

<b>Institution:</b> University of Bedfordshire		
<b>Unit of Assessment:</b> 11		
<b>Title of case study:</b> <b>Cyberstalking research and countermeasures adopted by Government bodies and public services</b>		
<b>Period when the underpinning research was undertaken:</b> Since 2014		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b>	<b>Role(s) (e.g. job title):</b>	<b>Period(s) employed by submitting HEI:</b>
Dr Emma Short	Reader in Cyber Psychology	Sep. 2002 to Nov. 2020
Prof Jim Barnes	Professor of Neuropsychology	May 2013 to Apr. 2019
Dr Marc Conrad	Principal lecturer in Computer Science	Sep. 2002 to date
Dr Marcia Gibson	Lecturer in Computing	Sep. 2013 to date
Dr Antony Brown	Senior lecturer in Computing	Jan. 2011 to date
Dr Melanie Pitchford	Senior lecturer in Psychology	Apr. 2013 to date
Dr Liesl Conradie	Senior lecturer in Applied Social Sciences	Jan. 2009 to Nov. 2017
Dr Haider Al-Khateeb	Lecturer in Computing	Feb. 2014 to Feb. 2018
Dr Ingo Frommholz	Senior lecturer in Computing	Feb. 2011 to Nov-2020
<b>Period when the claimed impact occurred:</b> Since 2014		
<b>Is this case study continued from a case study submitted in 2014? Y/N</b> Y		
<b>1. Summary of the impact</b> (indicative maximum 100 words) Our leading edge research has triggered a step change in the sphere of cyberstalking. We have designed innovative digital platforms that successfully identify cases of cyber harassment and perpetrators, including developing the first app to log evidence from victims. Our influential work has led to a change in the law, new national guidelines for police forces across the UK and the rollout of a national programme of awareness training for frontline staff. Our pioneering research has achieved further impact by freeing up police time (through the introduction of automated processes), boosting public safety and extending public access to the criminal justice system.		
<b>2. Underpinning research</b> (indicative maximum 500 words) The aim of our research is to identify the impact of online abuse on victims, to understand attitudes associated with those examples of abuse and to design effective, preventative measures. Key features include: <ul style="list-style-type: none"> <li>• A national survey of all police officers working as a single point of contact (SPOC) for reported incidents of stalking and harassment led by the University of Bedfordshire's Dr Emma Short, to gain a broader understanding of the scope of managing cyberstalking incidents. The survey was undertaken with SPOCs in each police region and interviews were constructed with victims of cybercrime drawn from our previous work with case</li> </ul>		

analysis. The survey was completed by 36 of the 43 police forces in England and Wales. Responses identified training needs and the importance of a clearer definition of the SPOC role. Victims also reported a lack of support from authorities and a misunderstanding regarding the impact on victims. These findings were instrumental in the development of an awareness training course for frontline staff working with victims of cyberstalking. The programme has been delivered to Paladin - the National Stalking Advisory Service - for the past three years (3.2 to 3.5)

Bedfordshire Cyber Awareness Programme (BCAP), led by Dr Emma Short, aimed to:

- Challenge anti-social attitudes;
- Educate staff and students to differentiate acceptable and unacceptable online behaviours;
- Signpost support services;
- Offer guidance on how to take self-protective actions and make appropriate bystander interventions in online settings.

Evaluation of this course was conducted via pre- and post-intervention questionnaires and showed that 63% of individuals changed their opinion on their readiness/willingness to take action if they witnessed harmful online interactions (3.2)

- Cyberstalking identification from metadata, led by Dr Marc Conrad and Ingo Frommholz, was initiated with the creation of an Anti-Cyberstalking Email System framework (ACES) to filter, detect and document email-based cyberstalking. ACES comprises two major components: a detector that analyses an email's header and content based on a supervised neural network, and a cyberstalker identifier that uses Principal Component Analysis to identify the author of the email. Results from these two modules were combined and weighted to flag an email as 'legitimate', 'grey' or 'cyberstalking'. The approach and algorithm were then further enhanced and expanded to produce an Anti-Cyberstalking Text-based System (ACTS) (3.1) to include other text-based media, such as chat messages, tweets, social media updates and instant messages. ACTS has an additional personalisation module that consists of rules defined by the user to link to the personal, individual situation of the victim. The findings from this research therefore provide digital investigators with reliable information to determine the integrity and value of a reported incident, and the identity of the perpetrator. They led to the development and production of CybHAPP (Cyberharassment Mobile Application) and DRASH (Digital Risk Assessment of Stalking and Harassment) systems.

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

**3.1.** Ingo Frommholz, Haider Al-Khateeb, Martin Potthast, Zinnar Ghasem, Mitul Shukla, Emma Short: On Textual Analysis and Machine Learning for Cyberstalking Detection, Datenbank-Spektrum, (2016), vol. 16, no. 2, pp. 127–135

**3.2.** Making sure the victim is at the centre, BAPCO Journal Vol 24 issue 4, 2018.  
<https://flickread.com/edition/html/5c1cb3683d8a2#17>

**3.3.** Worsley J, Wheatcroft J, Short E, Corcoran R: Victims' voices: understanding the emotional impact of cyberstalking and individuals' coping responses, SAGE Open, (2017), 7 (2)

**3.4.** al-Khateeb H., Epiphaniou G., Alhaboby Z., Barnes J., Short E.: Cyberstalking: investigating formal intervention and the role of Corporate Social Responsibility, Telematics and Informatics (2016), 34 (4, pp.) 339-349

**3.5.** Short E, Stanley T, Baldwin M, Scott GG: Behaving badly online: establishing norms of unacceptable behaviours, media and communication, Studies in Media and Communication, (2015), 3 (1)

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

Our innovative research has directly influenced UK domestic policy by contributing to a change in the law, shaping national guidelines for police forces, creating a nationwide programme of training for frontline police staff and significantly influencing society by boosting awareness of the impact and severity of cyberstalking.

##### **Contributing to UK law change**

- Our research on cyberstalking contributed to Harmful Online Communications: The Criminal Offences, Law Commissions, Consultation Paper, 11 September 2020, pp. 75, 79, 84, 85, 88 and 89. Our contribution is acknowledged on p 7 (**5.1**)
- Our presentation of 'The Lived Experience of Cyberstalking' to the All Party Parliamentary Group (APPG) for Stalking and Harassment (**5.2**) allowed our research to contribute to the Stalking (Sentencing) Bill, passed in January 2017, as well as the briefing from The Parliamentary Office of Science and Technology, POSTNOTE Number 592 December 2018 Stalking and Harassment.
- We were invited by the Law Commission for consultation in 2017 and 2020 and contributed to the law review on online harm and revenge porn.

##### **Contributing to policies and procedures**

- The national SPOCs survey (**5.3**) led Chief Constable Paul Hill to circulate clear national guidelines to all police forces about the role, and a national training conference is now part of practice.
- CybHAPP (**5.4**) is thought to be the first mobile application available to log evidence from victims of cyber harassment. It has a range of potential impacts, including:
  - Increasing public confidence due to the encryption and data authentication processes applied to meta-data submitted to police;
  - Freeing up police time due to automated and instantaneous transfer of cyber-evidence;
  - Increasing clarity for the public in the reporting of cyber harassment;
  - Raising public safety and wellbeing;
  - Extending access to the criminal justice system by encouraging members of the public to report crimes.
- DRASH (**5.4**) will divert cases of low-level offending away from the criminal justice system and avoid the unnecessary criminalisation of people on the fringes of criminal activity. This will ensure that formal justice processes are focused on relatively serious offences, allowing the police to resolve these cases more quickly and effectively. Measurable values and impact for the REF will be in the areas of:
  - Rapid identification of risk with appropriate interventions to address public protection needs;
  - Improved public confidence of decision-making between the Police, the CPS and the Probation Service.

### Contributing to policy and guidance in HE sector

- Our collaboration research with Universities UK (UUK) involved presenting and providing expert evidence for its AGM (5.5-5.7). The collaboration also developed the BCAP training programme, which was piloted with the University of Bedfordshire. Evaluation was conducted via pre- and post-intervention questionnaires. Approximately 63% of (n = 60) respondents changed their opinion on their readiness/willingness to take action if they witnessed harmful online interactions.
- The responses showed a statistically significant (rising from  $p=0.0036$  to  $p=0.00074$ ) difference in the variance of answers to the questions about their willingness and readiness to take action if they witnessed a stranger suffering a harmful online interaction. These findings were distributed widely across the HE sector and led to the co-authorship of the national policy guidelines, 'Changing the Culture Tackling Online Harassment and promoting Online Welfare' (5.10).

### Public awareness

- National Stalking Awareness Week 2019 featured our work on the health impacts of stalking and made recommendations to the health sector about appropriate referral and support for traumatised victims of cyberstalking (5.8).
- Home Office social media platforms circulated a short video about cyberstalking awareness in 2020 (5.9), based on our findings.
- The cyber awareness course will offer improved resource allocation within the service and allow increased public access to the criminal justice system. Impacts include:
  - Changing attitudes of offenders, thereby reducing the likelihood of reoffending;
  - Restoration for victims, providing assurance that perpetrators understand their actions online and the harm and distress it can cause to others;
  - Reducing police officers' current caseload of low-level offences to enable resources to be re-allocated to more serious public concerns;

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

**5.1.** Harmful Online Communications: The Criminal Offences, Law Commissions, Consultation Paper, 11 September 2020. *Provided as PDF.* <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2020/09/Online-Communications-Consultation-Paper-FINAL-with-cover.pdf>

**5.2.** "The Lived experience of Cyberstalking" APPG for Stalking and Harassment (Westminster, 2015) – *Provided as PDF.* Baroness Sal Brinton (Member of House of Lords of the United Kingdom / APPG – Stalking and Harassment) listed as a corroborative source can provide details of the impact of this project on request.

**5.3.** Cyberharassment: Platform for Evidence Gathering, Assessing Risk & Managing Policing. Police Innovation Fund, Police Innovation Fund, Home Office 2016. *Provided as PDF.* <https://www.beds.ac.uk/irac/about/centres/nccr/echo/>

**5.4.** Developing an Evidence Based Protocol for Assessing Risk and Managing Policing Operations in Response to Cyberstalking and Online Harassment. Bedfordshire PCC, Bedfordshire Police and Crime Commissioner Victims fund 2015. <https://www.bedfordshire.pcc.police.uk/fluidcms/files/files/CSF-website-update-Jan-2016.pdf>. Outline of successful bid made to Dr Emma Short, Dr Melanie Pitchford, Prof Jim Barnes *provided as PDF.* Richard Tilling (Detective Inspector - Bedfordshire Police Headquarters) listed as a corroborative source can provide details of the impact of this project on request.

**5.5.** Tackling online harassment and promoting online welfare. Universities UK 2 September 2019, <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Pages/tackling-online-harassment.aspx>

**5.6.** Abusive and Offensive Online Communications: A Scoping Report Presented to Parliament Law Commission No 381 October 2018, [https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2018/10/6\\_5039\\_LC\\_Online\\_Comms\\_Report\\_FINAL\\_291018\\_WEB.pdf](https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2018/10/6_5039_LC_Online_Comms_Report_FINAL_291018_WEB.pdf)

**5.7.** #TOXICTWITTER - VIOLENCE AND ABUSE AGAINST WOMEN ONLINE Amnesty International 2018 (section 6)  
<https://www.amnesty.org/download/Documents/ACT3080702018ENGLISH.PDF>

**5.8.** National stalking awareness week 2019 <https://www.suzylamplugh.org/national-stalking-awareness-week-2019>

**5.9.** <https://www.facebook.com/ukhomeofficegov/videos/cyberstalking-helpline/469708197238883/>

**5.10.** <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2019/tackling-online-harassment.pdf>