

<b>Institution:</b> Abertay University		
<b>Unit of Assessment:</b> 4 - Psychology, Psychiatry and Neuroscience		
<b>Title of case study:</b> Improving police practice in the investigation and search for missing people		
<b>Period when the underpinning research was undertaken:</b> 2014-2019		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name:</b>	<b>Role (e.g. job title):</b>	<b>Period employed by submitting HEI:</b>
Penny Woolnough	Senior Lecturer	2014-present
<b>Period when the claimed impact occurred:</b> 2014-present		
<b>Is this case study continued from a case study submitted in 2014?</b> No		
<p><b>1. Summary of the impact</b></p> <p>Our research has made a substantial contribution to the practice of law enforcement investigating and searching for missing people.</p> <p>Research led by Dr Woolnough has systematically examined missing person behaviour leading to new knowledge that has impacted on operational practice and procedures in the UK, Australia, Canada, and Sweden via:</p> <ul style="list-style-type: none"> <li>(a) implementation of behavioural profiling guidance</li> <li>(b) delivery of behaviour changing training</li> <li>(c) provision of case-specific profiling</li> </ul> <p>The work has significantly contributed to improving investigation and searches for vulnerable missing people, ensuring rapid location and protection from harm (including saving lives).</p>		
<p><b>2. Underpinning research</b></p> <p>Police in the UK receive approximately 300,000 reports of missing children and adults per year. While most are found alive, some have fatal outcomes from accidental death, suicide, abduction, and homicide. The immense challenge of responding to every reported missing person consumes approximately 13% of all police time, and costs quickly escalate to thousands/millions of pounds for cases involving specialist officers and equipment. More widely, an average of 12 people is affected by every incident - for families especially, this is a period of ambiguity and intense pain. Consequently, resourcing the demands of and maximising the chances of safely locating missing children and adults is one of the biggest challenges facing the police service.</p> <p>In response to this, Dr Woolnough has undertaken ground-breaking research across three studies to develop and implement the first normative behavioural profiling guidance for police-led missing person investigations along with accompanying training/materials and bespoke data-informed case support for complex/suspicious cases. Collectively, this work has had substantial impact on police missing person policy and practice, and wider search and rescue agency practice.</p> <p>Conducting the first, large scale content analysis of police-recorded missing person cases in the UK, Woolnough and colleagues identified an age-graded / developmentally informed basis for missing children's behaviour whereby age is a critical discriminating factor in determining:</p>		

whether a child is intentionally missing, how far they travel, the nature of the place(s) they visit and the timescales in which they will be located. Essentially, as age increases, distances travelled and timescales to locate increase [3.1, 3.2]. In a similar manner, for missing adults the central importance of mental health diagnosis / cognitive function (i.e., dementia) has been identified [3.3] as a predictor for outcome characteristics.

A second study extended this work to specific analysis of suicides in recognition of the challenges associated with preventing and responding to suicide, and the fact that missing persons at risk of suicide are a high-risk group. Content analysis of suicides/undetermined deaths allowed Woolnough and colleagues to identify predictive variables (e.g., suicide attempts, previous missing episodes) to 'predict' outcome characteristics (e.g., likelihood of suicide; distance travelled, where they will be located, and timescales in which they will be traced/found) [3.4].

Collectively, the results of these two studies formed the basis for the first normative behavioural profiling guidance for police-led missing children and adult cases, including suicide-specific profiles and a suicide profiling checklist. Data collection and initial descriptive operational reporting of this work was conducted while Dr Woolnough was employed within the Scottish Police Service (Grampian Police, 2000-2014). Since joining Abertay University in 2014, Dr Woolnough has developed an academically informed theoretical basis for her research, statistically tested her data and published her work. The intellectual framework developed at Abertay has underpinned her subsequent research in the field.

To complement her normative behavioural profiling research, Dr Woolnough has also conducted research into the voices of missing people themselves. Working with colleagues at Liverpool University, Dr Woolnough led an analysis of case-closure interviews completed by the police with located individuals, allowing the proposition of a typological approach for investigations. From this work, a significant association was found between age, occupational status, whether the adult had any mental health issues, the risk level assigned to the missing person; and their dominant behavioural theme (escape, dysfunctional; unintentional) [3.5].

The findings from this research were the first step in the development of a standardised checklist for a missing person investigation with implications for how practitioners prioritise missing adults, as well as interventions to prevent individuals from going missing. The findings from the study have also been incorporated into key training materials for investigators.

### 3. References to the research

- 3.1 Woolnough, P.** and Cunningham, S. (2020). Developmental perspectives on the behaviour of missing children. *Psychology, Crime and Law*.  
<https://doi.org/10.1080/1068316X.2020.1837130>
- 3.2 Woolnough, P.** and Gibb, G. (2016) 'Geography of missing children' in K. Shalev-Greene and L. Alys (eds.) *Missing Persons: A Handbook of Research*. Abington: Routledge.  
*Can be supplied by the HEI on request.*
- 3.3 Woolnough, P.,** Alys, L. and Pakes, F. (2016) Mental health issues and missing adults, in K. Shalev-Greene and L. Alys (eds.) *Missing Persons: A Handbook of Research*. Abington: Routledge.  
*Can be supplied by the HEI on request.*
- 3.4 Woolnough, P.,** Magar, E., and Gibb, G. (2019). Distinguishing suicides of people reported missing from those not reported missing: retrospective: Scottish cohort study. *British Journal of Psychiatry (Open)*. <http://dx.doi.org/10.1192/bjo.2018.82>.

**3.5** Bonny, E., Almond, L. and **Woolnough, P.** (2016). Adult missing persons: Can an investigative framework be generated using behavioural themes? *Journal of Investigative Psychology and Offender Profiling*. 13(3), 296-312. <https://doi.org/10.1002/jip.1459>

#### 4. Details of the impact

The research programme has impacted on all UK police forces as well as law enforcement agencies in Australia, Canada and Sweden, reducing harm and saving lives by dramatically changing operational practice and procedures through the use of evidence-based guidance and associated training.

When someone is reported missing, police initiate a parallel response consisting of:

*i) physically searching* for the person (e.g., searching woodland; using dogs to follow trails) and *ii) investigating* what may have happened to them (e.g., interviewing witnesses, reviewing CCTV footage).

Our work has directly impacted both aspects.

##### ***i) Impact on searches***

There are approximately 900 licensed Police Search Advisors (PoSAs) in the UK who plan and manage missing person searches. The principal doctrine for their work is the Police Search Management Manual which specifies all PoSAs should ensure that “*at a minimum*” they use the guidance based on Dr Woolnough’s research.

Following implementation of this manual (prior to this REF period), all PoSAs are required to be trained in Dr Woolnough’s behavioural profiling guidance in order to become licensed and to re-licence (every 2 years). Woolnough contributed research-led core materials and data for this purpose and in the current REF period 700 new PoSAs have been trained and 840 re-trained **[5.1]**.

An online survey (conducted during the current REF period) of all UK PoSAs revealed that:

- a) 94% used the learning during search planning
- b) 88% used it frequently or very frequently in the last 12 months
- c) 83% state it is the most important aspect or a key aspect for search planning

PoSAs reported leading 21.36 searches per year on average, confirming that the work has impacted on approximately 111,685 missing person searches within the current REF period **[5.1]**.

Feedback from officers has shown that the research contributes substantially to missing person searches and has helped to save lives:

*“<the Data> is referred to on virtually every missing person search.”*

*“I simply use it every time as it really focuses my mind. It gives me clear guidelines and I like the structure. It is accurate.”*

*“I’ve used that <work> operationally countless times and it’s the best piece of police research I’ve ever seen. I remember I used it once to guide my strategy on searching for an old lady with dementia who went missing. Using the advice in the report we found her. She had fallen into a hedge. If I hadn’t used the advice in the report we wouldn’t have found her. It was a freezing night and she would certainly have died.”*  
(Police Inspector, Operational Response, Dalkeith, Police Scotland). **[5.1]**

In Canada, the Ottawa Police Service recently incorporated Dr Woolnough’s research findings into their Standard Operating Procedure for Search Managers and associated training for Search Managers (n=24). Throughout 2020, the research was used to guide 27 searches for

depressed individuals and 19 searches for persons missing with dementia and resulted in individuals being located alive when they would otherwise most likely have been found later / deceased [5.2].

In Australia, Dr Woolnough's research on the geo-spatial and psychological factors affecting searches has been published on the Australian Federal Police's National Missing Persons Coordination Centre's (NMPCC) website and made directly available to all sworn police officers (n=3258) to inform their operational response [5.3].

### **ii) Impact on investigations**

Prior to this REF period, National Guidance on the Management, Recording and Investigation of Missing Persons established standards for the effective investigation of missing persons and stipulates that all UK police forces should utilise Dr Woolnough's behavioural profiling guidance for advice on the behaviour of missing people.

Following the creation of a single national police force in Scotland, a Missing Person Strategy (2015-2018) was produced. This was underpinned by four complimentary operational documents:

- i) Missing Person Investigation Standard Operating Procedure
- ii) Search Standard Operating Procedure
- iii) Missing Person Additional Investigative Considerations
- iv) Missing Persons Aide Memoir

Key learning from across all aspects of Woolnough's research was incorporated into each of these documents and, thus, impacts on the operational responsibilities and actions of all operational police offices (approx. 17,000 FTE police officers) across an average of 22,100 missing person investigations per year (154,700 investigations in the current REF period) [5.4].

Following the implementation of these national procedures, there was recognition of a need for more specialist guidance and training for Senior Investigating Officers (SIOs); the most senior detectives who lead serious crime investigations including high risk missing person cases. In response to this, Woolnough created research-led core materials in 2015 which she then used to deliver expert-led training to SIOs at the Scottish Police College. In this REF period, approximately 300 SIOs have been trained. Behaviour change forms (both at the time of training and at follow-up 6 months later) indicated that 100% of the participants rated the training as useful and impacting on their operational practice [5.5].

*"<I have used the training> during SIO reviews of High Risk Mispers [missing persons] in our area. The work done by yourself...is used during all our High Risk Misper Enqs...the work has aided the transformation in the way that we deal with missing person enquiries." (Detective Inspector, Reactive CID).*

*"The training has made me ensure mental health aspects are covered more thoroughly." (Detective Inspector, Child Abuse Team).*

*"I use a more analytical approach to enquiry, to lead operational actions". (Detective Inspector, Greater Glasgow)*

*"Scenario based guidance and suicide assessment checklist enhanced my knowledge and I take a greater appreciation of the importance of psychopathology in initial information" (Detective Inspector, Clydebank).*

Woolnough is the only registered forensic psychologist in the UK to directly inform the investigation of and search for missing people through the provision of data-driven behavioural investigative advice for high profile long-term missing person investigations. She is registered on the National Crime Agency Expert Advisors Database and since 2014 has provided Behavioural

Investigative Advice to 15 high profile cases. In all these cases, the commissioning officers reported that the advice made a significant contribution to their decision making and investigation actions [5.6].

*“We are very aware that XXXX’s psychological state is crucial in determining what has happened to her, and it was very useful to note that your own findings based on statistical data and profiling methods provided the same likely outcomes as our evidence. We were/are striving to identify/narrow our search parameters, so your assertions that XXXX would likely travel on routes she is familiar with or has researched extensively added significant focus to our enquiries...the officers on the enquiry have had their eyes opened to the potential benefits such a profile can bring.”* (Detective, Edinburgh, Police Scotland).

## 5. Sources to corroborate the impact

- 5.1 Testimonial from Paul Duffy, Area Commander, Police National Search Centre, College of Policing UK.
- 5.2 Testimonial from Sergeant Eli Edwards, Emergency Services Unit Coordinator, Ottawa Police Service, Canada.
- 5.3 Testimonial from Trish Halligan, Team Leader, National Missing Persons Coordination Centre, Australian Federal Police, Australia.
- 5.4 Testimonial from Chief Inspector Colin Convery, Head of National Missing Persons Unit, Police Scotland.
- 5.5 Testimonial from Detective Superintendent John Wyllie, Specialist Crime Division, Police Scotland.
- 5.6 Testimonial from Anthony Osborne, UK Missing Person Advisor, National Crime Agency, UK.