

Institution: Lancaster University
Unit of Assessment: Sociology UoA 23
Title of case study: Child Protection in a Digital World: Reducing Direct and Indirect Risk
<p>1. Summary of the impact</p> <p>Lancaster's innovative and interdisciplinary child protection research programme addresses emergent risks to children and young people; directly in online environments and indirectly through the application of IT systems in safeguarding social work. Impact is evidenced through:</p> <ul style="list-style-type: none"> • Changing user community practices in both internet governance and child protection with direct benefits to the organisation of frontline services, education and children and young people themselves; • The adoption of new child protection tools by law enforcement agencies – providing sophisticated methods to deal with massive quantities of social network data (used nationally and internationally); • Economic impact – through the creation of a spin-out company, Isis Forensics; • Contributions to policy formation and debate.
<p>2. Underpinning research</p> <p>This case study accentuates two distinctive methodological approaches; the first is the integration of social science research methods (ethnographic, natural language analysis, focus groups) with computer science methodologies (developing algorithms, extra-large scale data harvesting in social media); the second is combining disciplinary theoretical fields (cyborg theory, forensic profiling, gender theory and algorithmic theory) to produce research outcomes.</p> <p>a) Reducing direct risk to children emerging through use of social media</p> <p>Professor May-Chahal (Department of Sociology) working with Professor Awais Rashid and his team (Department of Computing) have employed the very latest methods in digital language and image analysis to develop a range of original software tools designed to tackle risks to children posed by new media through two interlinked projects (Isis: EP EP/I016546/1, UDesignIT: EP/F035438/1). Bringing together experts with a child protection background and software developers to address new challenges, the projects act as case studies for software development to reduce child abuse risks that can be applied on an international scale. Isis involved a multi-method approach that included; Turing type whole school experiments (5), natural language analysis, psycho-social and forensic profiling, the development and testing of algorithms and law enforcement groups focused on misuse cases. The research builds on internationally leading work on corpus comparison techniques using statistical natural language analysis [4, 6]. At the heart of the research is a semantic analysis approach that categorises keywords based on contextual information. The specific research challenges involved integrating the statistically sophisticated techniques from authorship attribution with methods from corpus-based natural language analysis and combining the macro level (models of language varieties) with the micro level (models of individual's use of language). Additionally, these methods needed to operate on small quantities of noisy language data observed in online social networks and deal with masquerading or similarly deceptive behaviour that an individual might assume in an attempt to hide his or her identity. UDesignIT applied a multi-method approach to developing mobile software to enable young people to better convey felt insecurity to safeguarding agencies. In both cases users (law enforcement, schools, young people, child protection agencies) have been closely involved in the research to trial and refine tools and provide data on their application.</p> <p>b) Researching indirect child protection risk emerging through the application of IT in safeguarding systems</p> <p>Responding to widespread national concerns about the malign effects of the 'modernisation' of children's frontline services, our work funded under the ESRC's Public Services Programme (RES-</p>

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166-25-0048, 2007-2009) drew policy makers' attention to the unintended but negative effects of the application of IT systems in child protection social work. An inter-university team of social and information scientists, including White (Lancaster 2007-2010, now Birmingham University) and Broadhurst (Lancaster 2003-2013, now Manchester University) conducted a multi-site ethnographic study, based in five local authorities in England and Wales and drawing data from fifteen social work duty and assessment teams. Research outputs have brought the language of 'latent conditions for error' into mainstream policy debate in child protection in a range of international contexts and contributed to developments in experiential risk theory (1, 2). Design innovation is illustrated through the production of a digital micro-world comprising a portfolio of synthetic practice cases (4). Regional follow-on work commissioned by Lancashire County Council deployed the micro-world to analyse and improve practitioner decision-making in child protection casework.

3. References to the research

1. Broadhurst, K., Wastell, D., White, S., Hall, C., Peckover, S., Thompson, K., Pithouse, A and Dolores, D. (2010a) Performing Initial Assessment: Identifying the latent conditions for error in local authority children's services. *British Journal of Social Work*, 40 (2): 352-370. Citations 101. 'Editor's Choice' article, listed in 'most cited' column.
2. Broadhurst, K. Hall, C. Wastell, D. White, S. Pithouse, A. (2010b) Risk, Instrumentalism and the Humane Project in Social Work: Identifying the *Informal* Logics of Risk Management in Children's Statutory Services, *British Journal of Social Work*, 40 (4): 1046-1064. Citations 37. Listed in 'most read' column.
3. Rashid, A., Greenwood, P., Walkerdine, J., Baron, A. and Rayson, P. (2011) Technological Solutions to Offending. In Ethel Quayle and Kurt Ribisl (eds.) *Understanding and Preventing Online Sexual Exploitation of Children*. Routledge, ISBN 978-0-415-68941-0
4. Wastell, D., Peckover, S., White, S., Broadhurst, K., Hall, C. & Pithouse, (2011) Social work in the laboratory: using microworlds for practice research. *British Journal of Social Work*, 41 (4) 744-760.
5. May-Chahal, C., Mason, C. Awais, R., Walkerdine, J., Rayson, P. (2012) Safeguarding Cyborg Childhoods: Incorporating the On/Offline Behaviour of Children into Everyday Social Work Practices, *British Journal of Social Work*, doi: 10.1093/bjsw/bcs121 First published online: August 10, 2012 (Available REF 2)
6. Rashid, A., Baron, A., Rayson, P., May-Chahal, C., Greenwood, P. & Walkerdine, J., 2013, Who am I? Analysing Digital Personas in Cybercrime Investigations, *Computer*, 46, 4, pp. 54-61. (365 downloads since February 2013)

Outputs 1, 2 & 4 derive from RES-166-25-0048 final report graded 'outstanding' in ESRC formal peer review. Outputs 3, 5 & 6 are all peer reviewed.

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

In addition to wide public dissemination through specialist and generic media coverage (UK and international) there are four key elements to the programme's impact:

Changing user community practices: This research programme has involved real world deployments in law enforcement agencies, Children's Social Care and direct engagement with schools, children and young people.

The micro-world simulation BRIGIT has been deployed in commissioned work to assist in the reconfiguration of safeguarding systems (Lancashire County Council). Beneficiaries report positive

Impact case study (REF3b)

developments in their inspection performance on account of learning gained in respect of practitioner decision-making, with BRIGIT evidencing 'proof of concept' in its practical application.

An iTunes application, 'Child Defence', has been released by Isis Forensics that enables children and young people using mobile phones to check the age of people they are messaging - potentially protecting them from being groomed by adults posing as children online. Whereas most child protection software will monitor a child's online activity and be controlled by parents, this new software empowers children to protect themselves (5). The first version has been downloaded over 1000 times and an enhanced version is in development.

Impact on educational programmes for children and young people (public service impact). The collaboration with local schools has also led to significant impact at various levels. The main beneficiaries locally are the two schools we have worked with, in developing and providing Internet safety lessons to over 500 students, which included Turing-test like sessions whereby children chatted with people behind the scenes half of whom were children with the other half adults pretending to be children (allowing them to understand masquerading tactics utilised by offenders online). This led to a strong collaboration with teachers at Queen Elizabeth School to develop comprehensive lesson plans on the broader topic of e-safety for key stages 2-5, lesson plans which we claim are nationally leading. These are now being rolled out across the region through the South Lakes Teaching School Alliance (SLTSA).

Adoption by law enforcement agencies: Isis held live trials with the London Metropolitan police (2013), as well as the police forces in Kent, Lancashire and Merseyside (2010-2012). The work was also in collaboration with the Child Exploitation and Online Protection Centre (CEOP). Participants agreed that the toolkit works accurately on real data sets and significantly reduces the manual time involved: "allows all victims to be identified and therefore a full range of offending to be investigated", "provides the ability to focus analysis on specific information allows investigations to be more focussed and therefore potential victims of grooming or contact abuse to be identified more easily", "the only other option is manual analysis which would be much slower". This work has transformed strategic thinking on child online protection. To date the primary beneficiary is the Canadian Royal Mounted Police who have licensed the toolkit for use across the country, an approach that they regard as an "operational necessity". Other, equally large-scale agreements are being negotiated but are not yet confirmed as of the REF census date.

Economic Impact: Isis was featured in the RCUK: *Big Ideas for the Future Report*, which presents key projects that demonstrate the value of public investment in higher education and research and the positive impact this has on economic growth and the social wellbeing of the UK. A spin-out company was created from the Isis project, Isis Forensics, to license the Isis Toolkit and to exploit the associated IPR. This company employs 4 FTE, has received venture capital of £400,000 and is seen as having very significant growth potential. They have signed a major deal with the Canadian Royal Mounted Police as documented above.

Contributions to policy formation and debate: Broadhurst et al 2010a (1), cited in the 'most read' and 'most cited' columns of the leading international journal: *British Journal of Social Work*, has usage statistics that exceeds journal records, with download rates now standing at 11050 and is cited in a number of international contexts (EU, Canada, America, New Zealand and China). This was used in oral evidence to the Children, Schools and Families Select Committee hearing 9th of February 2009, and again by Graham Stuart MP to challenge Ofsted and requiring Ofsted to submit further evidence of its role and function as part of government review by the same committee (13.5.2009). As a consequence of the impact of the teams' work, Professor Sue White was invited to join the National Social Work Taskforce (2009) and subsequently the Munro Review of Child Protection (2010) and was able to directly influence and guide the transformations in frontline practice that have emanated from the Munro Review of Child Protection. In particular, through diffusion of impact and exploitation of research findings associated with this programme of work, changes have been made to the national statutory guidance 'Working Together' in regard to relaxation of timescales and boundaries between initial and core assessment (DfE, 2013).

The research on direct risks to children through social media informed the *Directive of the European Parliament and of the Council on combating the sexual abuse, sexual exploitation of children and child pornography, repealing Framework Decision 2004/68/JHA*, through the European Economic and Social Committee's Section for Employment, Social Affairs and Citizenship *Opinion on the Proposal* when May-Chahal acted as expert to the rapporteur. It also provided a case study in a report requested by the European Parliament's Committee on Gender Equality (Policy Department C: Citizens' Rights and Constitutional Affairs, an *Overview of the worldwide best practices for rape prevention and for assisting women victims of rape*) proposing the extension of the application of software tools to assist in the detection and management of cyber coercion and rape of women and girls. A policy paper was prepared for the BCS and presented to Alun Michael MP (2009), and subsequently selected as the single UK input to the Internet Governance Forum in that year (in Sharm-Al-Sheikh). The paper was again tabled at the Internet Governance Forum the following year (held in Vilnius).

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

Media coverage is summarised on these sites: <http://www.isis-forensics.com/resources/> (incl. a link to a BBC News item) and http://www.comp.lancs.ac.uk/isis/index_files/Press.htm

May-Chahal, C (June 2013) Invited presentation Making Research Count, York University (see <http://www.york.ac.uk/spsw/news-and-events/events/mrc/2012-13/mrc-23-may-2013/>)

Membership of and work cited in the '**Munro Review of Child Protection: final report - a child-centred system**' (citation to the research p64) (see <https://www.gov.uk/government/publications/munro-review-of-child-protection-final-report-a-child-centred-system>).

Evidence to Education Select Committee

<http://www.publications.parliament.uk/pa/cm201012/cmselect/cmeduc/writew/1514/cp18.htm>

School of Human Services and Social Work, Griffith University, Australia, recorded a podcast interviewing May-Chahal for Australian social workers to encourage greater awareness of the implications of the digital world in child safeguarding. <http://www.podsocs.com/podcast/children-and-the-internet/>.

The UK input to the Internet Governance Forum (Protecting Children in Online Social Networks) can be found at: <http://www.bcs.org/upload/pdf/project-isis.pdf>.

The work of the spin-out company, Isis Forensics, and its products and services are noted on: <http://www.isis-forensics.com>. CEO, Isis Forensics can be contacted to confirm details of the business impact of the research on Isis Forensics.

Opinion of the European Economic and Social Committee on the **Proposal for a Directive of the European Parliament and of the Council on combating the sexual abuse, sexual exploitation of children and child pornography, repealing Framework Decision 2004/68/JHA** COM(2010) 94 final – 2010/0064 (COD) (citation to the research p5, para 3.7) <http://www.eesc.europa.eu/?i=portal.en.soc-opinions.14275>

Letter from Queen Elizabeth School corroborating impact on Internet Safety education.

The work was reported in the UUK/ RCUK report on 'Big Ideas of the Future' (p68): <http://www.rcuk.ac.uk/Publications/reports/Pages/BigIdeas.aspx>.