an example right now, but if it suited my purpose I would, I would use it if it meant that I was gonna get more uniform, you know, help on a warrant, because something was very high then I might use it. (FG1)
Or, I suppose that the fact that we're getting more and more highs and very highs from a resource point of view within POLIT, I can imagine that, you know, in a year's time when, when, KIRAT 3's been rolling along for a while and, and, we've got more and more highs and very highs and we're not meeting the, the, you know, recommended guidelines for enforcement, I can imagine that that's an argument from all staff. And so I should think it probably will get used then. (FG2)
No - risk remains same. (QP1)
Yes - Helped to prioritise those cases where children are exposed to CSE. Helps to better inform safeguarding measures that need to be put in place with partner agencies. (QP271)
I mean, any offender who is left hanging, offending, wanting to stop and when we go in the door, they're almost relieved, umm, that could be any offender, regardless of their risk level, so I'm not sure, you know. And I'm not very up that bothered whether it's beneficial to offenders or not. And I, I, can't. I can't say that it it's of any benefit to offenders, it's not a suicide risk assessment, it's you know. If I'm honest, no. (FG2)
Yeah, agreed. Yeah, I suppose the only, the only benefit would be if he was low risk and we pushed him to the bottom of the pile and he didn't want help he can continue to, to, offend until we turn up which would be the only benefit to him. But other than that, I agree with (Officer 2). (FG1)
I wouldn't consider a delayed response to be a positive outcome and in an ideal world we would be responding promptly to all reports of this nature. (QP2)
Lower risk offenders may receive words of advice rather than prosecution. (QP12)
(CASE NAME), low risk KIRAT that resulted in contact offences and 20 years in prison. (QP21)

Ohh, right, OK. I don't think there's anything, no, nothing positive for them because inevitably, even if it's a low KIRAT for us, if, if, they were offending in the way they were offending, they're gonna keep offending thinking that they're not going to get caught, 'nobody's knocking on my door so I'll just…' yeah, so sometimes with those cases on the low KIRAT's, it does benefit us because we know there's no kids there, there's no risk there but when we go through the door, the evidence is still there... (FG4)
I would say so because I think a lot of the time you're not looking at the offenders, the person and all of the circumstances that are around that individual in terms of how best to deal with the, with the with the case. Whereas if you're looking at all of those factors and you're looking at that, at that individual as a person, rather than just the offense that they've committed, it then gives you an opportunity to then think about what the appropriate response is, and sometimes it's not just to arrest for image offenses although that will be there, you can put other things in place and you can consider working with other partners around providing that support and whether there's more of a kind of social or kind of a welfare issue around the family in general that perhaps has been noted before, but hasn't really been and nothing's been done about it with this added element of it, and with KIRAT and things could then increase the profile of it in the urgency of it and that could get then family the help that they need, not just looking at that offence as an image offence and nothing else, taking it as a more holistic approach. I think it definitely lends itself to that because it it makes everybody think more around the individual and their circumstances around that rather than just looking at it's an image offence, X amount of imagery, these grades, yeah, carries this sentence. You know, it's so much, so much more complex than that. (FG3)
Yeah. I mean, in my current role, I'm not, unless like you, I'm covering one of the others, but in my previous role, we would pick up jobs with KIRAT assessments relating to our registered sex offenders. And I've never had a lawyer ask about the KIRAT, and I think we would use risk assessments to assist with remand applications where you're looking at risk to others and risk of further offending but I've never brought KIRAT into that. I've always used probation risk assessment like Oasis or ARMS because it's more dynamic and it and it is on the current sort of circumstances. So yeah, yeah, I've never had a lawyer ask about it. (FG1)

I believe this already happens outside of the use of KIRAT. (QP10)
Not that I am aware of. I'm not sure the CPS are even aware of KIRAT as they certainly never seem to mention it. (QP7)
CPS will accept a lower standard of forensic download for low risk cases for charge. (QP8)
I have never been approached by the CPS in regards to any KIRAT scoring. (QP20)
We do not consult with the CPS on the kirat grading. (QP21)
No, I believe it is too static for this. Following investigation more of an ARMS type assessment would be more relevant for this. (QP22)
No, we're obvious, absolutely having those discussions with CPS in terms of the seriousness of the offending and the risk, you know, the, the, aggravating factors of the offending, but that's not really anything to do with the KIRAT though, is it? (FG2)
Probably not, because by the time it gets to that stage, um, the KIRAT tool has been used by us, um, on the intelligence side, the investigation team have got all the evidence, so I don't think it has that, they never really, see that first part of the process, they only get presented with all the evidence that they've got, so, by the time you get to them, yeah, it's not, it's not something they ever ask for it. It's there as a disclosable document, obviously. But again, it just goes on a schedule of undisclosed material because it, it, doesn't matter if we have a very high or a low the fact that this got the CPS means that we've got the evidence that Indecent images of children is, is, there so, yeah. (FG4)

Appendix 11. PGR Declaration of Academic Honesty

PGR Policy on Plagiarism and Dishonest Use of Data
PGR CoP Appendix 4 Annexe 1

PGR DECLARATION OF ACADEMIC HONESTY

NAME (Print)	**Hayley M. Rhodes**
STUDENT NUMBER	**200899461**
SCHOOL/INSTITUTE	**Psychology**
TITLE OF WORK	**An Evidence-based Approach to Prioritising Indecent Images of Children Offenders: Implications for Deployment and End User Operationalisation**

This form should be completed by the student and appended to any piece of work that is submitted for examination. Submission by the student of the form by electronic means constitutes their confirmation of the terms of the declaration.

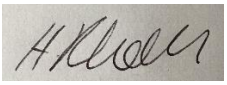
Students should familiarise themselves with Appendix 4 of the PGR Code of Practice: PGR Policy on Plagiarism and Dishonest Use of Data, which provides the definitions of academic malpractice and the policies and procedures that apply to the investigation of alleged incidents.

Students found to have committed academic malpractice will receive penalties in accordance with the Policy, which in the most severe cases might include termination of studies.

STUDENT DECLARATION

I confirm that:

- I have read and understood the University's PGR Policy on Plagiarism and Dishonest Use of Data.
- I have acted honestly, ethically and professionally in conduct leading to assessment for the programme of study.
- I have not copied material from another source nor committed plagiarism nor fabricated, falsified or embellished data when completing the attached material.
- I have not copied material from another source, nor colluded with any other student in the preparation and production of this material.
- If an allegation of suspected academic malpractice is made, I give permission to the University to use source-matching software to ensure that the submitted material is all my own work.

SIGNATURE: 

DATE: 07/06/2023