

Police Science

Australia & New Zealand Journal of Evidence Based Policing
www.anzsebp.com





W.E. FINANCE GROUP

We are a brokerage service with over two decades of banking and finance experience. We have acquired detailed knowledge around which finance products are most suited to specific individual needs and are committed to helping you.

We specialise in getting loans approved for clients and can also coordinate the efforts of your solicitor, estate agent and accountant if necessary, so all you have to worry about is finding the right property.

If you have ongoing finance requirements after moving to your new home or any other finance matters, we will be more than happy to help as we are keen to build long-term relationships with our clients.

Brokerage Services include; Housing Loans, Personal Loans, Commercial Loans, Construction Loans, Equipment Finance, Vehicle Finance, Business Loans, Short Term Loans, 1st & 2nd Mortgages, Caveat Loans, Trade Finance, Debtor Funding and Removal of bad Credit.

www.wefinancegroup.com.au
0451 898 898 or 02 9567 0643
wafa@wefinancegroup.com.au

W.E. Finance Group Pty Ltd is registered with the Australian Securities and Investments Commission (ASIC) Credit licence number 334759.
W.E. Finance Group Pty Ltd is also a proud member of the Mortgage and Finance Association of Australia (MFAA) member number 539746 and the Australian Financial Complaints Authority Limited (AFCL) member number 77557 Dip/17050315.



Contents

Foreword — David Cowan & Simon Williams	2
ANZSEBP Awards - Call For Nominations	7
UKSEBP Update - Alex Murray	8
Thames Valley Police Journal - Katy Barrow-Grint, Superintendent	9
ASEBP Research Brief	10
CANSEBP - Exec Update	12
Armed Response Team Trial: Executive Summary — Dr Robert Taylor	14
Coercive controlling behaviours — Taaka, S. S., Jolliffe Simpson, A. D., & Polaschek, D. L. L.	19
High risk victims of intimate partner violence - J. Tomkins, A. D. Jolliffe Simpson, A., & Polaschek, D. L. L.	22
Predictive Ability of New Zealand Police's Family Violence Risk Assessment Instruments - J. Tomkins, A. D. Jolliffe Simpson, A., & Polaschek, D. L. L.	24
Identify opportunities to prevent or reduce youth offending - Kay Lancefield	27
Prevent the loss and theft of Firearms in Queensland - Senior Sergeant Darren Green	34
NZ Police Fleeing Driver Research Programme - Kate Mora & Ryan Jones	38



HOUSING (SIL)
SHORT & MEDIUM TERM
ACCOMODATION
COMMUNITY ACCESS
IN HOME SUPPORTS
TRANSPORT
SUPPORTED HOLIDAYS
GROUP ACTIVITIES
CLEANING
GARDEN
EDUCATION
WORK



07 4642 1010
support@peopleofpeony.com
www.peopleofpeony.com



Registered NDIS Provider

AUSTRALIA'S 'FAVOURITE'
NDIS DISABILITY 'SUPPORT 'SERVICE

Vol. 5, No. 2 Summer Edition 2020-21

Published by the Australia & New Zealand Society of Evidence Based Policing

ISSN: 2206-5202

Editor

Simon Williams MSt (Cantab)
Acting Director, Evidence Based Policing Centre, New Zealand Police

Executive Committee 2020

Superintendent David Cowan (President), Victoria Police
Deputy Chief Executive Mark Evans (Vice President) New Zealand Police
Superintendent Richard Watkins (Treasurer) Victoria Police
Acting Director Simon Williams (Secretariat) New Zealand Police
Assistant Commissioner Paul Pisanos (Exec Member) New South Wales Police
Director, Innovation and Research Milan Orgad (Exec Member) ANZPAA
Deputy Director Stuart Bartels (Exec Member) AIPM
Deputy Commissioner Tracy Linford (Exec Member) Queensland Police
Assistant Commissioner Sharon Huey (Exec Member) Australian Border Force
Superintendent Tony Alderman (Exec Member) Australian Federal Police
Assistant Commissioner Mark Mewis (Exec Member) Tasmania Police
Professorial Research Fellow Lorraine Mazerolle (Exec Member) University of QLD
Partner in Charge, Enterprise Transformation Stef Bradley (Exec Member) KPMG
Research Manager Anthony Morgan (Exec Member) AIC
Deputy Commissioner Colin Blanch (Exec Member) Western Australia Police
Commander Daniel Bacon (Exec Member) Northern Territory Police
Assistant Commissioner Phil Newitt (Exec Member) South Australia Police

Publisher

///emergencymedia

1st Floor, 607 Bourke Street, Melbourne Vic 3000.

Direct all advertising enquiries to 1300 855 444.

Print Post approved: 100016068

Frequency Summer and Winter

Notes for contributors

Articles for consideration should in the first instance be sent to the editorial team at anzsebp@gmail.com for initial consideration.

They should be no more than 6000 words long (not including references) and be Harvard referenced.
Articles should be based upon the aims and objectives of the journal and the evidence based policing approach.

Contributions

Articles on issues of professional interest are sought from Australasian police officers and police academics. Articles are to be electronically provided to the Secretariat, simon.williams@police.govt.nz. Articles are to conform to normal academic conventions. Where an article has previously been prepared during the course of employment, whether with a police service or otherwise, the contributor will be responsible for obtaining permission from that employer to submit the article for publication to *Police Science*. Contributors are expected to adhere to the Journal's publishing guidelines. These guidelines are available in this journal. All papers are peer-reviewed.

Disclaimer

While every effort is made to check for accuracy, the Publishers or Editors cannot be held responsible for the content, errors or omissions inadvertently published in articles and advertisements in *Police Science*. Views expressed by contributors are not necessarily those of ANZSEBP, the Editors or the Publisher. No responsibility for loss occasioned to any person acting, or refraining from acting, as a result of material in this publication can be accepted.

Copyright

All rights reserved. No part of this publication may be reproduced or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or be stored in any retrieval system of any nature, without written permission of the copyright holder and the Publisher, application for which in the first instance should be made to the Publisher for ANZSEBP.

Membership comprised from: • State Police • Australian Federal Police • Australian Institute of Police Management (AIPM) • New Zealand Police • Australia and New Zealand Police Advisory Agency • Universities

We're going to start this foreword with three short statements that we hope resonate with you:

- We must know what works.
- We must know what doesn't work.
- We must know what looks promising.

Those three short statements describe an evidence based approach, in our case an evidence based approach to preventing and reducing crime and harm. They sound simple enough, almost as though we can step into an evidence based world where we turn on the tap of knowledge and let the evidence flow. We all wish it was that simple, but the reality is far more challenging. Our narrative in policing hasn't always been underpinned by evidence; tradition rather than the evidence base has often underpinned the way our policy has been developed, our practices defined, and our performance measured.

However, from Victoria to New Zealand, we are now weaving our policing intent with the critical lived experience of our people who deliver policing and with an evidence based problem oriented approach aimed at building knowledge that underpins deployment, problem solving and our decision making. Why is this important? Because the evidence base tells us that better decisions lead to better outcomes for our communities. This growth in knowledge is demonstrated by the breadth and depth of evidence we have shared with you in this, and previous editions of Police Science and in many other widely available online and in-print resources that tell our evidence stories. We'll come back to sharing and storytelling later on.

As we consume more and more evidence created at home and overseas, it would be easy to assume that what works in one Police service might work in another, but we know this doesn't always hold true. For example, just because precise, targeted, time-bound deployment of our people to places with their own criminal careers (aka Hot Spots Policing) prevents crime and harm in Perth, Western Australia doesn't hold that it will work in Ipswich, Queensland. Careful and well thought through replication of police led or partnered interventions showing promise or working elsewhere are the order of the day to test whether we can apply the evidence base to our context.

It's not only what works that important. Just as critical is the how an intervention is delivered, where it works, how to do it and how much it costs. Enter stage right the EMMIE framework (Johnson, Tilley, Bowers, 2015; see also www.whatworks.college.police.uk). This tool kit was developed to help crime reduction practitioners and decision makers assess different interventions on their impact and strength of evidence. If you've never seen or used this resource, we highly recommend you take a look.

You'll be familiar with the 'Triple-T' approach to Evidence Based Policing (Sherman, 2013); Targeting people and places who cause or suffer the greatest harm; Testing current practice and policy against new or amended approaches and Tracking not only our outputs but the outcomes between the old and the new. The 'three T's' have a new friend, another 'T' who wants to share what's happened – meet

the 4th 'T' of Evidence Based Policing, Telling. This is arguably one of the most important things we can do, and one which Police Science is proud to contribute towards; that of telling our story when we conduct research in policing, wherever it lies on the spectrum. Walk into any parade room or police office in any jurisdiction and the room will be filled with stories of our brave and courageous response to critical incidents, these stories bind us together remaining with us throughout our careers. However, we would argue that we need to add to these important lived experience stories with a new narrative, one that moves us to a place where learning through testing is the cultural norm.

One that tells of the time we tested (not tried) something new and it failed, so we tweaked things and tested it again learning not only what works but how and where it works. Moving to a future state where we are evidence based by design rather than default requires the evidence base of what works to be shared – that's a responsibility we all share no matter whether you are testing a Problem Oriented Policing approach to a local issue or running a large scale randomised control trial (which we highly recommend you do!). If you are doing either of these things and everything in-between, we warmly invite you to submit a short 2000 word write up to our editorial team anzsebp@gmail.com.

If you want to read, listen or watch a selection of key papers in Evidence Based Policing try these links:

1. Reducing Repeat Offending Through Prosecuting Less. (Cowan et al, 2019)

<https://link.springer.com/article/10.1007/s41887-019-00040-0>

2. The Rise of Evidence Based Policing; Targeting, Testing and Tracking (Sherman, 2013)

<https://cebcp.org/wp-content/evidence-based-policing/Sherman-TripleT.pdf>

3. A Tipping Point for totally Evidence Based Policing; 10 Ideas for Building a Totally Evidence Based Police Agency (Sherman, 2015)

<https://journals.sagepub.com/doi/abs/10.1177/1057567715574372>

4. Policing in America Needs to Change; Trust me, I am a cop (Mitchell, 2014) Ted Talk.

https://www.youtube.com/watch?v=tQbEB_x3Sn8

5. UK Society For Evidence Based Policing. 10 Challenges for Policing. (Murray, 2021)

<https://www.sebp.police.uk/2021-virtual-conference>

6. Professor Jerry Ratcliffe; In this video, Jerry Ratcliffe introduces and explains the evidence hierarchy for policy decision-making.

<https://www.reducingcrime.com/video>

7. Jerry Ratcliffe. Reducing Crime Podcast. Jerry interviews retired Deputy

Commissioner Kevin Bethel and discusses the importance of data.

<https://soundcloud.com/user-780649270/24-kevin-bethel>

8. Global Collaboration of Societies of Evidence Based Policing; Policing Family Harm, International Perspectives on the Response to COVID19.

https://www.youtube.com/watch?app=desktop&v=sMLfo4jJ_uQ

9. Australia and New Zealand Society of Evidence Based Policing

<https://www.anzsebp.com/>

10. Evidence Based Policing and Police Legitimacy; University of Queensland and Queensland Police Service.

<https://www.youtube.com/watch?v=Dc6SQrbMfjw>

Yours in Evidence Based Policing,



Superintendent David Cowan MSt (Cantab)
President, ANZ SEBP



A/Director Simon Williams MSt (Cantab)
Secretariat, ANZ SEBP



The McGrath Foundation makes life that little bit easier for families experiencing breast cancer, by placing specialist McGrath Breast Care Nurses wherever they're needed in Australia.



Donate today at www.mcgrathfoundation.com.au



headspace is the National Youth Mental Health Foundation, providing early intervention mental health services to 12-25 year-olds. By ensuring help is accessed in early stages of young people's lives and providing a holistic model of support, **headspace** provides a safe space where they can get their mental health and wellbeing back on track.

headspace services cover four core areas: mental health, physical health (including sexual health), work and study support and alcohol and other drug services. Services are confidential, youth friendly and free or low cost. Young people and their families can access services face-to-face at one of 98 **headspace** centres across which can be located Australia at www.headspace.org.au, or via **eheadspace** – a national online and telephone counselling service at www.eheadspace.org.au.

Over the past 10 years, **headspace** has proudly provided over 1.8 million services through centres, online and over the phone, helping over 310,000 young people across Australia. **headspace** wants to ensure young people aged 12-25 have access to youth friendly mental health services, no matter where they live.

Alongside **headspace** centre, online and telephone support, specialised services are provided in the following areas:

- **headspace** School Support – a suicide postvention program, which assists Australian school communities to prepare for, respond to and recover from a suicide.
- Digital Work and Study Service – a dedicated team assisting young people aged 15-24 in education and work options.
- **headspace** Youth Early Psychosis Program – a program focusing on early intervention, aiming to improve the lives of young people, and their families, who are affected by psychosis.

HEADSPACE DONATIONS AND FUNDRAISING

There are many ways to support **headspace** and the work carried out in providing mental health and wellbeing support, information and services to young people and their families across Australia. **headspace** has helped hundreds of thousands of young people get their lives back on track and your support will assist us with our work.

Any donation generously provided to **headspace** goes towards community engagement and awareness, which can be specifically given towards a local centre or to National Office.

Donations to **headspace** National Office, ensures the promotion of the importance of seeking help, to break down stigma associated with mental health issues and to make sure every young person across Australia, as well as their friends and family, knows there is help available.

You can find out more about donations and fundraising through the 'Get Involved' page at www.headspace.org.au

SEEKING HELP

Getting support can help a young person to keep on track at school, study or work, as well as personal and family relationships. The sooner help is received, the sooner things can begin to improve.

headspace can help any young person aged 12-25 years-old, a family member or friend wanting to seek information on youth mental health.

These are just some of the reasons someone may seek help from headspace:

- If someone is feeling down, stressed or constantly worrying
- If someone doesn't feel like themselves anymore
- If someone isn't coping with school/uni/work or finding it difficult to concentrate
- If someone is feeling sick or worried about their health on alcohol or other drug use
- If someone has questions about, or wants to cut down identity or relationships
- If someone wants to talk about sexuality, gender
- If someone is having difficulties with family or friends
- If someone is concerned about sexual health or wants information about contraception
- If someone is being bullied, hurt or harassed
- If someone is worried about work or study or having money trouble

DID YOU KNOW?

One in four young people have experienced a mental health issue in the past 12 months – a higher prevalence than all other age groups. Alarming, suicide is the leading cause of death of young people, accounting for one third of all deaths.

Adolescence and early adulthood is a critical time in a person's life, with 75 per cent of mental health disorders emerging before the age of 25.

Male volunteers URGENTLY NEEDED to help Kids living with cancer.

Boys living with cancer need male role models to help with their development and confidence at camps which involve everything from rolling in mud to laser tag.

"You'll change lives by making a kid living with cancer smile and laugh. You'll make life-long friends with other volunteers who are selfless, funny and inspiring."
a Camp Quality volunteer



**CAN YOU HELP?
or know someone who can?**

campquality.org.au/volunteer or 1300 662 267

CALL FOR NOMINATIONS

Distinguished Police Scientist Award

This annual award recognizes a member of the ANZSEBP who is an innovative law enforcement practitioner who is central to the implementation of a high quality program of work that advances Evidence Based Policing in their agency. These leaders of evidence-based policing not only help make high-quality police scholarship possible but also advance significant reforms in policing by utilizing science in their decision making.

- Nominees must be or have been **a member of a law enforcement agency**, either as a sworn officer or civilian employee; and
- Nominees must have been **central to the implementation of a documented rigorous scientific evaluation** in their affiliated agency. Such evaluations can be conducted for various interventions, policies, or practices and include a wide variety of outcomes (i.e., crime reduction, improvement in citizen satisfaction, reduction of fear, improvements in police legitimacy, etc.); and
- Nominees must show a **record of incorporating and translating evidence-based practices in their agency**. These practices may include implementing strategies that have been shown to be effective in reducing and preventing crime or using practices supported by research that address fear of crime, police legitimacy, internal accountability, and other law enforcement concerns. Such a record of practice might also include greater incorporation of science and scientific processes in decision making or training.

Selection decisions are made by the ANZSEBP Management Committee.

The Award winner will receive: free registration at the annual SEBP conference, a speaking role at the SEBP conference, an award plaque, free subscription to the Journal of Experimental Criminology for one year, and a published interview about his/her accomplishments to appear in Police Science.

To nominate for these awards please email anzsebp@gmail.com who will provide a nomination form for completion.

Outstanding Police Experiment Award

This award recognizes a single research project that contributes significantly to policing science. To be eligible a study must have been conducted within the last five years.

- Nominees can be individuals or teams.
- The study must be an impact evaluation that assesses the effectiveness of a policing intervention.
- A policing intervention is defined as some kind of a strategy, technique, approach, activity, campaign, training, directive, or funding/organisational change that involves police in some way (other agencies or organisations can be involved). Police involvement is broadly defined as police initiation, development or leadership where police deliver or implement the intervention or where police are recipients of the intervention. We will also

consider interventions that are related, focused or targeted to police practices.

- The project must use randomised experimental (e.g., RCTs) and quasi-experimental evaluation designs with a valid comparison group that does not receive the intervention. We will accept designs where the comparison group receives 'business-as-usual' policing, no intervention or an alternative intervention (treatment-treatment designs) and quasi-experiments that control the assignment of cases to treatment and control groups (regression discontinuity), match the characteristics of the treatment and control groups (matched control), statistically account for differences between the treatment and control groups (designs using multiple regression analysis), or provide a difference-in-difference analysis (parallel cohorts with pre-test and post-test measures). Single group designs will not be considered. The following designs will be considered:
 - Randomized Controlled Trials
 - Meta-analyses
 - Cross-over designs
 - Regression discontinuity designs
 - Designs using multivariate controls (e.g., multiple regression)
 - Matched control group designs with or without pre-intervention baseline measures (propensity or statistically matched)
 - Unmatched control group designs with pre-post intervention measures which allow for difference-in-difference analysis
 - Short interrupted time-series designs with control group (less than 25 pre- and 25 post-intervention observations)
 - Long interrupted time-series designs with or without a control group (≥25 pre- and post-intervention observations)
 - Unmatched control group designs without pre-intervention measures where the control group has face validity
 - Raw unadjusted correlational designs where the variation in the level of the intervention is compared to the variation in the level of the outcome
 - Treatment-treatment designs

Selection decisions are made by the SEBP Executive Committee.

The Award winner (or winning team) will receive: free registration at the annual SEBP conference, a speaking role at the SEBP conference, an award plaque, free subscription to the Journal of Experimental Criminology for one year, an invitation to publish the project results in Police Science.

To nominate for these awards please email anzsebp@gmail.com who will provide a nomination form for completion.

Key Dates

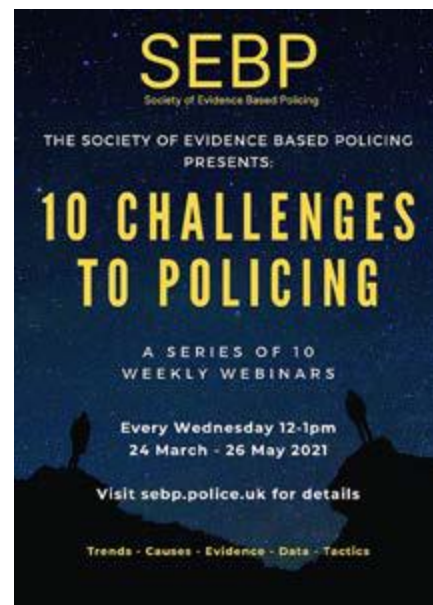
Nomination Opens:	1 April 2021
Recipient Notification:	1 June 2021



Alex Murray Commander, Metropolitan Police, Specialist Crime

Commander Alex Murray graduated from Birmingham University in 1996 and joined West Midlands Police where he worked in CID and uniform roles in the cities of Birmingham, Coventry and Wolverhampton. In 2008, he graduated from Cambridge University, with a Masters degree in Criminology. His thesis developed the understanding of police legitimacy within Muslim communities. He is passionate about involving the community in reducing crime and has led West Midlands Police on preventing violent extremism.

He is the founder, and currently Vice Chair, of the Society of Evidence Based Policing and has introduced randomised control trials into West Midlands Police as a means of understanding what works in reducing harm and providing value for money. In 2014, he received the Superintendents award for Excellence in Policing and has been recognised by George Mason University's Centre for Evidence Based Policing. He is a visiting scholar at Cambridge University, has been associate director of the Cambridge Indian Police Service Training Programme and was part of the UK National Disaster Victim Identification Team. Alex now serves with the Metropolitan Police following a transfer there in 2019.



It's always a pleasure to provide our colleagues in the Southern Hemisphere with updates on activity around the UK Society of Evidence Based Policing. I'd like to take this opportunity to talk about this year's Evidence Based Policing Conference. We aim to examine 10 challenges facing policing over 10 weeks.

It is a series of free webinars between 12 and 1 pm every Wednesday from 25th March broadcast on YouTube and Twitter. The flyer is below. There is a mixture of professional researchers and police officers presenting on areas like public violence, domestic violence, ways we think as police officers or policing in schools.

The Society of Evidence Based Policing aims to see policing using and producing the best evidence of what works, and we would encourage those watching the webinars to pass on what they have heard. It is also an opportunity for continuous professional development. It would be great if every police service was represented so please encourage your staff to consider registering and engaging with the speakers.

You can register here and then a link will be sent to you for the conferences:

<https://www.sebp.police.uk/2021-virtual-conference>

If there are any queries our secretary Annabel Straw at Annabel.Straw@gmp.police.uk.

Alex Murray OBE
Chair: Society of Evidence Based Policing
Met Police Commander: Specialist Crime



Authored by **Katy Barrow-Grint**, Superintendent, Thames Valley Police.

Twitter: @ktbg1

The TVP Journal is the product of an innovative idea to share the excellent academic work of officers and staff in TVP. This ensures continuous improvement and development of the public sector through an evidence-based approach – one that would be easily transferable to other public and private sectors.

The Journal idea started when Superintendent Katy Barrow-Grint, from Thames Valley Police, completed her Master's degree in Police Leadership & Management at Warwick Business School. Her dissertation focussed on domestic abuse attrition rates and temporal sequencing and was published in the OUP Journal 'Policing: a Journal of Policy and Practice'. While her research was available and read both nationally and internationally, Katy was concerned that she had no formal way of sharing her research findings with her colleagues and Police force. (Her article can be found here – <https://academic.oup.com/policing/article-abstract/10/3/250/1753499?redirectedFrom=fulltext>)

As such, the intention behind the TVP Journal was to provide officers and staff access to valuable policing research and recommendations and demonstrate that the force values the academic interests and research of our officers and staff. The ability for the Journal to allow officers and staff to undertake organisational learning and continually improve through evidence-based policing practices meant the Chief Constable and the force were very interest in, and supportive of, its development.

Since 2013, the Thames Valley Police have financially supported over 300 programmes of academic study for its officers and staff. The areas of study have been quite diverse and included criminology, law, criminal justice, financial crime, cybercrime, and counter terrorism research with support also given for professional studies in accountancy, professional development, and counselling.

The Journal has articles between 3,000 and 6,000 words, and accepts submissions in the following forms:

- Full article
- Research/practice note
- Comment/discussion piece

The intention of the TVP journal is twofold. Firstly, giving those completing formal academic work the opportunity to submit their work. And secondly, to make non-academic workplace research, such as those who were conducting trials in different aspects of policing across the Force, accessible to others in the organisation.

The TVP also wanted to formalise the submission process and therefore developed a peer review system, in which submitted articles were reviewed internally by a colleague with an academic qualification of a Master's degree or higher prior to publication. To ensure quality and consistency in publishing professional articles, TVP have over 30 police officers and staff who are peer reviewers. It is their job to identify high quality work that is suitable for wider publication and highlight opportunities for the organisation.

The initial journal was an internal publication only; however, after overwhelming feedback and interest from our staff, who were proud the organisation was taking interest in their professional research and sharing their research based work, the TVP decided to publish externally. On the 31st October 2018, the first issue became available for public viewing and launched the NPCC & APCC Partnership Summit in London. The Journal has been shared widely, reaching all parts of the UK and beyond, and would not have been possible without help from the Society of Evidence Based Policing and the College of Policing. We have also had excellent feedback from the Trinidad and Tobago in the Caribbean, the United States of America, Australia, Turkey, Iceland and beyond.

There are now 5 editions of the TVP Journal with the 6th due for publication in the winter of 2020.

The College of Policing was impressed with the TVP journal and decided to introduce a national publication in a similar vein. Supt Barrow-Grint is now also the Editor in Chief of this publication called 'Going Equipped'. The first edition of Going Equipped was published in August 2020 and can be fund here: <https://whatworks.college.police.uk/About/News/Pages/Going-equipped.aspx>

The TVP Journal can be found simply by googling 'Thames Valley Police Journal', or via the TVP website here:

<https://www.thamesvalley.police.uk/foi-ai/af/accessing-information/published-items?q=journal>

RESEARCH BRIEF

American Society of Evidence-Based Policing

February
2021

Proactive Police Response in Property Crime Micro-time Hot Spots: Results from a Partially-Blocked Blind Random Controlled Trial

This study evaluates the impact that a proactive police response has on residential burglary and theft from vehicle crimes in micro-time hot spots and examines whether displacement occurs. Micro time hot spots are defined as the emergence of several closely related crime incidents that occur within a one-to-two-week period and that are only a few minutes travel distance from one another. Microtime hot spots are essentially crime flare ups. They can occur in both low and high crime areas, are short lived and are identified with recent data (1 – 14 days).

Once the micro-time hot spot is identified the goal response of the police is to reduce subsequent crimes. Research shows that short term police response – specifically directed police patrol – is effective in reducing crime in long-term hot spots. The same types of interventions are evaluated in this study for short term hot spots.

This study was conducted with the Port St. Lucie, FL police department. Given there are no major malls or large business plazas in this area, two of the major crime problems are residential burglaries and thefts from vehicles. All micro time hot spots that included either or both crimes were considered for inclusion in the study. The micro time hot spots were randomly

assigned, as they were identified daily, to the treatment or control condition. Control hot spots did not receive the proactive police response.

To be considered a micro time hot spot, places had to have at least two residential burglaries or thefts from vehicles occurring within 14 days in a .20 mile radius, or at least three of these crimes within a .40 mile radius. Crime analysts finalised each hot spot using qualitative crime data. This included considering the victim/suspect relationship, method of crime, time of day, property taken, and other variables.

Once a hot spot was identified a bulletin was created that was sent to the researcher on the project, and they randomised the spot to treatment or control. Normally, all bulletins would be sent to all police officers, but for this study, the control spot bulletins were held back and only the treatment ones were made known to officers.

The proactive strategy required officers to drive into the micro hot spot for at least 10 – 20 minutes as many times as possible during their noncommitted time on shift. Officers were directed to not be stationary in one location, and rather drive around the micro hot spot to be seen.

RESEARCH BRIEF

American Society of Evidence-Based Policing

When possible, officers were instructed stop and talk with suspicious persons, make traffic stops, talk with residents about crime prevention, and leave a crime opportunity card when they observed vulnerable targets. The department required a minimum of 14 days directed patrol after a bulletin was released.

During the two years of the experiment, 217 hot spots were identified and randomly assigned. 114 of those were relocated to the treatment condition. Most response time (80%) was spent on directed patrol with no suspicious activity reported. Evaluations show that within 15, 30, 60 and 90 days after the police response there was significantly less crime in hot spots that received police treatment than in control hot spots.

Results indicated that the first 15 days after the bulletin was published accounts for most of the impact (79% less crime), followed by the second 15 days (67% less crime). There was no evidence of crime displacement in a .20 mile radius around the .40 radius of the hot spots.

Compared to most hot spot policing studies, this study has larger effect sizes, which may be a result of the nature of micro hotspots as they have a precise measurement and critical method in which crimes are linked together. Another reason may be due to the department's institutionalisation of the crime reduction strategy into their daily routine practice, rather than simply conducting the intervention for the sole purpose of the research. this study was a zero-control

experiment, unique to hot spots policing experiments.

Takeaway:

- Overall, the micro time hot spots policing intervention had large crime reduction effects that lasted throughout the follow up period
- There was no evidence of crime displacement
- Institutionalisation of this crime reduction strategy may have influenced the large effect sizes.

Over the past year, Can-SEBP has gone through tremendous change. Our founder, Dr. Laura Huey, has stepped down as executive director and from Can-SEBP for other pursuits, but has left the stewardship of the Society to a core group of advocates dedicated to moving Canadian evidence based policing forward. Can-SEBP has also gone through some restructuring and our Advisor Council has since been dissolved. We extend our gratitude to each of them for laying the foundation for Canadian evidence based policing, especially Dr. Huey for her visionary and tireless work.

Our future is bright as we reimagine our mission, which is now:

To empower Canadian police agencies to develop an internal capacity within their agencies to generate, use, and share high quality applied research to help inform evidence-based police practice in Canada.

Moving into 2021, work will be done to outline a new governance structure and begin to set forward new formal roles for familiar faces. Our new executive team includes (each with their new area of responsibility):

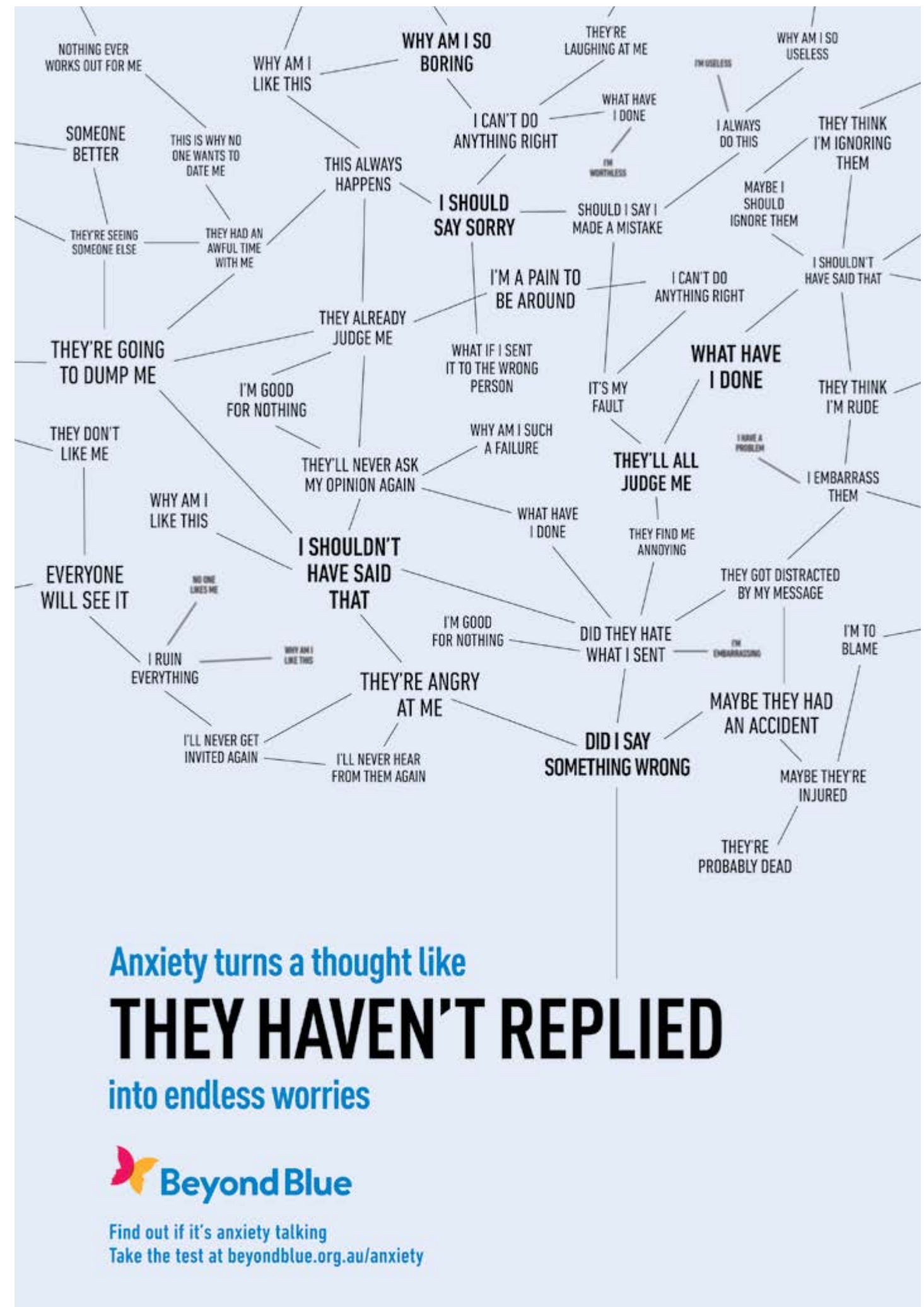
- Stan MacLellan (Durham Regional Police) - interim Chair
- Special Constable John Ng (Saskatoon Police Service) - Director of Operations
- Inspector Rich Johnston (Barrie Police Service) - Director of Research
- Sergeant Nick Bell (West Vancouver Police Department) - Director of Education
- Constable Maria Wright (London Police Service) - Team Lead for Education

While we're still seeking a Director of Communications, our 3 main flagship products - our newsletter, website, and Twitter (social media) platform will continue. Similarly, our highly anticipated Virtual Scholars program continues with respected mentors and new Scholars. We extend congratulations to Constable Jeremy Pearce (Delta Police Department) and Detective Constable Daniel Connelly (Guelph Police Service) as our incoming scholars. Likewise, we extend our sincerest appreciation to our esteemed mentors - Drs. Rylan Simpson and Martin Bouchard from Simon Fraser University. We're excited to see the amazing work you'll be engaging in.

Lastly, the new executive team is dedicated to focusing on building partnerships between Can-SEBP and other EBP organizations, police departments, and most importantly enhancing opportunities for academics and practitioners to work together.

We look forward to working with you all in 2021,

Can-SEBP Executive Team



Armed Response Team Trial: Executive Summary

Lead Author **Dr Robert Taylor, Evidence Based Policing Centre.**

Contributing Authors **Staff across the Evidence Based Policing Centre.**

Released by **Acting Assistant Commissioner Bruce O'Brien, Service Delivery.**

Reviewed by **Acting Director Simon Williams, Evidence Based Policing Centre.**

Acknowledgements

The authors would like to thank the following for their contributions to this report:

- The wider New Zealand public, who have given their feedback through the printed media, the Community Insights Survey, and the 'have your say' email address;

- AOS team members who took part in the trial, and provided feedback to the authors;

- PST, MRMs and AOS team members who took part in interviews and focus groups regarding the trial;

- Response and Operations Research and Evaluation (RORE) team, who provided data for the evaluation;

- Research First for facilitating the Community Insights Survey;

- The ART working group for their guidance;

- University of Waikato for their peer review of an earlier draft of this report;

- Communications Staff for their support of the trial; and

- Evidence Based Policing Centre (EBPC) for their support and guidance.

Introduction

New Zealand Police's Executive Leadership Board (ELB) approved a trial of Armed Response Teams (ARTs) across Counties Manukau, Waikato and Canterbury on 30 August 2019; an initiative intended to improve safety, and feelings of safety, among the public and Police. The trial ran for a period of six months and was monitored by an ART Working Group established by the New Zealand Police National Response and Operations Group and made up of representatives from across the organisation.

The Armed Response Team (ART) trial ended on 23rd April 2020. Police Commissioner Andrew Coster announced that ARTs would not be part of the New Zealand policing model in the future. The decision not to roll-out ARTs following the six-month trial was made based on preliminary findings from the trial evaluation, feedback received from the public, and consultation with community forum groups.

New Zealand Police values our relationships with the different communities we serve and delivers on the commitments we make to them. This means listening and responding to our communities and partnering with them to find solutions that work for both Police and our communities. The response teams do not align with the style of policing that New Zealanders expect.

Police's Evidence Based Policing Centre completed the full evaluation,

including data collected during the trial, public perceptions data, and the views of Police teams involved, as well as other relevant interested parties.

This report provides a summary of the framework and findings from the ART trial over the period 28 October 2019 (when ARTs became operational) to 23rd April 2020.

Evaluation Framework

The Evidence Based Policing Centre (EBPC) provides expertise in the development and application of evidence-based practice to drive improvements in policing. It was tasked with providing an evaluation of the ART trial independently from the National Response and Operations Group. The EBPC methodology and approach used in the preparation of this report has been independently peer reviewed, by the University of Waikato.

Evaluation of the ART trial focussed on the actual and perceived minimisation of risk to the public and New Zealand Police staff, while also assessing how ARTs were deployed and the tactics that were used. The evaluation adopted a mixed-method approach, drawing upon a range of quantitative and qualitative data. The core methods used included:

- Qualitative analyses of deployment data across districts and incidents responded to using unique 'End of Deployment' forms;

- Staff survey focussing on the real or perceived impact of ARTs on police safety;

- Staff survey focussing on the wellbeing of officers involved in, and supporting, ART deployment.

- Thematic analysis of written media, as an indirect measure of public opinion in order to identify themes and concerns from the public and community groups;

- A community insights survey to gauge wider knowledge of ARTs and their impact on trust and confidence in New Zealand Police;

- Internal focus groups with Police members across trial districts in order to examine perceptions and impacts of the trial within the operating environment;

- An overview of community feedback received through submissions made to New Zealand Police.

The evaluation focusses on quantifying, where possible, the actual and perceived minimisation of risk to the public and New Zealand Police staff, while also assessing how ARTs were deployed and the tactics that were used. It also considered, in a general sense, the wellbeing of general duties and ART members during the trial period. The core evaluation objectives were:

1. How were ARTs deployed and which tactics were used (Question 1 above);

2. What were the real or perceived impacts on officer safety in districts where ARTs were operating (Question 2 above);

3. What effect did the introduction of ARTs have upon general wellbeing in districts where ARTs were operating;

4. Was external trust and confidence impacted in districts where ARTs were operating (Question 3 above)?

Limitations

Before considering the main findings, it is important to identify and acknowledge those factors that limit the scope of the evaluation.

Due to limited timeframes there are several caveats to be outlined. First, minimal lead in time limited the scope of the evaluation, the tools that were developed, and the breadth of surveying. Accordingly, some opportunities were missed to engage with community groups and key stakeholders. Notably absent from the evaluation is a satisfactorily detailed section on public and community experiences. Further work will be undertaken following release of this report and will involve significant investment in community focus groups across the three trial districts.

Second, application of a comprehensive Evidence-Based approach (a targeting, tracking, and testing framework) was not achievable in the trial timeframes. Chiefly, the trial was implemented based on an observed operational capability gap. Accordingly, it lacked clear and quantifiable metrics against which performance could be monitored. Moreover, where measures could be identified, significant time constraints imposed strict limits on what could be reasonably baselined and measured. Finally, the results were further impacted by low response rates against some of the evaluation tools. This reflects the complex and demanding operational environment our people work in but makes it challenging to draw firm conclusions from this data.

A complete list of key findings, as they relate to the central evaluation questions, are provided in § Key Findings and Observations. A summary of the main findings is discussed next.

Summary of Main Findings

A number of key questions have been answered through this evaluation and are set out below:

How were ARTs deployed and which tactics were used?

In total, ARTs attended 8,629 incidents across the three trial districts. On average, it was found that 23% of all incidents attended by ARTs were classified as critical (Priority 1) incidents, with the bulk of the attendances classified as Priority 2 events (71%). It was found that the average emergency response time for all ART units was 8 minutes, though slightly longer response times were observed in Counties Manukau and Waikato which were likely an effect of deploying at times to incidents outside of their district and the geographical size of these Police Districts.

Firearms offences accounted for 2.6% of all incidents attended by ARTs. On average 56% of all firearms offences were coded as a critical incident. Firearm related demand did vary across the districts. In particular, firearms offences accounted for 6.6% of all incidents attended in Counties Manukau, compared to 3.5% of attendances in Canterbury, and 1.1% of attendances in Waikato. Accordingly, Counties Manukau ART were nearly two times more likely to attend

firearms related events than Canterbury ART, and over six times more likely than Waikato ART.

A quarter of all incidents attended by ARTs were 3T vehicle turnovers (25%) with a further 9% accounted for by 5K: Bail Checks. Notably, of all 3T and bail check events attended by team across the three ART districts, Waikato ART initiated 84% and 94% of attendances, respectively. Next to these, the most attended incidents were 5F family harm investigations, which on average accounted for 8.6% of all ART deployments.

Examination of end of deployment forms revealed that, on average, 67% of ARTs deployed in an Assist Role - i.e., roles requiring no use of special tactics. Instead, teams most often provided general support to frontline staff – which could simply be for safety and reassurance purposes – or the undertaking of general duties and prevention activities.

It was further discovered that ARTs self-deployed to incidents 66% of the time, on average. However, self-initiated deployments were, in part, explained by requests from frontline staff and incidents where minimal frontline units were available to attend. Specifically, it was found that while frontline requests accounted for 15% of all end-of-deployment submissions they accounted for 21% of self-initiated deployments reported by ART Team Leaders. ARTs also responded to incidents where there were minimal - or in some cases no - frontline units available, self-initiating to attend these incidents 77% of the time. In addition, it was found that approximately 10% of ART Role deployments reported through end of deployment reports likely prevented an AOS callout.

In addition to their primary roles data indicated that ARTs served a number of additional operational purposes. Through examination of Team Leader comments it was found that ART members provided medical or trauma care in approximately 2% (n=35) of all reported incidents. Evident also was that support from ARTs went beyond reassurance but that members also took the time to coach, mentor and instruct frontline staff.

Examination of use of force data revealed three critical findings. First, ART members used a reportable level of force on less than one percent (0.57%; n = 49) of all incidents attended. Accordingly, use of force by ART members was evidently rare. Second, ART members did not discharge a firearm at all. A total of five presentations were recorded: a Glock was presented on 3 occasions with an M4 Rifle presented on 2 occasions. Finally, TASER was the most common tactic used (52%; n = 29) though were only discharged on 2 occasions thereby indicating that TASER was predominantly used as a visual deterrent. Overall, the level of force applied by ART members tended to be toward the lower end of the tactical options spectrum. Statistically, Maori (53%; n = 26) and New Zealand Europeans (41%; n = 20) were represented in similar proportions when examining ART use of force data.

What were the real or perceived impacts on officer safety?

It is first noted that a formal impact assessment is not possible given the lack of comprehensive data available. Overall it was found that 82% of Public Safety Team (PST) officers surveyed generally perceived incidents as safer when ARTs were present, with 85% of ART members surveyed generally agreeing that they felt safer at the incidents they attended. However, it was also found that PST staff more strongly endorsed their perceptions of safety. Notably, it was found that 68% of PST staff strongly agreed that they personally felt safer at incidents where ARTs were in attendance, though only 47% of ART members responded similarly. Officers often

linked the availability of additional staff that were tactically trained and knowledgeable to their enhanced perceptions of safety and efficiency. Moreover, these factors appear to have influenced how incidents were perceived to be have been handled, with 83% PST officers noting that jobs were handled more efficiently with ARTs in attendance.

It was further found that de-escalation was not necessarily associated with safer and more efficient outcomes. Specifically, though 52% of PST staff surveyed agreed that that ARTs de-escalated incidents, 37% of officers neither agreed nor disagreed with this statement, with a further 10% generally disagreeing. Similarly, 56% of ART members generally agreed that the incident was de-escalated, though 41% of ART members surveyed neither agreed nor disagreed. Detailed analysis of the data suggests that a primary factor driving increased perceptions of safety was principally the availability of additional skilled frontline resources and highly trained personnel rather than the specific tactical options available through the ARTs.

What effect did the introduction of ARTs have upon general staff wellbeing?

It was found that wellbeing was generally good throughout the trial. Overall, both AOS/ART members and PST staff reported low to mild levels of burnout, psychological distress, and perceived stress, with fairly high levels of general wellbeing. Furthermore, it was found that ART/AOS members and PST staff reported decreasing levels of burnout over the course of the trial, relative to baseline. One possible explanation for this effect is a general uncertainty and anxiety around the pending changes prior to the initiation of the trial that abated once officers became familiar with their new roles.

However, it cannot be concluded definitively that the trial did not have some effect upon officer wellbeing. For example, specific changes in wellbeing may not necessarily manifest (early) along the small number of dimensions considered here, and some effects may have been missed because of this. It is also the case that the small sample size limits the ability to conduct meaningful analysis.

What impact did ARTs have upon external trust and confidence in trial districts?

A national survey undertaken in February 2020 spoke to 574 individuals about their understanding and support for ARTs. Overall, 72% of the participants surveyed nationally generally supported the ART trial, though support was split among those who strongly supported the initiative (38%) and those who simply supported the trial (34%). It was found that 7% did not generally support the trial. However, a sizeable proportion of individuals were ambivalent about the trial (14%) with a further 8% not knowing how they felt about it.

It was found that the deployment of ARTs increased trust and confidence in those who participated in the community insights survey. In total, 38% reported having increased trust and confidence in New Zealand police after learning about the ART trial, with only 10% reporting a decrease in trust and confidence. However, the majority of participants surveyed (52%) reported no change in their trust and confidence. Notably, those living in ART regions were more likely to support the trial (76%) than those living in non-trial districts (68%). Additionally, they reported having increased trust and confidence with New Zealand Police more often (41%) than those living in the rest of New Zealand (36%). Maori were more likely to feel less trust and confidence following the beginning of the trial. It was also found that those that typically had higher levels of trust and confidence more often reported increased feelings of trust, whereas those who had comparatively lower trust and confidence tended to

report decreases in trust.

Although the sample was nationally representative, the overall size of the sample was small (n = 574). Accordingly, the resolution of the data was low which has necessarily precluded reliable comparisons being made between different groups and limited the ability to generate deeper insights in respect of some communities. In addition, survey data was collected using an online panel and survey tool which means only those who have access to a computer and are regularly connected to the internet could participate. Critically, the true impact of the trial on sentiment across all communities is difficult owing to the absence of a baseline survey conducted before the trial got underway, and the lack of insights available from specific groups that arguably felt most impacted by the trial. Ideally, gauging perceptions and levels of trust and confidence would have been measured 'before and after'. Instead, changes in trust and confidence were elicited on a retrospective basis and should be treated with some caution.

Summary of Additional Findings

A summary of additional findings that emerged throughout the evaluation is provided which further highlight lessons that can be drawn from the ART trial.

The operating environment

There was a consistent theme that ARTs brought greater experience and more 'tools' to call-outs which enabled them to be resolved faster and more safely. Data also suggests that ARTs likely prevented AOS callouts, highlighting the potential need for a faster tactical response, particularly in metropolitan areas. Furthermore, it is evident that frontline officers benefited from having ARTs in attendance as evidenced by the increased feelings of safety expressed by these officers. Indeed, feelings of safety were linked to having others present that possessed advanced knowledge and tactical capabilities. It was further found that ARTs offered mentorship and guidance to frontline officers. So while there were some concerns raised that frontline staff may become overly reliant upon ARTs, what generally emerged was an apparent desire for additional knowledge and professional development as a way of lifting staff confidence in their own capabilities.

Public Perceptions and Concerns

There has been ongoing public interest in the trial since it commenced in October 2019. Thematic analysis of media articles written during the trial period placed an additional lens over the trial and helped shape some of the public's perspective on the trial.

A central theme that emerged through the course of the trial was the lack of consultation, particularly with those Maori and Pasifika communities that felt they would be most impacted. It is clear from feedback received that many viewed the lack of early and meaningful consultation with the public, Iwi, and community groups as a significant issue, a threat to police legitimacy and a potential cause of future community tensions.

Additionally, the operational need for ARTs was regularly questioned by some members of the public, with many viewing the exact threat from firearms as a questionable operational justification. Some also did not view the Christchurch Mosque shootings as a justifiable reason for the implementation of ARTs. Others pointed out that the communities the police were supposed to be protecting had not been asked whether they wanted armed police patrolling their streets. In

addition, concerns were regularly raised around the safety of those in mental health crisis, and the safety of Maori and Pasifika communities in particular.

Deployment Criteria

A principal finding was that the deployment criteria for ARTs was not sufficiently constrained nor clearly communicated to the public. Examination of the deployment data did not suggest that ARTs deviated from the criteria per se. What was evident is that high risk incidents and active armed offender incidents consumed a comparatively small proportion of ART resources, leaving open the question of how teams are deployed when not responding to such events. Though there was a desire to maximise the operational use of the units, the deployment criteria and standard operating principles were potentially drawn too widely, which meant the teams were often used in ways that did not align with their original intent, and the expectations of some members of the New Zealand public.

Some commentators felt the jobs that ART were attending were inappropriate and concerns were raised about ARTs being used for 'low risk' proactive patrolling and road policing, which appeared to contravene the originally stated function of ARTs.

This is consistent with evidence that indicates that the remit of ARTs had not been effectively communicated to the public. Of note, it was revealed that there was a general lack of public understanding around the parameters of the trial.

Concluding Remarks and Key Observations

Based upon the evidence collated throughout the evaluation process it is clear that ARTs were not a style of policing that some of the New Zealand public were comfortable with. These exist despite some clear and obvious operational and perceived safety benefits ARTs provided to frontline officers. Officers felt safer, they felt that incidents were dealt with more efficiently, they felt supported and received mentorship, and they perceived ARTs as a critical capability.

There were procedural and methodological limitations that severely limited any measurement of the actual impact ARTs had. Nevertheless, lessons can be taken away from the implementation of the ART trial and thereby provide future learning opportunities:

- There is no doubt that frontline staff felt safer and more confident in dealing with a range of crimes and critical incidents. ARTs played a critical role in this regard and in their absence alternative tactical options need to be explored. To ensure legitimacy and transparency, any alternative initiatives that explore frontline tactical options should be consulted on early with key external stakeholders and community representatives;

- The trial has further highlighted the need for effective communication when New Zealand Police are developing proposals that are likely to generate strong public interest. For example, the advantages of having additional police staff deployed permanently to the frontline with enhanced skills – for example in conflict resolution and first aid – has not been fully reflected in the public commentary that has accompanied this initiative;

- The ART trial has highlighted that the strong public interest in such matters is an opportunity to strengthen existing, and build new, partnerships;

- The trial impressed the need for ongoing engagement and consultation with subject matter experts in the planning, evaluation

and implementation of police initiatives. Doing so will facilitate the identification of appropriate metrics and measures, the collection and establishment of baseline data, the ability to build comprehensive and robust evaluation frameworks, and appropriate tracking and monitoring of key performance measures;

- The trial further revealed the need for solid evidence-based frameworks when wanting to measure and/or determine the impact of an intervention/initiative. The evidence-based policing principles of targeting, testing and tracking were missing from the trial and it is recommended that this approach is more firmly adopted in setting up and implementing future operational trials.

Key Findings

Provided below is a list of the key findings as they relate to the central evaluation questions.

How were ARTs deployed and which tactics were used?

Key Finding 1: Over the trial period ARTs attended 8,629 incidents across the three trial districts.

Key Finding 2: ARTs were generally busiest during the weekend periods – particularly between the hours 2200 – 0100 – with busier periods also observed during 0900 – 1100.

Key Finding 3: Emergency (Priority 1) events accounted for 23% of all incidents attended by ARTs.

Key Finding 4: The average emergency response time for all ART units was 8 minutes.

Key Finding 5: Firearms offences accounted for 2.6% of all incidents attended by ARTs, on average, with 56% of all firearms offences coded as an emergency event.

Key Finding 6: 3T: Turnovers accounted for 25% of all ART attendances and 5K: Bail Checks accounted for 9%.

Key Finding 7 The overall End of Deployment form compliance rate – with the exclusion of 3T and 5K incidents – was 34%. Approximately one in every three incidents attended therefore had an associated EoD form. This does not mean details of individual deployments are missing, but detailed information, necessary to conduct a proper evaluation, are incomplete.

Key Finding 8: On average, 67% of deployments reported through end of deployment reports were Assist Roles, with ARTs supporting general duties and prevention activities.

Key Finding 9: ARTs self-deployed to 66% of the incidents reported on through end of deployment reports.

Key Finding 10: On average, 21% of self-initiated deployments were because members were requested to attend by frontline units.

Key Finding 11: ARTs responded to events where there were minimal - or in some cases no - frontline units available, self-initiating to attend these events 77% of the time.

Key Finding 12: Approximately 10% of ART Role deployments reported through end of deployment reports likely prevented an AOS callout.

Key Finding 13: ART members provided medical or trauma care in

approximately 2% (n=35) of all incidents.

Key Finding 14: ART members provided frontline officers with tactical and technical training, indicating that their attendance extended beyond reassurance on some occasions.

Key Finding 15: ART attendances often provided assistance and reassurance to frontline officers and the demand for more advanced capabilities was fairly modest.

Key Finding 16: ART members used a reportable level of force on less than one percent (0.57%) of all incidents attended.

Key Finding 17: ART members did not discharge a firearm though 5 firearm presentations were recorded: a Glock was presented on 3 occasions with an M4 Rifle presented on 2 occasions.

Key Finding 18: A TASER was the most common tactic used (52%) though discharges were reported on only 2 occasions, thereby indicating that TASER was predominantly used as a visual deterrent.

Key Finding 19: The level of force applied by ART members appeared justified, proportionate, and tended toward the lower end of the tactical options spectrum.

Key Finding 20: It was found that ART Team Leaders exercised discretion in the carriage of firearms, opting to stow their Glocks when attending some incidents.

Key Finding 21: It was found that Maori and New Zealand Europeans were represented in similar proportions within the use of force data examined.

What were the real or perceived impacts on officer safety?

Key Finding 22: It was found that the sample sizes for both the Armed Response Team Officer survey and the Public Safety Team Officer survey were unsatisfactory given the timeframes available for completion (§ 6.1. Officer Perception Surveys).

Key Finding 23: The majority (80%) of respondents to the Armed Response Team Officer survey were from the Waikato district. Thereby, the sample for this survey was not adequately representative of all trial districts.

Key Finding 24: Of the PST officers surveyed, 82% generally perceived incidents as safer when ARTs were present with 85% of ART members surveyed generally agreeing that they felt safer at the incidents they attended.

Key Finding 25: Of the PST officers surveyed, 83% generally agreed that jobs were handled more efficiently with ARTs in attendance.

Key Finding 26: It was found that de-escalation contributed toward, but was not a primary determinant of, increased perceptions of safety. Instead, the availability of additional tactical resources and highly trained personnel appeared to be a significant factor.

What effect did the introduction of ARTs have upon general wellbeing?

Key Finding 27: It was found that the number of Officer Wellbeing

Survey responses from trial districts was variable – both from ART officers themselves and from frontline staff in those districts – which produced insufficiently representative samples for each group.

Key Finding 28: It was found that general wellbeing was good, with both AOS/ART members and PST staff reporting low to mild levels of burnout, psychological distress, and perceived stress, with fairly high levels of general wellbeing.

Key Finding 29: It was found that ART/AOS members and PST staff decreasing levels of burnout over the course of the trial, relative to baseline.

What impact did ARTs have upon external trust and confidence impacted in trial districts?

Key Finding 30: The deployment of ARTs increased trust and confidence in those who participated in the community insights survey which included participants from ART districts.

Key Finding 31: Maori were more likely to feel less trust and confidence following the beginning of the trial.



**Waiting to help you find
the right Home Loan at
no cost to you**

Mob: 0401 329 981
loans@electrumfinance.com.au
www.electrumfinance.com.au

Can coercive controlling behaviours be used to predict the recurrence of intimate partner violence?

Taaka, S. S., Jolliffe Simpson, A. D., & Polaschek, D. L. L. (2020).

Objective

To examine whether evidence of coercive controlling behaviours in 1,158 police reports for intimate partner violence could be used to predict the recurrence of intimate partner violence within 6 months, over and above the SAFVR, a risk assessment instrument based largely on the criminal history of the aggressor.

Introduction

Intimate Partner Violence (IPV) is a significant social issue in New Zealand. Once understood mainly as physical or sexual harm perpetrated against a current or former partner, in recent years, the definition of IPV has been expanded to include emotional or psychological violence, to recognise the serious consequences of such behaviours on victims and their families. In New Zealand, it is estimated that approximately 1 in 3 women experience sexual or physical IPV in their lifetime; when psychological violence is included, this proportion increases to more than 1 in 2 (Family Violence Clearinghouse, 2017).

Psychological violence consists of behaviours that are not necessarily illegal, but which can be harmful, nonetheless (Nielson, Hardesty, & Raffaelli, 2016). For example, aggressors might prevent their partners from owning a cell phone, restrict their access to a bank account, or isolate them from their family and friends. The repetitive and systematic use of these behaviours over time is known as coercive control (Matczak, Hatzidimitriadou, & Lindsay, 2011). New Zealand research suggests that coercive control may occur more commonly in relationships than illegal behaviours such as physical or sexual violence (Ministry of Justice, 2018). Yet despite the fact that coercive controlling behaviours are harmful and occur more commonly than illegal behaviours, coercive controlling behaviours are not currently illegal in New Zealand. Moreover, it is not clear how the presence of coercive control in a relationship is related to the likelihood of future IPV. There is a need for more research about whether evidence of coercive control can be used to predict future IPV.

In New Zealand when police respond to a family harm call for service, they provide an overall report of the episode and conduct risk assessment for IPV recurrence, regardless of whether or not an offence actually occurred. With this in mind, police who respond to a family harm call for service report that no offence was detected in most cases, meaning that in their observation, the event included only behaviour that is not currently illegal. New Zealand Police assess the risk of IPV recurrence using the Static Assessment of Family Violence Recidivism (SAFVR) and the Dynamic Risk Assessment (DYRA; New Zealand Police, 2018). The SAFVR uses variables related to aggressors' criminal history and is designed to predict the commission of a family harm offence within two years, which is expressed as a risk category (low, moderate, high). In contrast, the DYRA is a set of questions about dynamic characteristics, such as general stressors or relationship instability, asked of the victim of the episode and used to inform police's safety plan for the next three days (New Zealand Police, 2018).

Coercive controlling behaviour can be relatively difficult to observe in a brief interaction with a family, and yet there is a need to understand

how often police reported detecting coercive and controlling behaviour and the relationship between these reported behaviours and future IPV. The SAFVR is mainly based on relatively unchangeable features of the aggressor's criminal history and the DYRA only includes one item about control. As such, coercive controlling behaviours have little direct influence on determinations of risk made with assessment instruments police currently use for IPV recurrence. Therefore, the main research question was: To what extent does the evidence of controlling behaviour in police reports predict IPV recurrence over and above the criminal history of the aggressor?

Method

This research is based on an archival dataset of 1,158 family harm episodes from November 2018 from Waikato and Canterbury. From the dataset we extracted person details, episode characteristics and scores on the SAFVR and DYRA. We then used an existing scale to guide us in identifying five types of coercive control in raw data in the archive: economic (i.e., not allowing the victim to access their own bank account), threatening (i.e., threatening to harm the victim), intimidating (i.e., smashing the property of the victim), emotional (i.e., calling the victim derogatory names), and isolating control (i.e., not allowing the victim to see their family or friends). For each family harm episode we read the police narrative of the event and recorded any evidence each type of control within the episode. We then noted whether a further event of family harm was recorded for that couple within 6 months of the sample episode, which we called 'IPV recurrence'.

Most aggressors in the sample were men (n = 948, 81.9%) and had an average age of 34 years (SD = 11.38); the youngest aggressor included was 15 years old. A majority were of Maori or European ethnicity (n = 521, 45.0%; n = 510, 44.0%). A majority of aggressors were rated as high-risk on the SAFVR (n = 670, 57.9%) and more than a third of aggressors were rated as high-risk on the DYRA (n = 426, 36.8%). Victims were predominantly women (n = 953, 82.3%) and had a mean age of 33 years old (SD = 11.26); the youngest victim was 14 years old. Similar to aggressors, the majority of victims were European or Maori (n = 534, 46.1%; n = 485, 41.9%).

To answer the research question, we first examined the relationship between aggressors' SAFVR scores and IPV recurrence. Then, to determine whether adding coercive control improves predictions of IPV recurrence over and above the aggressor's SAFVR score, the five types of coercive control were added to the model containing aggressors' SAFVR scores. The relationship between these variables and IPV recurrence was then examined.

Key findings

We found that police recorded evidence of controlling behaviour by the aggressor in almost half of all IPV episodes (n = 481, 41.5%), with the most common type of control being isolating control (n = 294, 25.4%). We also found there was IPV recurrence for 43.4% of couples (n = 503). As shown in Table 1, the most prevalent type of control identified in the dataset was Isolating Control.

This finding reflects the New Zealand Crime and Victim Survey (March-September 2018), which indicates that almost two thirds of people who experienced psychological violence reported experiencing a form of isolating control (i.e., “stopping victim from contacting friends and family”; n = 68,028; 65.3%).

Table 1

Frequencies of each type of control		
Control	n	%
Economic	69	5.9
Threatening	216	18.6
Intimidating	95	8.2
Emotional	88	7.6
Isolating	294	25.3

The aggressor’s SAFVR score significantly predicted IPV recurrence; the odds of IPV recurrence were higher for aggressors with higher SAFVR risk categories. For instance, an aggressor with a high SAFVR risk category had 3 times greater odds of IPV recurrence than an aggressor with no SAFVR risk category.

These findings answered the primary research question. On their own, the five types of coercive control significantly predicted recurrence, and they also improved the prediction of recurrence over the use of the SAFVR on its own.

Key insights

Currently the police use the SAFVR and the DYRA in family harm related calls for service. This research found that relationships with evidence of coercive control also had greater odds of experiencing IPV recurrence. These findings indicate that incorporating measures of coercive control into risk assessment instruments may improve their ability to predict IPV recurrence.

But coercive control is typically understood as a pattern of behaviour that might be hard to detect in a single point of contact with a victim. Victims do not always identify their experiences as examples of coercive control, even when they may appear so to outsiders. Or they may be intimidated or embarrassed about reporting these less visible behaviours. Therefore, it is likely that police may miss examples of coercive control during their assessments, unless they make a point of gathering this information. But encouragingly, isolating control was the most often recorded, and this was also the most prevalent form reported by victims in the New Zealand Crime and Victim Survey (March-September 2018). Based on the survey, other types of coercive control not considered in this research (e.g., preventing access to healthcare) would also be worth further investigation.

Given that coercive control is a dynamic risk factor, and that the current dynamic risk assessment used by police, the DYRA, appears to have limited predictive accuracy, adding some more specifically worded questions to the DYRA might be worth considering. For example, when it is safe to do so, police could ask the victim whether the aggressor insists on knowing their whereabouts, whether they can visit friends or family when they want to and so on. Victims may not always label their partner’s actions as “controlling” or “coercive”, even though they experience them in that way. Furthermore, more specifically worded questions in risk assessments may cover important components of IPV such as economic control that are often

overlooked, as well as behaviours that may be more obvious, such as threatening control.

As we noted earlier, coercive control is not illegal in New Zealand, although it is included in the Family Violence Act 2018. Therefore coercive control can form the basis of a protection order application and breaches of that protection order are criminal offences. This research does not address the issue of whether making it illegal would be beneficial for victims. In the meantime, it would be useful to have fuller information about the range and types of coercive control that could be reported to police with more specific questioning, to enable a more complete understanding of the extent to which evidence of these behaviours continues to enhance risk prediction accuracy, over and above the criminal history of the aggressor.

References

Matczak, A., Hatzidimitriadou, E., & Lindsay, J. (2011). *Review of domestic violence policies in England and Wales*.

Ministry of Justice. (2018) *Family Violence Act*. [Online] Available from: <http://www.legislation.govt.nz/act/public/2018/0046/latest/DLM7159322.html>

Nielsen, S. K., Hardesty, J. L., & Raffaelli, M. (2016). *Exploring variations within situational couple violence and comparison with coercive controlling violence and no violence/no control*. *Violence Against Women*, 22, 206-224. doi:10.1177/1077801215599842

New Zealand Crime and Victim Survey. (2018). *Research and Data*. [Online] Available from: <https://www.justice.govt.nz/justice-sector-policy/research-data/nzcvsv/resources-and-results/>

New Zealand Police. (2018) *Family harm new risk measures*. [Online] Available from: <https://www.police.govt.nz/sites/default/files/publications/family-harm-new-risk-measures-handout-web.pdf>

Family Violence Clearinghouse (2017). *Data Summaries 2017: Snapshot*. Retrieved from <https://nzfvc.org.nz/>

Proudly Supporting

STARLIGHT CHILDREN’S FOUNDATION



The Starlight Children’s Foundation brightens the lives of seriously ill children, teenagers, and their families across Australia.

1300 727 827
starlight.org.au



High-risk Victims of Intimate Partner Violence within a Multi-Agency Response System in New Zealand:

An Overview of Psychosocial Stressors and Predictors of Repeat Victimization.

J. Tomkins, A. D. Jolliffe Simpson, A., & D. L. L. Polaschek
Te Whare Wananga o Waikato

Tomkins, J. (2020). High-risk victims of intimate partner violence within the Integrated Safety Response pilot: An examination of psychosocial stressors and repeat victimisation [Unpublished Masters thesis, University of Waikato].

Objective

We examined the relationship characteristics, intimate partner violence (IPV) experiences and support needs of 165 high-risk IPV victims who were referred to the Integrated Safety Response (ISR) pilot, and investigated whether these factors predicted repeat IPV victimisation within 12 months.

Background

Within New Zealand, IPV is one of the most complex social problems facing both the police and the wider criminal justice system, with significant concerns focussed on victims at high-risk of experiencing serious, ongoing harm—or even death—as a result of IPV. There were 92 IPV-related deaths nationwide between 2009 and 2015; 91.2% of these cases had a previous history of IPV officially recorded (Family Violence Death Review Committee, 2017). Therefore, specialised multi-agency responses for IPV, like the ISR pilot operating in the Christchurch and Waikato areas, concentrate intensive resources towards addressing the safety needs of IPV victims assessed as being at the highest risk of ongoing harm (Mossman et al., 2019). However, there is relatively little empirical research that quantifies the adversities facing high-risk IPV victims, nor investigates whether these factors predict repeat IPV victimisation.

Method

We used longitudinal, archival data for 165 IPV cases assessed by the ISR pilot as high risk, with an index IPV episode reported to police in Christchurch and Waikato between 1 November and 31 December 2018. Raw data was extracted from the index episode's police report; as well as the ISR case plan information over the six months preceding the index episode, and the most proximal ISR risk assessment following the index episode.

Victims and aggressors in the sample predominantly identified as Maori or New Zealand European. Victims had a median age of 29 years and aggressors had a median age of 34 years. Although almost one quarter of index episodes involved verbal harm only (23.6%), the majority included physical harm

(58.8%). Interestingly, index episodes were most frequently reported to police by people other than the victims themselves (56.0%); these third-party reports were typically made by members of the public or family/whanau.

We recorded two measures of repeat victimisation over the 12 months following the index episode: IPV recurrence, which refers to at least one further IPV episode reported to police involving the index victim and aggressor in the same roles; and physical IPV recurrence, which refers to at least one further IPV episode involving physical violence reported to police, again involving the index victim and aggressor in the same roles. IPV recurrence was recorded in the majority of cases (62.8%), and ranged from 1 through to 28 repeat episodes. Physical IPV recurrence was recorded in 36.0% of cases.

Key Findings

Psychosocial Stressors

Relationship Characteristics. Almost half of the high-risk IPV victims and aggressors sampled were in a current intimate relationship (46.1%), one quarter were separated (23.0%), and there was evidence of 'relationship churning' in the remaining cases (30.9%). Regarding the latter, relationship churning reflects a situation whereby the victim and aggressor cycle in and out of their intimate relationship repeatedly (Halpern-Meekin & Turney, 2018). Irrespective of relationship status, 42.4% of victims and aggressors parented shared children together, 24.8% of victims had at least one child from a different relationship and 19.4% of victims were pregnant or had recently given birth at the time of the index episode. Relationship conflicts about custody or infidelity were evident between victims and aggressors in 32.7% of cases. Most victims did not have a protection order against aggressors, with such orders only evident in 32.1% of cases.

Experiences of Abuse. Victims also suffered very serious abuse during the baseline period. The majority were physically harmed (82.4%) by the aggressor, with victims sustaining an injury in 52.1% of cases. Most victims also experienced coercively controlling behaviours

(73.9%) by the aggressor and many expressed fear about the aggressor (52.1%). Almost one quarter of victims (23.0%) had an IPV episode flagged during the ISR risk assessment process as involving prolonged, unrelenting violence by the aggressor. A small number of victims were subjected to threats to kill by the aggressor (15.2%), which were usually graphic in nature; sexual harm against the victim was recorded in a similarly small proportion of cases (12.7%). Many victims (55.2%) had experienced nonfatal strangulation by the aggressor; we coded this variable to capture any ISR record of such behaviour—within the entire case file—due to international research showing nonfatal strangulation is a key lethality indicator for IPV homicides (Pritchard et al., 2017).

There was a myriad of support needs identified in these cases. Approximately one third of victims were recorded as having mental health issues (37.0%), illicit drug use (36.4%) or housing instability (32.7%). Around half received an unemployment benefit (45.5%), had a criminal history recorded by police (52.7%), had a history of child protection services involvement for their children (64.2%), or were noted as being uncooperative with the police officers attending recent IPV episodes (44.2%). The latter included the victim being unwilling to sign statements or allow police to photograph injuries; behaving obstructively and abusively towards police; or perverting the course of justice-type behaviours. Of note, 44.2% of victims were recorded as having previous non-engagement issues with community supports. Similarly, most aggressors had several markers of an antisocial lifestyle; including high rates with a history of violence recorded by police (92.7%), noncompliance with court orders (72.1%) and gang affiliations (39.4%).

Predictors of Repeat IPV Victimization

Few variables consistently predicted both IPV recurrence and physical IPV recurrence. Table 1 shows that correlates included nonfatal strangulation; the aggressor's history of violence and noncompliance; and the victim's history of child protection services involvement as a parent, and initial engagement with ISR

interventions during the 12-month follow up. Of note, nonfatal strangulation predicted the absence of both types of recurrence, as indicated by the negative correlation coefficient.

potential array of undisclosed stressors that may be informing a victim's presentation during an IPV episode.

Table 1

Relationship between Key Predictors and IPV Recurrence Outcome Measures

Variable	Any IPV recurrence		Physical IPV recurrence	
	r	p	r	p
Nonfatal strangulation	-.17	< .05	-.21	< .05
Aggressor history of violence	.17	< .05	.21	< .01
Aggressor non-compliance	.22	< .01	.19	< .01
Victim history of child protection services involvement as a parent	.16	< .05	.24	< .01
Victim initial engagement with ISR interventions	.19	< .05	.18	< .05

The two variables that most consistently predicted both IPV recurrence and physical IPV recurrence in multivariate analyses were nonfatal strangulation and the victim's initial engagement with ISR interventions during follow up. More specifically, as for the correlations, nonfatal strangulation uniquely predicted reduced odds of IPV recurrence and physical IPV recurrence, with odds ratios of 0.42 [0.21-0.86] and 0.36 [0.16-0.77] respectively; whereas the victim's initial engagement with ISR interventions uniquely predicted increased odds of IPV recurrence and physical IPV recurrence, with odds ratios of 2.08 [1.03-4.21] and 3.20 [1.42-7.23] respectively. See Tomkins (2020) for full statistical analyses.

Key Insights

Overall, the study quantified and highlighted the vulnerabilities of high-risk IPV victims, their complex relationships with aggressors and traumatic IPV experiences, and the often-fraught interactions with the criminal justice and social welfare systems. The range and extent of psychosocial stressors facing high-risk victims provides support for multi-agency responses such as the ISR pilot, to provide wraparound, holistic and intensive services that address both immediate safety and broader wellbeing needs. The insights we gained into the stressors and needs of the victims in this sample were largely gleaned from the ISR risk assessment and case management information, which is typically gathered over a much longer period that can reveal complexities about the situation that may not always be immediately apparent to attending police officers. For a variety of reasons, police officers may find it difficult to earn victims' trust and successfully engage with them; it is therefore important that frontline police remain cognizant of, and empathetic towards, the

It was interesting to find that among the large number of psychosocial stressors that we coded (n = 39), only two variables consistently predicted both IPV recurrence and physical IPV recurrence: nonfatal strangulation and victims' initial engagement with ISR interventions. Although these findings require further replication, IPV risk assessment tools and processes may benefit from emphasizing these two variables in judgements around high-risk IPV cases. These variables may also be especially useful in brief risk screening tools.

The finding that nonfatal strangulation predicted reduced odds of IPV recurrence and physical IPV recurrence contrasted with our expectations, based on past empirical studies that showed a positive relationship between nonfatal strangulation and repeat IPV victimisation outcomes (e.g., Ringland, 2018; Robinson & Howarth, 2012); and the wide acceptance that nonfatal strangulation is an IPV lethality indicator (Pritchard et al., 2017). Around the time these data were collected, nonfatal strangulation had recently gained prominence among police and the practice community as a 'red flag' behaviour, and was subsequently criminalised as a specific offence. We therefore consider it possible that, when nonfatal strangulation was disclosed, its presence led to unusually intensive police and ISR responses—albeit unmeasured in the current study—that were effective in reducing the likelihood of both IPV recurrence and physical IPV recurrence.

The finding that victims' initial engagement with ISR interventions was associated with increased odds of IPV recurrence and physical IPV recurrence could mean that victims who are willing to engage with support services are also more likely to report repeat victimisation to police. However, because of various and complex background issues, some high-risk IPV victims may also be unwilling to fully

engage with support services. We only had access to a very early indicator of engagement, so this pattern could instead reflect that whilst staff made a considerable effort to engage with high-risk victims, some engagement was only superficial and transient.

These possible explanations are post-hoc speculation; they could not be tested within the scope of our study. Future research should therefore directly investigate the causal mechanisms around how nonfatal strangulation and victims' engagement with interventions predict repeat victimisation for high-risk IPV victims.

In sum, this study expanded our current knowledge base about the psychosocial stressors facing high-risk IPV victims, and how these factors relate to repeat victimisation. Our findings support the need for collaborative responses and interventions for IPV, such as the ISR pilot; and highlight specific risk factors for repeat IPV victimisation that could be emphasized within relevant risk assessments and prevention strategies. These findings can inform ongoing research, policy and frontline efforts specific to high-risk IPV victims; ultimately, to improve the safety and wellbeing of the most vulnerable families and whanau in our community.

References

Family Violence Death Review Committee. 2017. Fifth Report Data: January 2009 to December 2015. https://www.hqsc.govt.nz/assets/FVDR/Reports/FVDR_2017_10_final_web.pdf

Halpern-Meekin, Sarah & Turney, Kristin. 2018. Relationship churning and desistance from intimate abuse. *Journal of Interpersonal Violence*. <https://doi.org/10.1177/0886260518807214>

Mossman, E., Wehipeihana, N., & Bealing, M. (2019). Evaluation of the family violence Integrated Safety Response pilot. Joint Venture Business Unit. <https://www.justice.govt.nz/assets/Documents/Publications/nIG96VIM-ISREvaluation-Synthesis-Report.pdf>

Pritchard, Adam J, Reckdenwald, Amy & Nordham, Chelsea. 2017. Nonfatal strangulation as part of domestic violence: A review of research. *Trauma, Violence, & Abuse*, 18(4), pp.407–424. <https://doi.org/10.1177/1524838015622439>

Ringland, C., 2018. The Domestic Violence Safety Assessment Tool (DVSAT) and intimate partner repeat victimisation. *Crime and Justice Bulletin*, (213), pp.1–20.

Robinson, Amanda L & Howarth, Emma, 2012. Judging Risk: Key determinants in British domestic violence cases. *Journal of Interpersonal Violence*, 27(8), pp.1489–1518. <https://doi.org/10.1177/0886260511425792>

Tomkins, J. (2020). High-risk victims of intimate partner violence within the Integrated Safety Response pilot: An examination of psychosocial stressors and repeat victimisation [Unpublished Masters thesis, University of Waikato].

Predictive Ability of New Zealand Police's Family Violence Risk Assessment Instruments: Practical Implications for Frontline Policing

Jolliffe Simpson, A. D., Joshi, C. & Polaschek, D. L. L. in press. *Predictive validity of the DYRA and SAFVR: New Zealand Police's family violence risk assessment instruments. Criminal Justice and Behavior.*

Objective

We examined the predictive validity of the Dynamic Risk Assessment for Family Violence and the Static Assessment of Family Violence Recidivism, the risk assessment instruments for family violence currently used by the New Zealand police. We evaluated how well the risk categories from the two instruments predicted family violence recurrence within 3 days, 12 weeks, and 24 weeks, for a sample of 1,817 reports to police of Family Violence (FV) episodes in Waikato and Christchurch.

Introduction

Responding to FV accounts for more than 40% of frontline policing time in New Zealand (Family Violence Clearinghouse, 2017), and because of the vast social, health, and economic harms to which FV contributes, it is imperative that police allocate their attention and resources optimally when episodes are reported, in order to prevent recurrence. Accordingly, New Zealand Police have developed two risk assessment instruments to help prioritise cases at relatively greater risk: the Static Assessment of Family Violence Recidivism (SAFVR) and the Dynamic Risk Assessment for Family Violence (DYRA).

The DYRA is a list of up to 16 questions designed to measure the likelihood of FV recurrence within the 3 days after police attend a FV episode. Police ask the questions in the DYRA of the episode victim while attending the scene, or if the victim is unable to answer, police endeavour to ask another adult family member who is not the aggressor. 'Yes' responses to DYRA questions are combined to generate a risk category (low, moderate, high). On the other hand, the SAFVR is an actuarial instrument validated for predicting whether a FV-related charge will be laid against an aggressor within the two years after police attend a FV episode. The SAFVR is automatically updated each day by a computerized algorithm, and each aggressor's SAFVR risk category (no score, low, moderate, high) is made available to police through a smartphone application (Bissielo and Knight, 2016).

When police respond to each FV episode, the DYRA and SAFVR risk categories are combined to generate a 'Total Level of Concern', which guides their immediate response and safety plan. This safety plan is intended to cover the 3 days following the episode, with the idea that longer-term support mechanisms are established during that time. It has been demonstrated that the SAFVR has good predictive ability (e.g., Bissielo & Knight, 2016), but the predictive ability of the DYRA is unknown. So, a primary aim of this study was to investigate the predictive ability of the DYRA for FV recurrence in the short (3 days) and longer term (12 and 24 weeks). We also compared the predictive ability of the DYRA to the SAFVR, and examined how both instruments performed for different FV sub-samples based on types of relationships (e.g., Intimate Partner Violence, 'IPV' vs. other FV, with and without children present) and aggressor characteristics (e.g., age, gender and ethnicity).

Method

We used archival data for 1,817 FV episodes reported to police in November and December 2018 in Waikato and Christchurch.

The data were extracted from the database used by the Integrated Safety Response, a multi-agency response pilot that performs further risk assessment and case management for FV episodes reported to police in Waikato and Christchurch areas. A FV episode in this research is any call for service for family harm, regardless of whether an offence was detected.

Most aggressors and victims in the sample were New Zealand European or Maori. The average age of aggressors was 32.7 years, and the average age of victims was 35. Almost two thirds of episodes involved IPV between current or former intimate partners. The remaining episodes involved parents and children (19.5%), siblings (5.9%) and people in other types of family relationships (5.8%). Children were present in around half of the episodes in the sample.

We also collected reports for our outcome criterion of FV recurrence, defined based on the person who was the aggressor in the original episode. It was the first subsequent FV episode reported to police within each of the follow-up periods (3 days, 12 weeks, and 24 weeks). Only the first recurrence was counted, and it was counted in all the follow-up periods in which it was included. That is, if the recurrence occurred 10 days after the original episode, then it was not counted in the 3-day follow-up but was counted in both the 12- and 24-week follow-up intervals. At 3 days, 5.0% of aggressors had a FV recurrence; this rate increased to 34.8% by 12 weeks, and 44.5% at 24 weeks.

In this summary, we present the Receiver Operating Characteristics (ROC) curve and report the Area Under the Curve (AUC) statistic for the DYRA and SAFVR risk categories predicting FV recurrence at each of the follow-up periods. The ROC plot shows the proportion of people who were predicted to have a FV recurrence within the specified timeframe, and actually did (i.e., the instrument's sensitivity, or rate of 'true positives'), against the proportion of people who were predicted to have a FV recurrence within the specified timeframe, but did not (i.e., 1-specificity, or 'false positives'). Points representing the intersection of these two proportions are plotted for each risk category of the instrument (low, moderate, and high for the DYRA; no score, low, moderate, and high for the SAFVR), and a line is drawn between the points to create the ROC curve. Visually, ROC curves indicate better predictive ability when they are closer to the top left corner of the plot.

The AUC statistic is the area under the curve in the ROC plot, and represents the probability that a randomly selected person with FV recurrence will have obtained a higher risk category on the instrument in question than a randomly selected person without FV recurrence. An AUC of .50 indicates predictive ability that is equal to chance; AUCs between .56-.63 indicate a small predictive effect size, AUCs between .64-.70 indicate a moderate predictive effect, and AUCs between .71 and 1.0 indicate a large predictive effect (Rice and Harris, 2005).

Key Findings

Figure 1 shows the ROC curves for the DYRA and SAFVR risk categories predicting FV recurrence at 3 days, and 12 and 24 weeks.

For these analyses we assumed that an initial risk assessment of moderate or high indicated recurrence was predicted. AUCs for both instruments indicated predictive ability equal to chance at the 3-day interval. The DYRA's predictive ability remained close to chance at 12 weeks (AUC = .55, $p < .001$) and 24 weeks (AUC = .54, $p = .003$). The SAFVR's predictive ability was both statistically significant, and superior to the DYRA's at 12 weeks (AUC = .61, $p < .001$) and at 24 weeks (AUC = .64, $p < .001$).

Further analysis revealed that the main problem with both instruments was that they over-predicted FV recurrence, leading to a high proportion of false positives. Imagine a group of 100 aggressors; 45 of these people had a recurrence reported to police within 24 weeks. Promisingly, 32 of the 45 aggressors with a recurrence were captured in the moderate- or high-risk categories of the DYRA; however, the DYRA also predicted recurrence for a notable proportion of aggressors who did not go on to have a recurrence. In fact, 69 aggressors of the original 100 were in the moderate- or high-risk DYRA categories, meaning the instrument predicted recurrence of FV for more than two thirds of the sample. This over-prediction generated a high rate of false positives; of the 69 aggressors in the DYRA's moderate- and high-risk categories, only 32 had a recurrence reported to police by the end of 24 weeks. The SAFVR showed a similar pattern. Both correctly detected most aggressors who would go on to have a FV recurrence, but a relatively small proportion of the aggressors for whom the instruments predicted a recurrence actually had one.

Both instruments also performed relatively consistently across sub-samples based on types of relationships (e.g., IPV vs. other FV, with and without children present) and aggressor characteristics (e.g., age, gender and ethnicity), with the SAFVR being a significant predictor of FV recurrence for all the sub-samples we examined. The DYRA's predictive ability was equal to chance for IPV cases without children present, for cases of 'other FV', and for aggressors who were women, Maori, or under the age of 18 (see Jolliffe Simpson et al., in press for the full breakdown of results).

Key Insights

This study was a first step in investigating the predictive ability of the FV risk assessment instruments in current use by the New Zealand Police, the DYRA and SAFVR. Although the SAFVR has previously been validated to predict FV offences (Bissielo and Knight, 2016), it has not been used predict the recurrence of FV episodes (i.e., including "5Fs"). The results of this study indicate there is room for improvement: both the DYRA and SAFVR instruments over-predicted FV recurrence; screening in far too many aggressors and screening out too few.

It could be seen as positive that the DYRA and SAFVR instruments screened in too many people, because the consequences of providing extra attention to people experiencing FV are arguably less severe than the consequences of not providing enough attention. That said, as demand increases, over-prediction puts more pressure on finite resources. More accurate triaging of which moderate- and high-risk cases actually will have a recurrence is needed, and we also need to conduct further research into how to recalibrate the DYRA and SAFVR instruments to improve their utility for frontline responding to FV.

But it is important to note that we did not measure the actions taken by police or the Integrated Safety Response following each episode, and it is possible that intervention by either agency may have affected the instruments' abilities to predict FV recurrence. We know

that higher risk cases tend to receive more services, and if these interventions are effective, they may render the DYRA and SAFVR risk categories less predictive of whether FV will occur again. Moreover, families are commonly encouraged to call police to de-escalate conflict, and if this advice is being heeded, the outcome measure 'FV recurrence' may not indicate that more harm is occurring; but rather, it may suggest families are seeking help, and perhaps at an earlier stage in the build-up to what might otherwise be a more serious episode.

The DYRA and SAFVR measures performed relatively consistently across different sub-samples based on types of relationships and aggressor characteristics, but the DYRA's predictive ability for FV recurrence was equal to chance for some sub-samples. This result may be due in part to the structure of the DYRA; some items only apply to intimate relationships, or when children are present, meaning fewer items are asked for certain types of FV (e.g. disputes between adult siblings). However, for all subgroups, the DYRA's predictive ability remained close to chance, suggesting further development of the instrument is needed in general, as well as better calibration across groups.

Taken together, the results from this study suggest more work is needed to improve Police's risk assessment instruments for FV. The especially poor performance of the DYRA suggests we need to learn more about dynamic risk factors specifically, in order to make risk assessment instruments more useful for police and other agencies working with families.

Figure 1.

Receiver Operating Characteristic (ROC) Curves for the DYRA and SAFVR Risk Categories Predicting FV Recurrence at Three Follow-up Periods (n = 1,817)

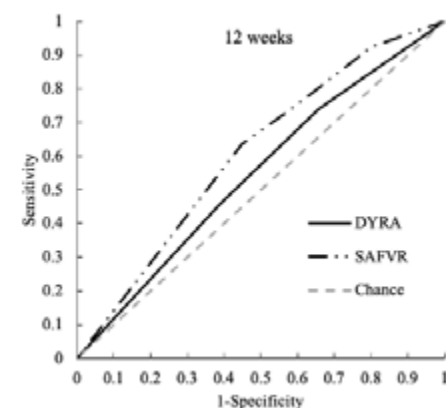
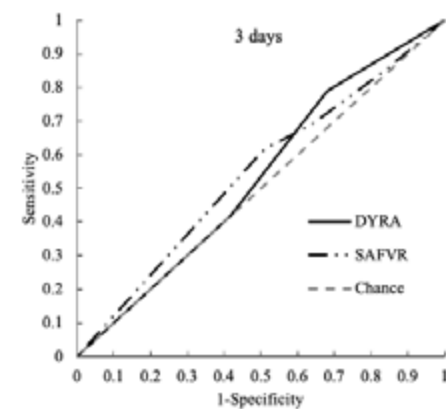
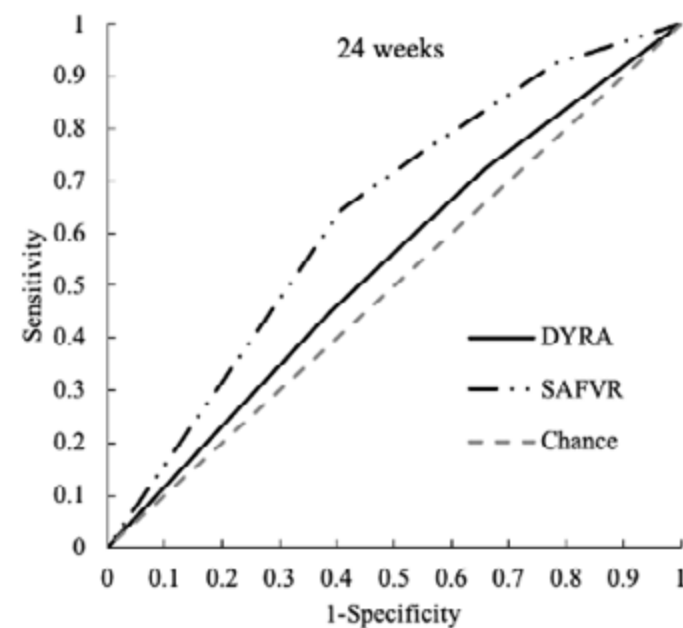


Figure 1 Diagram continued on next page>>

Figure 1. Continued



References

Bissielo, A. & Knight, G. 2016. *Family Violence Risk Assessment Redevelopment: Static Risk Score*. Wellington: New Zealand Police.

Jolliffe Simpson, A. D., Joshi, C. & Polaschek, D. L. L. in press. Predictive validity of the DYRA and SAFVR: New Zealand Police's family violence risk assessment instruments. *Criminal Justice and Behavior*.

Family Violence Clearinghouse. 2017. *Data Summaries 2017: Snapshot* [Online]. <https://nzfvc.org.nz/sites/nzfvc.org.nz/files/Data-summaries-snapshot-2017.pdf>

Rice, M. E. & Harris, G. T. 2005. Comparing effect sizes in follow-up studies: ROC area, Cohen's d, and r. *Law and Human Behavior*, 29, 615-620.

Using Victoria Police data sets to identify opportunities to prevent or reduce youth offending

Authored by: **Kay Lancefield, Federation University Australia.**

This paper provides an analysis of a sample of youth who have been recorded as an offender at least once in Victoria Police data sets to identify early intervention opportunities to interrupt an offending trajectory. The adverse consequences of youth offending and finite community and government resources require that prevention efforts are targeted towards those factors that will lead to beneficial outcomes for youth, their families, their neighbourhood, and the community as a whole. Police in Victoria, Australia utilised existing data sets of both criminogenic and vulnerability factors to develop a model to assist early identification of youth at risk of coming to the attention of the State's criminal justice system. A retrospective longitudinal analysis was utilised to generate further understanding of potential early intervention opportunities to reduce persistent youth offending. Consideration is given to how the results can inform policy and practice decisions to enhance prevention efforts.

Introduction

This paper presents initial findings from a broader study focused on early intervention to reduce youth contact with justice systems. As outlined by Payne and Weatherburn (2015) there is a need to accurately target prevention efforts to those youth who are at risk of persistent serious offending. The research study presented in this paper responds to the objective to address youth at risk of offending within the Child Youth Area Partnerships (CYAP) agenda of the Victorian State government in Australia (Victorian State Government, 2014). The CYAP framework consistent with collective impact (Kania & Kramer, 2011) was established to generate local solutions to local problems. Despite Victorian crime statistics indicating a steady decline in youth offending over the period April 2009 to March 2019 (Crime Statistics Agency, 2019) and a decrease in numbers since 2000 of youth subject to youth justice processes in Australia (Payne, Brown, & Broadhurst, 2018) there remains a sub-group of youth who persist in serious offending behaviour resulting in adverse outcomes for the individual and their families as well as social and economic costs across the community. The current place-based study utilises official police data to examine those factors related to youth contact with police to provide an evidence base to develop effective interventions to reduce these costs within a local context.

This paper adopts the theoretical framework of developmental criminology that outlines the importance of early intervention, reflecting established research on the age crime curve (Sweeten, Piquero, & Steinberg, 2013; Sampson & Laub, 1993). The empirical research in identification of youth offending trajectories with a focus on Australian studies is examined to enhance understanding of the importance of focusing prevention resources for maximum impact. The results are discussed with respect to informing practice and policy to enhance early intervention opportunities. The findings from the current study indicate, somewhat contrary to previous studies, that early contact with police can act as a protective factor in certain contexts.

Importance of early intervention

A key aim of this study was to explore opportunities for early intervention to prevent youth engaging in offending behaviour as well as to interrupt a potential offending trajectory. Primary prevention strategies aim to prevent the onset of offending rather than tertiary interventions that aim to address offending behaviour once it occurs. Assink, van der Put, and Stams (2014) argue that early intervention is crucial, noting that developmental psychology indicates that childhood behavioural problems become more robust as the individual ages and are therefore less open to change. Early intervention to prevent onset of offending has social and economic benefits including reducing adverse impacts on young persons.

The age of an individual at initial contact with justice systems plays a critical role in determining the likelihood and frequency of future offending. The body of literature on the age-crime relationship reviewed by Piquero (2008) establishes the key relationship between initial contact with the criminal justice system at an early age and an increased likelihood of future persistent offending. In Australian youth offender populations research demonstrates that the younger an individual was at first contact with the youth justice system the more likely they were to engage in persistent, serious offending compared to those youth who were older at first contact (Shepherd et al, 2019; Weatherburn, Cush, & Saunders, 2007; Skrzypiec & Wundersitz, 2005). Formal contact with the youth justice system, ranging from caution to incarceration, has been linked with higher rates of re-offending (Sentencing Advisory Council, 2016). The consequences of contact with the criminal justice system can impact on future life opportunities and thereby increase the potential of future offending (Evans, Simons, & Simons, 2017).

Variations in arrest trajectories in regard to age of onset has been described in research by Wiesner, Capaldi and Kim (2007) utilising data from the Oregon Youth Study. A similar

proportion of the sample with early onset (defined as under 14 years) were categorised in both the high level and low level chronic offender groupings. These differences are discussed with respect to the statistical modelling techniques used in the study and the comparisons between self-report and official records of engagement in offending behaviour (Wiesner, Capaldi, & Kim, 2007).

Youth who persist in a high level of serious offending behaviour throughout their life significantly impact on resources and community safety, disproportionate to the actual number of youth that fit this category. Research has demonstrated that tertiary interventions to interrupt the trajectory for this group of youth are often restricted in efficacy (Amemiya, Vanderhei, & Monahan, 2017). The study reported here explores how existing Victoria Police data sets can be utilised to identify youth at risk of lifelong adverse consequences and significant impact on the community to allow resources to be directed to this cohort. Payne and Weatherburn (2015) stress the importance of distinguishing those youth who are likely to continue to offend into adulthood to enhance prevention opportunities.

Factors related to offending trajectory

The accumulation of multiple risk factors has been shown to have greater impact on the likelihood of engaging in offending behaviour than the acquisition of a specific risk factor (Allard, Chrzanowski, & Stewart, 2012). The importance of identifying and understanding the interaction of factors (Thornberry & Krohn, 2005) related to potential offending allows for resources to be directed to those individuals most likely to persist in contact with justice agencies. Research focused on examining the relationship between individual characteristics, criminogenic variables and vulnerability factors and youth offending seeks to identify cohorts of youth for whom intervention can be prioritised (for Australian empirical studies see Broidy, Stewart, Thompson, & Chrzanowski, 2015; Livingston, Stewart, Allard, & Ogilvie, 2008; Marshall, 2006).

Community and police –
together making our communities safe!



LOCK

Lock up (cars and property)

Out of Sight (valuables and money)

Contact Police (crime or information)

Keep a Look Out (community awareness)

CrimeStoppers.com.au 1800 333 000

As asserted by Payne and Weatherburn (2015) empirical research is critical to identify from those youth who engage in offending behaviour who will persist in offending and who will desist. Sutherland and Millsteeds' (2016) study, a first in the Victorian context, sought to identify the characteristics of offenders who follow diverse offending trajectories to develop understanding of; who would benefit most from intervention, at what age interventions are best targeted, and the type of interventions best suited for the different groupings. Their analysis identified a developmental taxonomy of four categories of youth with differing offender trajectories based on age of onset and frequency of offending. This categorisation provides an opportunity for intervention efforts to be directed to those youth who represent the greatest cost to the community to promote positive outcomes for the individual, their family and the community.

Predictive modelling

To guide policy and practice prospectively distinguishing those youth at risk of future persistent serious offending is critical. Predictive models have been developed to statistically estimate the potential for future offending so that intervention efforts can be directed to disrupt an individual's trajectory. In essence, they aim to identify those youth most likely to persist in serious offending and thereby represent the greatest social and economic cost to the community. Statistical techniques such as semi parametric group-based methodology (SPGM) developed by Nagin & Land (1993) are used to identify age-related patterns of contact with criminal justice systems, for specific cohorts of individuals and how these relate to future offending. A significant body of empirical research (including Piquero, 2008; Day & Wiesner, 2019) has identified differences in groups of youth based on their offending trajectories. A trajectory includes the age at which offending commences, the age at which offending stops, offence specificity and diversity, and the volume of offending. Early intervention forms a key tenet of this research to ensure that resources to prevent or interrupt the trajectories of youth who enter the criminal justice system at a young age and commit a disproportionately high volume of all youth crime.

It is critical to identify the factors associated with youth at risk of future persistent offending and as asserted by Borum (2000, p. 1264) "to accomplish that through some systematic process". However, Weatherburn, Cush, and Saunders (2007) note that a full assessment of all youth at their initial contact with criminal justice systems is not practical in terms of time and access to data and is prohibitive financially. The practicality and cost of assessment of all

youth at initial contact with justice systems as well as the value of early identification of at risk youth, highlight the potential value of predictive modelling to identify those youth at greatest risk of future offending.

Weaver (2010) proposed that identification of trajectory groupings can provide a useful screening device to more accurately distinguish the level of future contact of specific sub-groups of youth in contact with justice systems. Ferrante's (2013) research utilised a SPGM to identify the best fit trajectory model, that detailed unique conditions related offending patterns, in a Western Australian sample of youth offenders. Such findings enable policy makers to better quantify the cost/benefits of specific interventions to increase efficacy of comparison and prioritisation of resource allocation. To enhance positive outcomes for youth and community safety, Victoria Police initiated a process to utilise existing data sets to identify opportunities to interrupt offending trajectories for those youth at risk of future offending.

Point of contact with justice system

In much of the scholarly Australian and international literature examining offending trajectories, cohorts studied were identified at the point of formal criminal justice processing (charged with an offence and received an outcome in court) and examined the likelihood of re-offending (Assink et al., 2014; Sutherland & Millsteed, 2016). Australian research in the main has examined factors that relate to youths' ongoing contact with the criminal justice system once formal youth justice processing has occurred (Allard et al., 2014; Ferrante, 2013; Stewart, Allard, & Dennison, 2011; Sutherland & Millsteed, 2016).

To identify youth at risk of offending prior to engagement in offending behaviour presents as the most effective point to intervene and prevent progression of a potential offending trajectory. Assink, van der Put, and Stams (2014, p. 848) noted that "no valid and reliable instrument is yet available for predicting the onset of general delinquency among juveniles". Therefore Assink et al (2014) undertook predictive analysis of Police data in the Netherlands to develop an actuarial tool to calculate an estimate of future delinquency. The aim of their research was to develop a screening tool that would enable Dutch Police when in contact with individuals prior to offending to identify youth who may be at risk of future offending and so act to counteract that risk.

The work of Victoria Police to identify early intervention opportunities that minimise formal

criminalisation of youth addresses this gap in the current body of Australian empirical work. The predicted offender trajectories generated from the Victoria Police database, include data prior to an individual being processed by Police for an offence. As demonstrated by Evans, Simon and Simon (2017) and in the studies detailed above formal contact with the criminal justice system is a factor associated with re-offending. The data analysis of vulnerability and criminogenic factors undertaken by Victoria Police provides an opportunity to interrupt a potential offending trajectory prior to engagement in offending and subsequent formal criminal justice processes.

Identification of potential protective factors

One of the aims of the current study was to identify those factors that interrupted a predicted trajectory. A considerable proportion of empirical research in modelling has related to identification of risk factors and prediction of recidivism and a risk paradigm has dominated government policy (Case & Haines, 2009). The evidence regarding protective factors within a developmental and ecological framework is in its infancy compared with research on risk factors (Tolan, 2007, 2001).

Identification of protective factors in the current research is seen as important, as risk based interventions can be stigmatising and fail to promote expectations of better outcomes for those individuals and their families for whom they are designed, impacting on engagement and therefore efficacy (Ward & Maruna, 2007; Heffernan & Ward, 2018). The findings from the current study are examined to identify potential protective factors, those that ameliorate risk, to further enhance opportunities to generate positive outcomes for individual youth and the community in which they live.

Current Study

This study formed a component of a trial, the aim of which is to utilise existing police data sets to contribute to the service system's capacity to effectively respond to youth at risk. A key aim of the current study is to identify intervention opportunities to prevent the onset of offending and interrupt the trajectory of youth early after the onset of offending. The initial findings discussed in this paper contribute to an evidence base to foster positive youth development at the optimal point in developmental stage.

Utilising a data set obtained from the Victorian Police Law Enforcement Assistance Program (LEAP), potential trajectories based on factors that have been demonstrated to be associated with future offending are generated. The data

set includes both data that reflects vulnerability such as; exposure to family violence, missing persons reports, as well as criminogenic factors such as; engagement in offending, offence type, and when an individual has formal contact with police in public settings, categorised as Field Contact.

The data set includes records where an individual was recorded against a criminal incident though the individual was not arrested by police. This may be due to the age of the individual being below the age of criminal responsibility which is age 10 years, in Victoria (Children Youth and Families Act, 2005), police discretion or insufficient evidence to proceed to court. This aspect of the Victoria Police data analysis and generation of potential trajectories is a critical point of difference from previous empirical studies of offender trajectories.

Victoria Police developed the criminal seriousness index (CSI) a numerical value based on the quantity and seriousness of offending calculated on a daily basis. The CSI is devised from a Canadian model called the Criminal Severity Index (Wallace, Turner, Matarazzo, & Babyak, 2009). Statistical modelling from the LEAP data set provides an individual's current and predicted CSI at age 21 years. This process provides information so that early intervention can be considered for youth for whom there is the greatest potential to serious persistent engagement in offending.

Method

The study has Ethics approval from both Federation University Australia and Victoria Police. The trajectory of 57 youth from the specified police division in regional Victoria were generated retrospectively therefore allowing for comparisons between predicted and actual CSI score at age 21 years. De-identified data was gathered for youth who met the parameters of the model at 1 January, 1 March and 1 June 2005 in the police division, for a follow up period of thirteen years. It is acknowledged that this analysis may reflect context specific findings given the sample was drawn from one Victoria Police division in regional south east Victoria.

For the sample of 57 youth the following data from Victoria Police LEAP database was provided:

- Date when and offence type for which the individual was recorded against a criminal incident,
- Missing Person (MP) reports, age at the time of the report,
- A record of the individual being listed as the

victim of an offence against the person when aged under 18 years (CV), age at time of report,

- A record of the individual being listed as the victim of a sexual offence when aged under 18 years (CSA), age at time of report,

- Family Violence (FV) Incident/Reports where the individual has been recorded as either the perpetrator or affected family member, age at the time of the incident/report,

- Field Contact (FC): where an individual has contact with Police in public and a record of the contact is made by the Police, age at the time of the report, and

- Demographics at the point of identification in 2005 (age, gender).

All historical data on the data set, as listed above, at the point of identification in 2005 was provided, as well as the data up to June 2018. In addition both the current CSI and the predicted CSI at age 21 years at the point of identification was provided for the total sample of youth.

For the purpose of the current study a new factor, adverse childhood experience (ACE), was created by the researcher. This included: the number of Missing Person and Family Violence incidents/ reports recorded when the individual was under 15 years; Field Contact reports when the individual was under 10 years; and the total number of Child Victim reports.

Analysis

All analyses were computed using the Statistical Package for the Social Sciences (SPSS). In the

reporting of results and discussion section the designation of 'age of onset' is the age of the individual when first listed against a criminal incident in the LEAP database.

Results

The analysis generated a sample of 57 youth that included 50 males and 7 females.

The sample as generated included youth at varying ages thereby each case had differing time as a youth or an adult (18 years of age and over) across the period for which data was provided. The youngest age at inclusion in the sample was 8.2 years and the oldest 17.80 years with a mean of 14.46 years and standard deviation of 2.166 years.

Table 1 provides the statistical details of the data set collected for the total sample. Both the mean and median values are provided as for a number of the data points the data was skewed therefore the median provides greater understanding of the data for the total sample than the mean.

Table 1. Summary Statistics for the Data Set Total sample n=57

	Minimum	Maximum	Mean	Median
Age of Onset of offending	5 years	16 years	10.89 years	11 years
Total Youth Offences	2	148	34.88	29
Total Adult Offences N= 50	0	171	35.30	17
Number of Missing Person (MP) reports N=32	0	16	1.68	1
Age first MP report	3 years	23 years	12.66 years	13 years
Field Contact (FC) N=55	0	79	11.70	8
Age first FC	5 years	19 years	14.05 years	14 years
Number of Child Victim (CV) reports N=34	0	6	1.37	1
Age first CV report	2 years	17 years	10.59 years	11.5 years
Number of Family Violence (FV) Reports N=48	0	60	8.58	5
Age first FV report	6 years	28 years	15 years	16.06 years
Number of Child Sexual Assault Reports N=13	0	5	0.35	0
Age first Child Sexual Assault	2 years	15 years	7.62 years	6 years
Number of Adverse Childhood Experiences N=45	0	15	3.25	2

A total of 50 youth progressed to adult offending with 7 of the sample not engaging in adult offending in the data collection period 2005-2018. As noted there was variation in

the time as an adult for individuals in the sample impacting on the opportunity to be recorded as an adult offender.

Missing Person reports were recorded for 32 of the total sample, with a median of only one report. The age range of first Missing Person report was considerable with the youngest occurring at 3 years and the oldest at 23 years, with the median age of 13 years. Field Contact were recorded for almost all the sample, 55 of the total 57, with again a considerable range of age at first report, with a similar median age of 14 years.

Vulnerability factors; exposure to family violence, child victimisation, and adverse childhood experiences; were present for the vast majority of the sample.

Age of Onset of Offending

In this analysis the age of onset refers to the age of an individual when s/he were first recorded against a criminal incident in the LEAP dataset.

For the total sample 5 years of age was the youngest age of onset of offending with a median age of 11 years. In previous empirical studies age 14 years is often accepted as early onset (Wiesner, Capaldi, & Kim, 2007) , however as discussed the samples in the majority of studies are youth who have had formal contact with the criminal justice system.

For those youth in the sample who did not progress to adult offending (n=7) for all the age of onset was 11 years or below. For those youth who had greater than the median number of youth and adult offences the age of onset was older, 12 years and above.

To explore the data related to contact with the justice system and risk of future offending further a correlation analysis was undertaken. Table 2 presents correlations significant at the 0.05* (two-tailed)* and 0.01** (two-tailed) level of significance.

Table 2. Correlation Matrix Criminogenic Factors Total Sample (N=57) (See Above)

Total youth offences correlate strongly with youth property and youth drug offences. Youth property offences have the strongest correlation indicating this is the dominant type of youth offending.

The significant positive correlations between age of onset and age at first Field Contact and Missing Person report demonstrate an association

Table 2. Correlation Matrix Criminogenic Factors Total Sample (N=57)

	Total Adult Offences	Number of Youth Property Offences	Number of Youth Drug Offences	Number of Adult Property Offences	Number of Adult Drug Offences	Number of Field Contacts	Age at first Field Contact	Age at first Missing Person
Total Youth Offences	.382*	948**	.501**	.452**		.305*		
Total Adult Offences		.346**	.263*		.333*	.559**		
Age of Onset			.289*		.264*		.333*	.437*
Age first Missing Person							.399*	

Table 3. Correlation Matrix Vulnerability Factors Total Sample (N=57)

	Age of Onset	Total Youth Offences	Total Adult Offences	Number of Adult Offences against the Person	Age at first Family Violence report	Age first Child Victim report	Number of Missing Persons reports
Number of Family Violence reports	.262*		.293*	.454*	-.292*	.457**	
Number of Child Victim reports						-.583**	.358**
Number of Adverse Childhood Experience reports		.357**					

between age at contact with Police and age at initial engagement in offending behaviour.

The number of Family Violence reports were positively correlated with; the age of onset, total number of adult offences, and number of adult offences against the person. This indicates that the greater the number of Family violence reports the older the individual was when first recorded against a criminal incident and a higher number of total adult offences, and those reflecting interpersonal violence.

Adverse childhood experience and engagement in youth offending were positively associated. There was a significant negative correlation for both the number of and age at first Family Violence and Child Victim report. This indicates sustained exposure to family violence and victimisation when under the age of 18 years.

Actual CSI Below Predicted CSI at Age 21 years

In line with the aim to understand potential protective factors, the total sample was split into two groups; those youth whose actual CSI score at age 21 years was below the predicted level (n=33) and those youth whose CSI score was above the predicted level (n=24). However, given the margin of difference between actual and predicted CSI was in some cases too small to be meaningful, a decision was taken to create sub group of youth with an actual CSI at age 21 years that was a standard deviation

Table 4. Comparison of Median Scores on Criminogenic Factors of Total Sample (n=57) with Standard Deviation Below Group (n=11)

	Median age at onset	Median number of Youth Offences	Median number of Adult Offences	Median number of Field Contact reports	Median age at first FC report	Median age at first Missing Person report
Total sample N= 57	11 years	29	17	8	14 years	13 years
SD below N=11	9 years	13	4	2	12.5 years	11 years

Table 5. Comparison of Median Scores on Vulnerability Factors of Total Sample (n=57) with Standard Deviation Below Group (n=11)

	Median Number of Family Violence reports	Median Age at first Family Violence report	Median Number of Adverse Childhood Experience reports	Median Age at first Adverse Childhood Experience report
Total sample N=57	5	16.06 years	2	11.5 years
SD below N=11	3	18 years	1	6.5 years

below (SD Below) the predicted score at age 21 years. The SD Below group represented 11 of the total sample and all were male.

There is a substantial difference between the SD Below sub group and the total sample in number of Family Violence reports. The age of first exposure to family violence occurred at an older age for the SD Below group (18 years) compared to the total sample (16.06 years).

The SD Below group, as shown in Table 4 above, were younger than the total sample when first listed as an offender, as well as at both the first Missing Person and Field Contact report.

Overall there was less exposure to adverse childhood experiences in the group who were below the predicted CSI at age 21 years than in the total sample.

Discussion

The data presented here is the initial phase of a broader doctoral study. The current paper details only the first phase of the study and the following discussion is focused on two key findings and how these in interaction may

inform current practice. Further analysis of results has been undertaken and the second phase of the research involved matching data from the Victorian Department of Health and Human Services and Department of Education to further explore opportunities for early intervention to promote positive youth development.

Findings identified that in this sample early onset of offending was not necessarily a flag for future persistent offending. This contrasts with the association between age of onset of engagement in offending behaviour and level of future offending as described in the relevant literature (Dennison, 2011; Loeber & Farrington, 2000; Piquero, 2008). The current study shows an association between adverse childhood experience and youth offending consistent with findings from previous Australian research (Sentencing Advisory Council, 2016; Ringland, Weatherburn, & Poynton, 2015).

Potential protective opportunities

Results from this study demonstrate that the key differences between youth below the predicted level of contact with justice

systems at age 21 and the total sample is that the median age at initial contact with police, through onset of offending, Field Contact and missing person reports, was lower than that of the total sample (see Table 4). In the total sample there was a positive correlation between age of onset of offending and age of at first Field Contact and Missing Person report. This finding of initial contact with Police at an early age and not engaging in the level of serious offending as predicted warrants further exploration.

Consideration of Field Contact and Missing Person reports within the context of developmental stage and within the social ecology in which they are embedded enhances opportunities for police contact as a protective response. It is argued that if at age 11 years a child is found by Police on the street at 3am that the factors reflected in this context and therefore the potential response is markedly different from three 14 year old youth recorded in school grounds on a Saturday afternoon. The initial scenario may indicate a lack of safety or adequate supervision in the child's home and warrant referrals to child protection authorities or family support services as a part of the Police response. The second scenario

may result in consideration of situational prevention measures such as increasing school security or community responses to increase positive youth recreation opportunities.

Similarly consideration of Missing Person reports within a developmental perspective generates greater understanding of this data. First a Missing Person report requires an individual to recognise that the youth is absent and demonstrate concern and confidence that a report to Police will be useful. In the case of a child removed from their family and placed in alternate accommodation, by child protection authorities, it is procedure that a resident absent from their placement for a specified period must be reported missing by the placement agency (Health and Human Services, 2019). For those youth living within their family, a Missing Person report may be indicative of the extent of care the family demonstrates and willingness to take formal steps to ensure the safety of the child.

The results that early onset being related to youth who do not persist in offending as predicted, contrasts to the empirical literature that identifies early onset of offending as a factor associated with persistence. It is argued that contact with police whether through investigation of responsibility for an offending incident, being reported as missing or a field contact in early adolescence or younger may provide an opportunity for preventative intervention. Families and other social systems such as schools could be activated through the individual having police contact to increase safe guarding practices and reduce potential risk of further contact with justice authorities. Given this cohort of youth also had less exposure to family violence and childhood victimisation it is more likely these youth are from ‘pro-social’ family systems. In the instance of police involvement a form of re-integrative shaming (Braithwaite, 1989) may be operating. Families activate to address the context in which the police contact occurred and therefore this along with Police procedures contributes to interruption of a potential offending trajectory.

Practice Implications

Intervention based in the recognition of the reciprocal and interdependent relationships of structural, social and community factors that impact youth’s contact with the justice system and that reflect the developmental context of adolescence provide the basis for opportunities to interrupt a potential adverse trajectory (Lerner & Castillino, 2002). Field Contact, Missing Person and even interview in relation to an offending incident may provide a context in which this contact with police forms an intervention that can buffer the individual from the risk of future contact with justice systems.

Assink et al (2014) sought to identify those variables prior to engagement in offending that were most strongly associated with future delinquency. This understanding leads to opportunities for police to effectively intervene prior to the onset of offending for specific youth. The findings from the current study may be utilised by police to inform decision making at the earliest point of contact similar to the tool to predict onset of delinquency developed in the Netherlands by Assink et al (2014). The point of contact with police, reflected in the LEAP data on which the Victoria Police modelling is based, may form a protective factor. In the case that a youth has a family system that is positive and able to access community resources to support future positive development then no further action above current practice may be necessary. It is for the cohort of youth with substantial exposure to family violence and/or childhood victimisation that referrals to support services may be warranted to reduce the potential for future engagement in offending.

The data sets and analysis used in the current research, differs from the majority of predictive modelling reported in the literature, in that it is inclusive of data prior to formal processing of offending and contact with the youth justice system. The critical differences in the Victoria Police data analyses are consistent with the underlying intent in utilising LEAP data to enhance community safety and undertake early intervention.

Significance of false positives and negatives

In predictive modelling, there are limitations both in predictive validity and the scope of data in which the models are based. Falsely identifying a young person at risk or the converse can have both resource and ethical implications. Erroneous decisions to refer youth for intervention have implications for the individual, their family as well as the effective use of limited economic and social resources (Berk, 2019). There are ethical considerations in relation to the impact of a false positive. There is potential that stigmatisation of youth identified as likely to persist in offending can have subsequent adverse effects on well-being and behaviour. Similarly a false negative, when a youth likely to offend is not identified, represents a cost to the individual, society and resources due to impact of the offending across the social ecology. However to screen youth for potential further assessment or referral, on the basis of existing data sets, may result in benefits for all and is not as intrusive as full assessment of all youth at the point of contact with Police.

Limitations of this study

The sample was drawn from one regional police division and therefore findings may not be applicable to other locations such as metropolitan settings. This paper emanates from a project which is part of a broader research collaboration with a regional Child Youth Area Partnership (State Government of Victoria, 2014) and associated University to generate local collaborative service innovations to complex social concerns. The findings reported in this paper can be delivered specific to location and therefore the findings have validity for the community from which they were drawn. Payne and Weatherburn (2015) reinforce the importance of generating trajectories using local data and designing interventions specific to local context.

Data sets

The limitations of reliance on criminal justice data, such as police records and court outcomes, to understand the factors that correlate with youth offending is acknowledged. The inclusion of self-report of engagement in offending behaviour, Thornberry and Krohn (2000) argue, has greater reliability and validity as a measure of offending behaviour. Farrington, Ttofi, Crago, and Coid (2014) demonstrated a considerable greater volume in offending on the basis of self-report compared to official statistics. Official police data may underestimate the true extent of youth offending and the results may not be consistent across geographic location, type of crime or socioeconomic group.

There are ethical considerations if police database information is to be shared with other government authorities and community service agencies. La Fors-Owczynick (2015) assert that ‘protecting’ children from risk justifies prevention efforts however when these interventions contravene privacy and other rights there arises a tension between the ‘best interests’ of the child compared with ‘best interest’ of public safety.

Conclusion

The current study provides an application of analysis of criminogenic and vulnerability factors in police data to identify opportunities for early intervention to reduce youth persisting with life course offending. The findings indicate a cohort of youth for whom early onset of offending may not reflect potential for future persistence. The nexus between adverse childhood experiences and youth offending were supported by the results. The research supports the potential for early intervention at initial contact with police with the overarching aim being to ameliorate risk and strengthen protective factors.

The majority of the research in predictive modelling details trajectories once youth have had youth justice outcomes and predicts re-offending. This study differs from this empirical base in that predictions can be generated that include youth prior to formal criminal justice system contact. These findings, specific to the location from which the sample was drawn, may further inform current processes where police at the earliest point of contact with an individual, on the basis of available data sets, decide whether or not to facilitate further assessment or referral for support.

Furthermore the critical aspect of ethical and practice implications needs to be well understood if policy and practice to reduce the costs of youth contact with justice systems is to be achieved.

References

Allard, T., Chrzanowski, A., & Stewart, A. (2012). Targeting crime prevention: Identifying communities that generate chronic and costly offenders. *Trends & Issues in Crime & Criminal Justice*, 445, 1-8.

Allard, T., Stewart, A., Smith, C., Dennison, S., Chrzanowski, A., & Thompson, C. (2014). The monetary cost of offender trajectories: Findings from Queensland (Australia). *Australian & New Zealand Journal of Criminology*, 47(1), 81-101. doi:10.1177/0004865813503350

Amemiya, J., Vanderhei, S., & Monahan, K. C. (2017). Parsing apart the persisters: Etiological mechanisms and criminal offense patterns of moderate- and high-level persistent offenders. *Development & Psychopathology*, 29(3), 819-835. doi:10.1017/S095457941600050X

Assink, M., van der Put, C. E., & Stams, G. J. J. M. (2014). The development and validation of an actuarial risk assessment tool for the prediction of first-time offending. *International journal of offender therapy and comparative criminology*, 60(7), 847-864. doi:10.1177/0306624X14558204

Berk, R. A. (2019). *Machine Learning Risk Assessments in Criminal Justice Settings*. Cham: Springer International Publishing : Imprint: Springer.

Borum, R. (2000). Assessing violence risk among youth. *Journal of Clinical Psychology*, 56(10), 1263-1288. doi:10.1002/1097-4679(200010)56:10<1263::AID-JCLP3>3.0.CO;2-D

Braithwaite, J. (1989). *Crime, shame, and reintegration*. Cambridge:Cambridge University Press.

Broidy, L., Stewart, A., Thompson, C., Chrzanowski, A., Allard, T., & Dennison, S. (2015). Life Course Offending Pathways Across Gender and Race/Ethnicity. *Journal of Developmental and Life-Course Criminology*, 1(2), 118-149. doi:10.1007/s40865-015-0008-z

Case, S., & Haines, K. (2009). *Understanding Youth Offending: Risk Factor Research, Policy and Practice*. Cullompton, Devon UK.

Children and Youth and Families Act. 2005. [State of Victoria]

Crime Statistics Agency, State of Victoria (2019) Accessed:

www.crimestatistics.vic.gov.au/crime-statisticslatest-crime-data/spotlight-youth-offending-in-victoria)

Day, D.M. & Wiesner, M. (2019). *Criminal Trajectories: A Developmental Perspective* (pp. 1-368). New York: New York University (NYU) Press

Evans, S., Simons, L., & Simons, R. (2016). Factors that Influence Trajectories of Delinquency Throughout Adolescence. *Journal of Youth & Adolescence*, 45(1), 156-171. doi:10.1007/s10964-014-0197-5

Farrington, D. P., Ttofi, M. M., Crago, R. V., & Coid, J. W. (2014). Prevalence, frequency, onset, desistance and criminal career duration in self-reports compared with official records. *Criminal Behaviour and Mental Health*, 24(4), 241-253. doi:10.1002/cbm.1930

Ferrante, A. M. (2013). Assessing gender and ethnic differences in developmental trajectories of offending. *Australian & New Zealand Journal of Criminology*, 46(3), 379-402. doi:10.1177/0004865813490948

Health and Human Services, State of Victoria (2019) Accessed: https://www.cpmanual.vic.gov.au/policies-and-procedures/critical-incidents/missing-children-and-young-people-procedure

Heffernan, R. & Ward, T. (2018). Dynamic Risk Factors, Protective Factors and Value-Laden Practices. *Psychiatry, Psychology and Law*, 26(2), 1-17. doi:10.1080/13218719.2018.1506721

La Fors-Owczynik, K. (2015). Minor protection or major injustice? – Children’s rights and digital preventions directed at youth in the Dutch justice system. *Computer Law & Security Review: The International Journal of Technology Law and Practice*, 31(5), 651-667. doi:10.1016/j.clsr.2015.07.003

Lerner, R. M. & Castellino, D. R. (2002). Contemporary developmental theory and adolescence: developmental systems and applied developmental science. *Journal of Adolescent Health*, 31(6), 122-135. doi:10.1016/S1054-139X(02)00495-0

Livingston M, Stewart A, Allard T, & Ogilvie, J.(2008) Understanding juvenile offending trajectories.Australia and New Zealand Journal of Criminology 41: 345–363.

Loeber, R. & Farrington, D. P. (2000). Young children who commit crime: Epidemiology, developmental origins, risk factors, early interventions, and policy implications. *Develop. Psychopathol.*, 12(4), 737-762. doi:10.1017/S0954579400004107

Marshall, J. (2006) Juvenile Offending Trajectories: A South Australian Study. Office of Crime Statistics and Research, Department of Justice, South Australia.

Nagin, D. S. & Land, K. C. (1993). Age, criminal careers, and population heterogeneity: specification and estimation of a nonparametric, mixed poisson model. *Criminology*, 31(3), 327-362.

Payne, J., Brown, R., & Broadhurst, R. (2016) Where have all the young offenders gone? Examing changes in offending between two NSW birth cohorts *Trends & Issues in Crime & Criminal Justice* (553), 1-16.

Payne, J. & Weatherburn, D. (2015) Juvenile Reoffending: a ten-year retrospective cohort analysis *Australian Journal of Social Issues*. 50(4) 349-371

Piquero, A. (2008). Taking stock of developmental trajectories of criminal activity over the life course. In A. Liberman (Ed.), *The Long View of Crime: A Synthesis of Longitudinal Research* (1st ed., pp. 23-78). New York: Springer-Verlag.

Ringland, C., Weatherburn, D., & Poynton, S. (2015). Can child protection data improve the prediction of re-offending in young persons? *Crime & Justice Bulletin*, 188, 1-20.

Sampson, R. J. & Laub, J. H. (1993). *Crime in the Making:Pathways and Turning Points through Life*. Cambridge, MA: Havard University Press.

Sentencing Advisory Council (2016). *Reoffending by Children and Young People in Victoria*. Melbourne, Victoria, Australia: Sentencing Advisory Council.

Shepherd, S. M., Newton, D., Harries, C., Fix, R. L., & Fullam, R. (2018). An analysis of high-risk offending pathways for young females in custody. *Psychiatry, Psychology and Law*, 26(2), 1-12. doi:10.1080/13218719.2018.1487344

Skrzypiec, G. & Wundersitz, J. (2005) *Young People Born 1984: Extent of Involvement with the Juvenile Justice System*, Adelaide: South Australia Office of Crime Statistics and Research.

Sutherland, P. & Millsteed, M. (2016). Patterns of recorded offending behaviour amongst young Victorian offenders. Retrieved from Melbourne:

Sweeten, G., Piquero, A., & Steinberg, L. (2013). Age and the Explanation of Crime, Revisited. *Journal of Youth & Adolescence*, 42(6), 921-938. doi:10.1007/s10964-013-9926-4

Thornberry, T. P. & Krohn, M. D. (2005). Applying intereactional theory to the explanation of continuity and change in antisocial behaviour. In D. Farrington (Ed.), *Integrated developmental and Life-Course Theories of Offending, Advances in Criminological Theory* (Vol. 14, pp. 183-209). New Brunswick, NJ: Transaction Publishers.

Tolan, P. (2007). Risk and Protective Factors for Violence for Inner-City Youth: Findings from the Chicago Youth Development Study. *Conference Papers -- American Society of Criminology*.

Tolan, P. (2001). Emerging Themes and Challenges in Understanding Youth Violence Involvement. *Journal of Clinical Child Psychology*, 30(2), 233-239.

Ward, T. & Maruna, S. (2007). *Rehabilitation: Beyond the Risk Paradigm* London: Routledge

Weatherburn, D., Cush, R., & Saunders, P. (2007). Screening Juvenile Offenders for Further Assessment and Intervention. *Trends & Issues in Crime & Criminal Justice*, 109, 1-11.

Wallace, M., Turner, J., Matarazzo, A., & Babyak, C. (2009) 'Measuring Crime in Canada:Introducing the crime Severity Index and Improvements to Uniform Crime Reporting Survey', Canadian Centre for Justice Studies.

Weaver, C. (2010). Identifying Gendered Trajectories of Offending for a Panel of First Time Youth Offenders: Exploring the Influence of Time-stable Covariates. *US Department of Justice*.

Developing a Risk Matrix to prevent the loss and theft of Firearms in Queensland

Authored by: **Senior Sergeant Darren Green**

Abstract

Australian and New Zealand research has identified that issues around non-compliance with storage requirements are contributing to theft and loss of firearms, highlighting the need for a proactive, prevention based, approach. However, with over 200,000 weapons licence holders just in Queensland, a risk-based matrix is required to identify persons most likely to be in breach of their legislated storage requirements. This paper aims to identify potential risk factors to start this process by reviewing occurrences in Queensland reporting the theft or loss of firearms. Analysis identified that increasing age and the amount of time a weapons licence is held may be reliable predictors of reported loss or theft. It is also unlikely that the number of firearms held is a valid predictor of future theft. However, further research is required to confirm these as risk factors and identify additional or compounding risk factors.

Firearm research

Following events in 1996 Australian states and territories introduced a number of legislative reforms aimed at reducing gun related violence (Mouzos 2002; Weapons Act 1990). These measures included mandatory storage requirements to reduce the likelihood that lawfully obtained firearms could be lost or stolen and end up being used in future offences (Alpers and Walters 1998; Mouzos 2002). Evidence suggests this is highly effective, with a recent meta-analysis of international research finding that countries with similar legislation tend to experience lower rates of gun related violence (Santaella-Tenorio, Cerda, Villaveces and Galea 2016).

In Queensland this is enabled through the Weapons Act (1996) which places requirements on weapons licence holders to ensure the safe storage and use of firearms. Part of this process includes weapons licence audits where police attend the weapons licence holder's storage address to physical inspect the firearms and method of storage (Queensland Police Service 2019; Queensland Audit Office 2020). The aim of the auditing process is to deter weapons licence holders from breaching their legislated requirements by randomly conducting audits and increasing the perceived risk of legal actions if licence holders are found to be non-compliant (Nagin 2013; Felson and Eckert 2018; Queensland Audit Office 2020). This process is heavily based on deterrence theory but to be effective the perceived risk of legal action must be certain (Williams 2002).

Since legislation was introduced to restrict the use of firearms to legitimate pursuits and requirements the number of weapons licence holders in Queensland has grown considerably (Queensland Audit Office 2020). As of May 2019, there were 200,437 weapons licence holders in Queensland (Ryan 2019). A recent report completed by the Queensland Audit Office (2020) found that the number of weapons licence holders increased by 17% between 2015 and 2020. This represents a significant logistical challenge to proactively detect and deter breaches of safe storage through a weapons licensing audit process. This is also highlighted by the Queensland Auditors Office (2020) report which identified a number of issues with the current system.

Given the current increase in demands and economic constraints on law enforcement agencies there is also a benefit to improving

the efficiency of the weapons licensing audit process (Wilson and Weiss 2014; Queensland Police Service 2020; Queensland Audit Office 2020). The need for a risk- based strategy is further highlighted by Mouzos and Sakurai (2006) who found only 0.03% of weapons licence holders in Queensland reported a theft of firearms over a six-month period.

Proactively identifying and addressing this 0.03% is part of recent recommendations for Queensland Police (Queensland Audit Office 2020).

While there is a considerable body of international research on gun violence and its prevention or early identification of risk factors associated with misuse, there is very little research looking at the theft of firearms or strategies to proactively prevent firearm theft (Braga and Pierce 2005; Braga and Weisburd 2018; Wintemute 2015). In addition to this no research was located looking at firearm loss. New South Wales has previously implemented a risk-based audit process focusing on the number of weapons stored, the types of weapons stored and the time since the last inspection (Audit Office of New South Wales 2019). These factors represented a reasonable starting point for this research. However, the New South Wales process started to drop off in 2016 (Audit Office of New South Wales 2019).

While limited in number there have been several Australian studies looking at firearm thefts that can be used to start informing a risk-based audit matrix. These studies tend to focus on the number of firearms stolen, where they are stolen from, the type of firearms stolen and storage compliance at the time of theft (Mouzos 2002; Bricknell 2018; Mouzos and Sakurai 2006). This research has generally been broken down to the state level (Bricknell 2018). In 2018 Bricknell, found that 46% of firearm thefts in Queensland involved a single firearm while the theft of 10 or more firearms occurred in less than 5% of the reported offences. This data suggests that the number of firearms owned by a weapons licence holder may not be a good predictor of theft or loss. Further research has also found that in 58% of firearm theft other items are stolen at the same time, suggesting that firearm theft is generally opportunistic (Mouzos and Sakurai 2006). Consistent with these findings, survey data has identified that 43% of weapons licence holders, in New Zealand, did not comply with storage requirements (Alpers and Walters 1998). On top of this, researchers have also found that repeat victimisation is low, around 2% (Mouzos and Sakurai 2006). As a result, taking enforcement action for storage breaches at the time of reporting a theft or loss will likely be too late to prevent the future firearm thefts or losses. This highlights the importance of a proactive approach to weapons licensing compliance.

Methodology

The purpose of this research is to start identifying potential risk factors that can be used by enforcement agencies to more effectively implement weapons licensing audits. While there are numerous avenues that such research could focus on an initial study should start with data that can be easily operationalised. To achieve this, incidents of theft or loss were reviewed to try and identify trends in reporting.

Analysis in this paper focused on the following questions;

- 1.Do weapons licence holders become complacent with storage requirements over time, increasing the likelihood of a theft or loss?
2. Could the average number of firearms stolen be used to identify weapons licence holders more likely to report a theft or loss?
3. How do weapons licensing audits impact the reported theft or loss of firearms?
- 4.How many firearm thefts or losses are reported after the owner passes away, limiting investigations into the recovery of firearms?

Data was obtained from the Queensland Police Records and Information Management Exchange (QPRIME) for this research. All firearms, requiring a licence, reported as lost or stolen across three

policing Districts, in two Regions, in Queensland from 01/01/2017 to 30/06/2020 were reviewed. The three Districts contained 17.5% of the reported loss or theft of firearms in Queensland during this period. Analysis for this paper focused on occurrences (as opposed to firearm counts) as they represent an incident resulting in the theft or loss of firearms. With each incident involving a place and a victim that could be prioritised for proactive intervention.

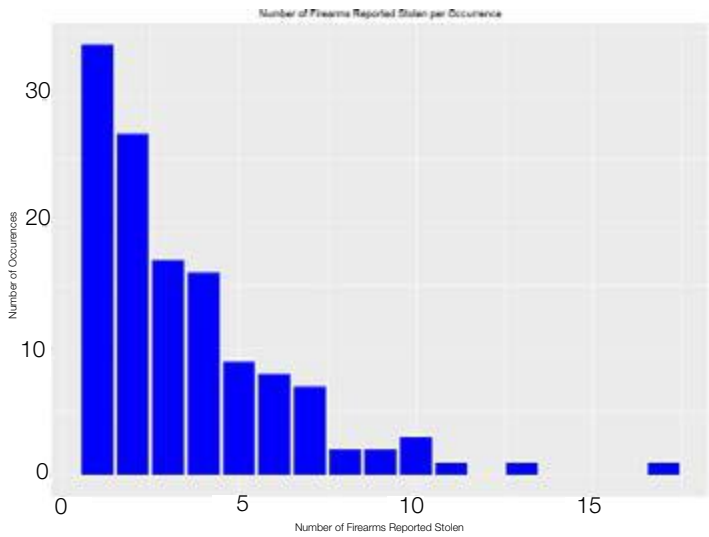
57 occurrences were removed from analysis due to incorrect classification of firearm involvement or insufficient data for analysis. This included victims who held an interstate licence (insufficient data available) or the victim was a business. 187 occurrences were identified as being suitable for review. Each occurrence was broken down to record when the victim/s first acquired their weapons licence, the date of the most recent weapons audit (prior to the theft), the offence start date, the offence end date, the number of firearms stolen and if the firearm was reported lost or stolen as a result of the owner passing away. These factors were specifically reviewed as they were commonly cited in the research and reports completed the Audit Offices in Queensland and New South Wales (Queensland Audit Office 2020; Audit Office of New South Wales 2019). The last date of audit was included as this is the primary mechanism used to deter breaches of safe storage requirements.

Results

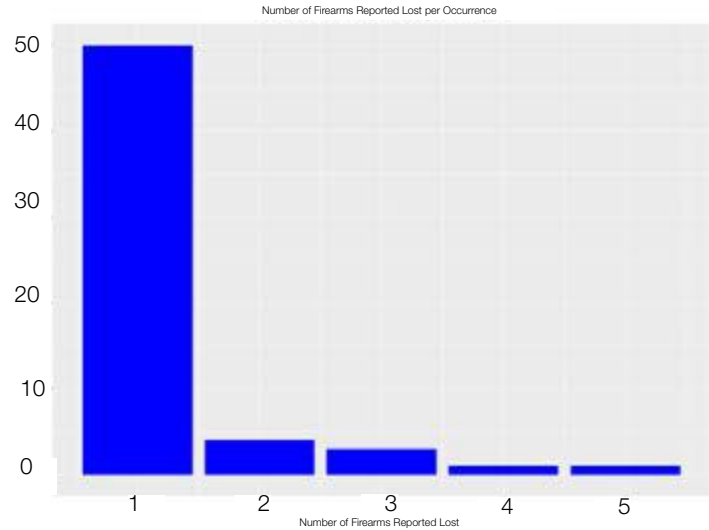
Number of firearms stolen

The total firearms reported lost or stolen during the review period ranged from one to 17 per occurrence. Consistent with previous research it was more common for a single firearm to be reported lost or stolen (Bricknell 2018). However, there was difference between the number of firearms reported stolen per occurrence (Graph 1) to the number of firearms reported lost (Graph 2). Overall, an average of three firearms were reported lost or stolen per occurrence while only six occurrences (3.21%) reported the theft of 10 or more firearms. 72.19% of occurrences reported three or fewer firearms as lost or stolen. Occurrences involving the theft of one to three firearms represented 38.5% of individual firearms reported across the three districts. Occurrences reporting the theft or loss of one to nine firearms accounted for 455 firearms (86.51%). While the theft of 10 or more only accounted for 13.49% of all firearms stolen.

Graph 1: Number of firearms reported stolen per occurrence

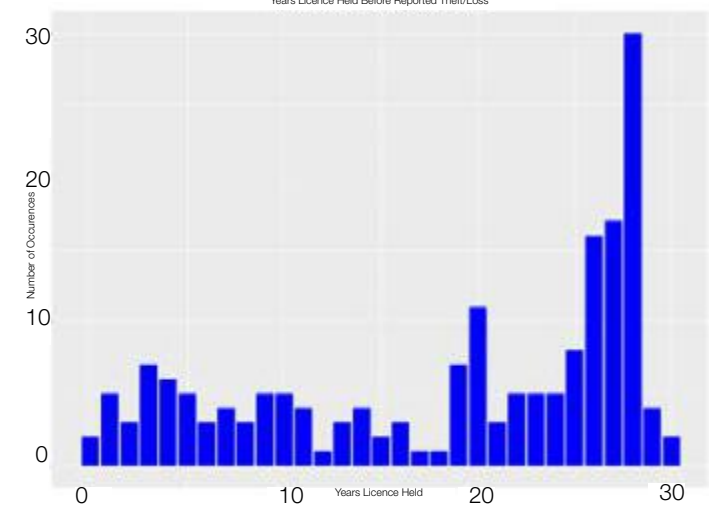


Graph 2: Number of firearms reported lost per occurrence



62.56% of weapons licence holders had held a weapons licence for 19 years or more prior to reporting the theft or loss of their firearm/s (Graph 3). Very little difference was observed when assessing theft or loss of firearms separately.

Graph 3: Year Between licence acquisition and reported theft or loss of firearm



Continued on next page >>

Lost Firearms

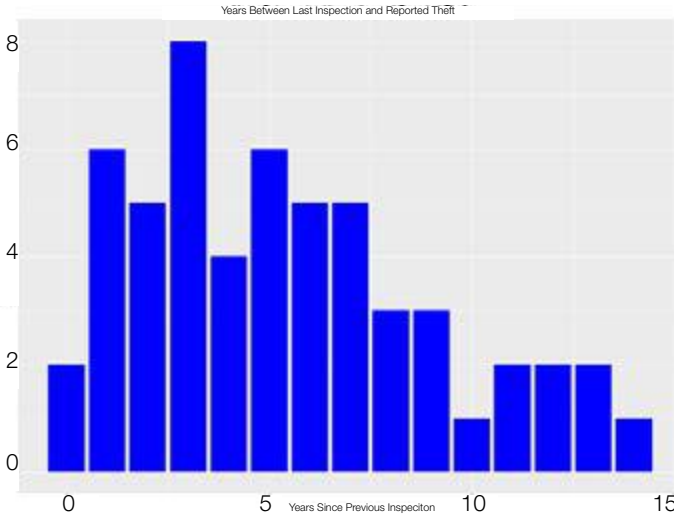
Firearms reported as lost accounted for 31.55% of all occurrences reviewed and 14% of individual firearms reported as missing. As noted above this generally involved the loss of a single firearm. The number of firearms involved was the primary difference between firearms reported as lost versus those reported stolen. However, it was identified that 9.6% all firearms reported lost or stolen were the result of a deceased estate. When specifically looking at firearms reported as lost this increased to 28.8% of occurrences.

Inspections

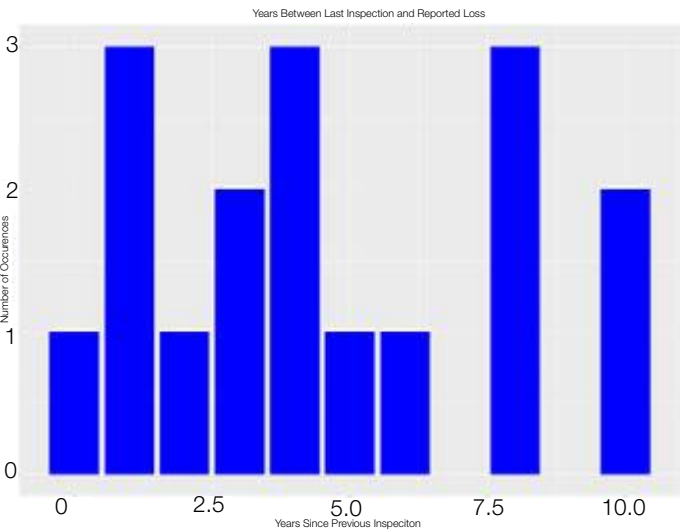
It was identified during analysis that a number of inspections prompted the reporting of the theft or loss of firearms. This data was removed from the inspections analysis as the aim of this paper was to assess how audits impacted, ideally prevented, the theft or loss of firearms.

It was identified that 57.22% victims had never been inspected prior to the reported theft or loss. For two of the three districts this rate was higher at 70.27% and is consistent with findings from the Queensland Audit Office (2020). The current data sample cannot be used to assess the efficacy of weapons licensing audits that have been conducted because it only considers persons who have been audited and reported the theft or loss of a firearm. It does not consider the number of weapons licence holders who have been audited and never reported a theft or loss. However, it was identified for this particular sample there does not appear to be a protective benefit from an audit prior to a reported theft or loss. Graphs 4 and 5 illustrate that the majority of reported thefts or loss of firearms occurred within 10 years of an audit being completed. There are a number of possible explanations for this including the efficacy of the audit conducted and the base burglary rate where the weapons were stored. These issues are discussed in the Future Research section of this article.

Graph 4: Years between Inspection and theft.



Graph 5: Years between inspection and loss



Discussion

As already noted, further research is required to finalise a risk-based weapons auditing strategy. Based on this data a risk-based audit process should start by focusing on;

- Licence holders who have held a licence for more than 19 years,
- Licence holders who are over 80 years of age and
- Weapons licence holders who have never been audited.

With 62.56% of lost or stolen firearms being reported by persons who have held a licence for an extended period of time this should be the primary focus of a risk-based audit program. This is supported by previous research which suggests there is a level of complacency amongst weapons licence holders (Mouzos and Sakurai 2006; Alpers and Walters 1998).

Given the high representation of firearms being reported as lost or stolen due to a weapons licence holder passing away it would be prudent to conduct audits prior to their passing. In this case the most logical method would be automatically conducting an audit when a person is approaching or reaches the age of average life expectancy, currently 80.9 years for males in Queensland (Australian Bureau of Statistics 2020). To assist with this process standardised resources should be developed providing information for transferring, relinquishing or selling firearms, including ensuring a Will exists listing each firearm.

While this research found no impact from audits there are a number of limitations to this finding. Future research in this space is required and is discussed below. In the interim increasing the perceived risk of legal ramifications for failing to comply with storage requirements should be the primary objective of any proactive risk-based audit (Nagin 2013).

Finally, whilst previous risk-based strategies have focused on the number of firearms owned by a weapons licence holder the evidence suggests this may not be appropriate (Audit Office of New South Wales 2019). In fact, the vast majority of firearms potentially ending up in the possession of unlicensed persons are lost or stolen in small numbers. The theft of large numbers of firearms is unlikely. It may be more efficient for a risk-based matrix to focus on more consistent risk factors such as age and the number of years a weapons licence has been held. With only six occurrences involving the theft of large number of firearms it is not possible to provide a reliable review of

the data. However, a cursory review of data relating to these six occurrences identified that two occurrences involved weapons licence holders who had held a weapons licence for more than 19 years. Additionally, four of the six licence holders had never been inspected. As a result, five of the six occurrences involved weapons licence holders who would have been prioritised using the results identified in this analysis.

Future Research

This research was conducted to identify potential risk factors to improve the efficacy of weapons licensing audits in Queensland and Australasia. However, there is very little research in this space and further is required. Specifically, research is required to identify what an effective audit looks like but also to identify if a compounding of risk exists. Broader collaboration is required to identify the key risk factors that can be used to develop an accurate risk-based auditing process.

While this research did not find any protective benefit from weapons audits it does not provide evidence that they should not be conducted. Previous research has identified that there is a reluctance, by police, to charge weapons licence holders with breaches, when detected (Mouzos 2006). Deterrence Theory suggests that this would likely reduce the certainty of punishment, thus reducing the impact of the audit process or potentially encourage continued breaches (Nagin 2013). The impact of enforcement action taken when a breach was detected is another area that requires research. Further to this, with the implementation of adult cautioning as an enforcement outcome in

Queensland it may be a viable strategy to increase police action when detecting breaches during the audit process (QPS 2020b). Such research should also asses if this type of enforcement action will increase the perceived certainty of enforcement action amongst weapons licensing holders, thus reducing storage breaches (Nagin 2013).

The potential risk factors identified in this research also warrants further investigation. This can be achieved through the inclusion of additional data. For example, identifying the prevalence of the potential risk factors in the broader weapons licence holder community will provide further insight into the accuracy of the proposed risk factors. Another avenue of research is to conduct a comparison of reported rates of theft/loss by the type of weapons licence held or the total value of firearms held. It is reasonable to assume that collectors or persons to have spent considerable amounts of money on firearms are more likely to protect their interests that persons who have spent a minimal amount of money for utilitarian purposes. Finally, research in this space also needs to use baseline data such the burglary risk for an area. Based on current Australian research the majority of firearm thefts are opportunistic, so it stands to reason that firearm storage locations in burglary hot spots are more likely to be stolen (Alpers and Walters 1998; Mouzos and Sakurai 2006; Braga and Weisburd 2020). This may also provide further insight as to why audits in this sample did not appear to be effective.

References

Alpers, P, & Walters, R, 1998 'Firearms Theft in New Zealand – Lessons for Crime and Injury Prevention', *The Australian and New Zealand Journal of Criminology*, vol. 31, no. 1, pp. 85-95.

Audit Office of New South Wales 2019, *Firearms regulation*, Audit Office of New South Wales, Sydney, viewed 8 November 2020, < <https://www.audit.nsw.gov.au/reports/firearms-regulation>>.

nsw.gov.au/our-work/reports/firearms-regulation>.

Australian Bureau of Statistics, 2020, *Life tables*, Australian Government, Accessed 08 January 2021, <<https://www.abs.gov.au/statistics/people/population/life-tables/latest-release>>.

Braga, AA, & Pierce, 2005, 'Disrupting illegal firearms Markets in Boston: The effects of Operation Ceasefire on the Supply of New Handguns to Criminals', *Criminology & Public Policy*, vol. 4, no. 4, pp. 717-748.

Braga, AA, & Weisburd, D, 2018, 'Focused Deterrence Strategies and Crime Control', *Criminology & Public Policy*, vol. 17, no. 1, pp. 205-250.

Braga, AA, & Weisburd, DL, 2020, 'Does Hot Spots Policing Have Meaningful Impacts on Crime? Findings from An Alternative Approach to Estimating Effect Sizes from Place-Based Program Evaluations', *Journal of Quantitative Criminology*.

Bricknell, S, 2018, *Firearm theft in Australia 2018*, Statistical Report no 24, Australian Institute of Criminology, Canberra, viewed 10 November 2020, < <https://www.aic.gov.au/publications/sr/sr24>>.

Felson, M & Eckert, MA 2018 *Introductory Criminology*, Routledge, New York.

Mouzos, J, & Sakurai, Y, 2006, *Firearms theft in Australia: a six-month exploratory analysis*, Technical and background paper series 20, Australian Institute of Criminology, Canberra, viewed 10 November 2020, < <https://www.aic.gov.au/publications/tbp/tbp20>>.

Mouzos, J, 2002, *Firearms Theft in Australia, Trends & issues in crime and criminal justice* no 230, Australian Institute of Criminology, viewed 10 November, < <https://www.aic.gov.au/publications/tandi/tandi230>>.

Nagin, DS, 2013, 'Deterrence in the Twenty-First Century' *Crime and Justice*, vol 42, no. 1, pp. 199- 263.

Queensland Audit Office, 2020, *Regulating firearms*, Queensland Audit Office, Brisbane, viewed 10 December 2020, <<https://www.qao.qld.gov.au/reports-resources/reports-parliament/regulating-firearms>>.

Queensland Police Service, 2019, *Weapons law and legislation*, Queensland Government, Brisbane, viewed 23 January 2021, < <https://www.police.qld.gov.au/weapon-licensing/weapons-law-and-legislation>>.

Queensland Police Service, 2020a, *Strategic Plan 2020-2024*, Queensland Government, Brisbane, viewed 14 January 2021, < https://www.police.qld.gov.au/sites/default/files/2021-01/QPS_Strategic%20Plan%202020-2024.pdf>.

Queensland Police Service, 2020b, *Operational Procedures Manual*, Queensland Government, Brisbane, Viewed 08 January 2021, <<https://www.police.qld.gov.au/qps-corporate-documents/operational-policies/operational-procedures-manual>>.

Ryan, M, 2019, *Question on Notice no 808, Questions on Notice and Answers*, Brisbane, viewed 10 January 2021, < <https://www.parliament.qld.gov.au/documents/tableOffice/questionsAnswers/2019/808-2019.pdf>>.

Santaella-Tenorio, J, Cerda, M, Villaveces, A & Galea, S, 2016, 'What Do We Know About the Association Between Firearm Legislation and Firearm-Related Injuries?', *Epidemiologic Reviews*, vol. 38, pp. 140-157.

Weapons Act 1990 (Qld)

Williams, KS, 2012, *Criminology*, 7th edn, Oxford University Press, Oxford.

Wilson, JM & Weiss, A, 2014, 'Police Staffing Allocation and Managing Workload Demand: A Critical Assessment of Existing Practices', *Policing: A journal of Policy and Practice*, vol.8, no. 2, pp. 96-108.

Wintemute, GJ, 2015, 'The Epidemiology of Firearm Violence in the Twenty-First Century United States', *Annual Review of Public Health*, vol. 36, pp. 5-19.

Kate Mora & Ryan Jones, Evidence Based Policing Centre, NZ Police

Police in New Zealand complete thousands of vehicle stops per day, of which most occur without incident. However, a small but growing proportion of drivers either do not stop, or do not remain stopped; referred to as fleeing drivers. In 2019, there were 4837 recorded fleeing driver events, up from 4070 in 2018. While these events have been steadily increasing, so has the rate of pursuit abandonment due to the risk assessment decisions of frontline staff and pursuit controllers, with over 63% of 2019 pursuits abandoned (59% in 2018). The issue of how to hold fleeing drivers to account while balancing public and police safety is therefore one of the most challenging decisions frontline officers face on a daily basis, as well as for Executive staff making policy decisions.

In early 2019, the Independent Police Conduct Authority (IPCA) and NZ Police released a thematic review of events, practices, and procedures relating to the management of fleeing driver events. This review included a Fleeing Driver Action Plan, containing eight high level recommendations for police to action. One of these recommendations was to commission research to improve the understanding of the motivations of fleeing drivers, with a focus on young people, drugs and alcohol, and mental health; this recommendation formed the basis of the Fleeing Driver Research Programme.

Table 1. Summary of research questions and methods

Research Question	Methodology	Reference
What can the literature on young people's perceptions of police, and their general driving behaviour (e.g. risk perception and attitudes) tell us about their likely motivations to flee police?	<ul style="list-style-type: none">Literature review	Mora & Jones (2019)
How can the information from post-event interviews of fleeing drivers be better used by Police?	<ul style="list-style-type: none">Review of international best practiceStocktake of current NZ Police practice	Mora & Jones (2020)
Why do people say they flee police?	<ul style="list-style-type: none">40 structured interviews with known fleeing drivers	Cording, Gore, Westerman & Kaiwai (2020a)
What role does media (both traditional and social) play in public perceptions of fleeing driver events, particularly for at-risk offenders, but also for the general public?	<ul style="list-style-type: none">12 focus groupsSplit by age, offender/general public, location	Cording, Westerman, Gore & Kaiwai (2020b)
What is the relationship between drivers' offending and their likelihood of fleeing Police?	<ul style="list-style-type: none">Analysis of NZ Police datasets and Fleeing Driver Notification Database	Mora, C. Jones, Robson, Chapman & R. Jones (2020)
What are the most effective mechanisms for interventions to reduce fleeing driver events?	<ul style="list-style-type: none">Best practice literature reviewApplication of behavioural insightsSummary of findings from other tranches	Jones & Mora (2020)

Six tranches of research were developed by the NZ Police Evidence Based Policing Centre. Four tranches were conducted by centre researchers and two were conducted by researchers from the University of Canterbury, New Zealand over an 18-month period. A summary of the research questions and methods is provided in Table 1. The Fleeing Driver Research Programme was overseen by an Advisory Group which included representatives from other relevant government agencies and experts in justice, behavioural insights and brain development.

Prior to the research programme, the majority of research on fleeing drivers was based on Police administrative data and focussed on the demographics of offenders, and the context around pursuits (e.g. conditions and outcomes). A small number of studies interviewed fleeing drivers (e.g. Dunham, Alpert, Kenny & Cromwell, 1998; Halsey, 2008), however little is known about the reasons drivers fail to stop for police, particularly within the New Zealand context. There also appears to be no international best practice for the collection of intelligence information on this behaviour, despite a widespread desire for this information from the research and practitioner community (Mora & Jones, 2020).

Based on the first tranche literature review (Mora & Jones, 2019), an important distinction in the possible motivations of fleeing drivers was proposed and used throughout the remaining tranches.

a) There may be some individuals who seek out pursuits (show intention). These individuals may be motivated by the risk taking and 'joyriding' that occurs in the chase.

b) There may be other individuals who are disposed to flee police (show willingness). These individuals may hold negative attitudes toward the police (and perceived treatment by authority figures in general) which may motivate them to have an oppositional approach to police requests. In these cases, the vehicle and the driving behaviour may be of no circumstance, with the motivating factor being eluding police.

c) Finally, there may be individuals who are purely motivated by situational factors at that specific time. For example, these factors may include drivers who are impaired by drugs or alcohol, or avoiding apprehension and punishment for other offending, who would stop when requested in a different situation.

The tranches engaging with fleeing drivers supported these distinctions (Cording, Gore, Westerman & Kaiwai, 2020a), with the majority of participants indicating they fled police to avoid apprehension and punishment for other offending. This decision making was more rational than expected, where offenders balanced their perceived likelihood of being able to evade police as high, compared with the risk of additional negative consequences should they be apprehended.

Minimal evidence emerged during the interviews of drivers seeking out pursuits. While many individuals reported an adrenaline rush or thrill from evading police, they suggested they only fled when 'necessary' and reported finding the actual pursuit itself unpleasant and stressful. Despite an expectation based on previous literature suggesting that young people may be more motivated by risk taking and impulsivity, this was not supported by the tranche three interviews (Cording et al., 2020a). However, younger drivers did report more of the expected risk-taking behaviours during pursuits, such as deliberately driving in a dangerous manner to force police to abandon, particularly when in the presence of peers.

The perception of fleeing drivers as young and motivated by thrill-seeking was commonly held by members of the general public (Cording, Westerman, Gore & Kaiwai, 2020b). Despite anecdotal reports of young people posting videos of their offending on social media, the majority did not, and those who were exposed to them did not view them in a positive light.

Members of the general public acknowledged that media coverage of fleeing driver events was likely to be biased. Despite this, members of the public assumed that most fleeing driver events ended in negative outcomes (e.g. crashes and fatalities) based on what they observed in the media (Cording et al., 2020b).

According to Cording et al. (2020a), a generally oppositional approach to police requests and anti-police attitudes were a common motivation across all age groups of fleeing drivers. Many believed they were being unfairly harassed or were on a different 'team' to police, which contributed to, or justified, their decision to flee. Substance use was commonly reported as a motivation for fleeing, both to avoid detection of impairment and/or drug possession, and because of the effect of substances on decision making. Specific mental health issues or diagnoses were not commonly reported, however general life stressors and negative life experiences were thought to influence maladaptive coping responses for many individuals. Interviewees reported disregard for their own safety and wellbeing, as well as disregarding the consequences of their behaviour.

In an attempt to generalise the findings of the interviews to a wider population of fleeing drivers, an analysis of NZ Police fleeing driver notification data (incorporating additional information from the National Intelligence Application on wider offending of identified fleeing drivers) was also conducted (Mora, C. Jones, Robson, Chapman & R. Jones, 2020). From this analysis, eight different offending patterns were developed to give insight into how representative these motivations may be based on co-occurring and historical offending. Overall, most fleeing drivers who were apprehended had committed other offences, however the seriousness of that offending was not as high at the time they fled compared with their wider offence history. Contrary to the other tranches of research, this tranche did find some indication of a purely 'thrill-seeking' group, although this represented less than 15% of the total dataset. Most fleeing drivers therefore appeared to be motivated by either a history of criminal offending (which may influence their perception of police, or may have made them believe they would face higher consequences for even low level offending) or have found themselves in a particular offending situation at the time they are signalled to stop.

Conclusions and Recommendations

The strongest theme through the qualitative research was that fleeing drivers perceived that fleeing was worth the risk compared to

the punishment they would face for other offending. Deterrence literature suggests the key approach to reducing offending would be to increase the certainty of punishment for fleeing police; the more individuals believe that even if they are not apprehended at the time they flee, they will subsequently be held to account, the less they will consider it a risk worth taking.

The relationship with the severity of punishment is more complex. Given that many fleeing drivers suggest they flee to avoid apprehension and punishment for other offending, increasing penalties for fleeing police may have mixed results. For some, the perceived additional cost should they be apprehended may reduce their likelihood of deciding to flee, while for others this additional cost may motivate them to continue to flee when they otherwise may have stopped when a pursuit is in progress. Therefore, an increased emphasis on investigations and holding fleeing drivers to account is recommended over an increase in penalties.

Most fleeing drivers have had previous contact with police in other settings. These other interactions may be more influential in reducing future fleeing behaviour or intent than apprehending drivers at the time they flee. For example, greater perceived procedural justice, positive interactions with police staff, and help received from Police for associated needs (e.g. driver licensing, alcohol and drug treatment referrals) may all increase compliance with police requests in future.

One of the few interventions which offenders identified as a strong deterrent for fleeing was the use of helicopter surveillance, with many drivers suggesting it was one of the few things that would make them stop during a pursuit. A report by the Behavioural Insights Team (2018) suggested that increasing the salience, and reducing the predictability, of surveillance by the Air Support Unit could provide some deterrent effect. This recommendation is supported by the findings of the Fleeing Driver Research Programme.

Limitations

While the Fleeing Driver Research Programme is world-leading in terms of the insights gathered from offenders, there are some limitations to the research that should be considered. First, the interviews conducted with offenders were conducted months or even years after the offending occurred; interviewees may therefore have rationalised their behaviour more with hindsight, removing some of the emotion and impulsivity to their reported decision making. Second, it was only possible to include fleeing drivers in the quantitative

data analysis who have been identified (either at the time of the pursuit or in a subsequent investigation). Therefore, any analysis excludes offenders who were never identified, and may underestimate the number of recidivist offenders.

References

Behavioural Insights Team (2018). *Applying behavioural insights to bail and fleeing drivers*. Wellington: The Behavioural Insights Team.

Cording, J., Gore, A., Westerman, A., & Kaiwai (2020a). *Understanding the motivations of fleeing drivers: Individual factors*. Report for NZ Police. Christchurch: University of Canterbury. Access from <https://www.police.govt.nz/about-us/publication/fleeing-driver-research-reports>

Cording, J., Westerman, A., Gore, A., & Kaiwai (2020b). *Understanding the motivations of fleeing drivers: Media influences*. Report for NZ Police. Christchurch: University of Canterbury. Access from <https://www.police.govt.nz/about-us/publication/fleeing-driver-research-reports>

Dunham, R.G., Alpert, G.P., Kenny, D.J., & Cromwell, P. (1998). *High-speed pursuit: The offenders' perspective*. *Criminal Justice & Behaviour*, 25(1), 30-45.

Halsey, M. (2008). *Narrating the Chase: Edgework and Young Peoples' Experiences of Crime*. In T. Anthony & C. Cunneen (Eds). *The Critical Criminology Companion*. Australia: Hawkins.

Jones, R., & Mora, K. (2020). *Understanding the motivations of fleeing drivers: Interventions to reduce fleeing driver events*. Wellington: Evidence Based Policing Centre, NZ Police. Access from <https://www.police.govt.nz/about-us/publication/fleeing-driver-research-reports>

Mora, K., & Jones, R., (2019). *Understanding the motivations of fleeing drivers: Literature review of youth motivations*. Wellington: Evidence Based Policing Centre, NZ Police. Access from <https://www.police.govt.nz/about-us/publication/fleeing-driver-research-reports>

Mora, K., & Jones, R., (2020). *Understanding the motivations of fleeing drivers: Improving the use of post-event interviews*. Wellington: Evidence Based Policing Centre, NZ Police. Access from <https://www.police.govt.nz/about-us/publication/fleeing-driver-research-reports>

Mora, K., Jones, C., Robson, J., Chapman, K., & Jones, R. (2020). *Understanding the motivations of fleeing drivers: Relationships with other offending*. Wellington: Evidence Based Policing Centre, NZ Police. Access from <https://www.police.govt.nz/about-us/publication/fleeing-driver-research-reports>

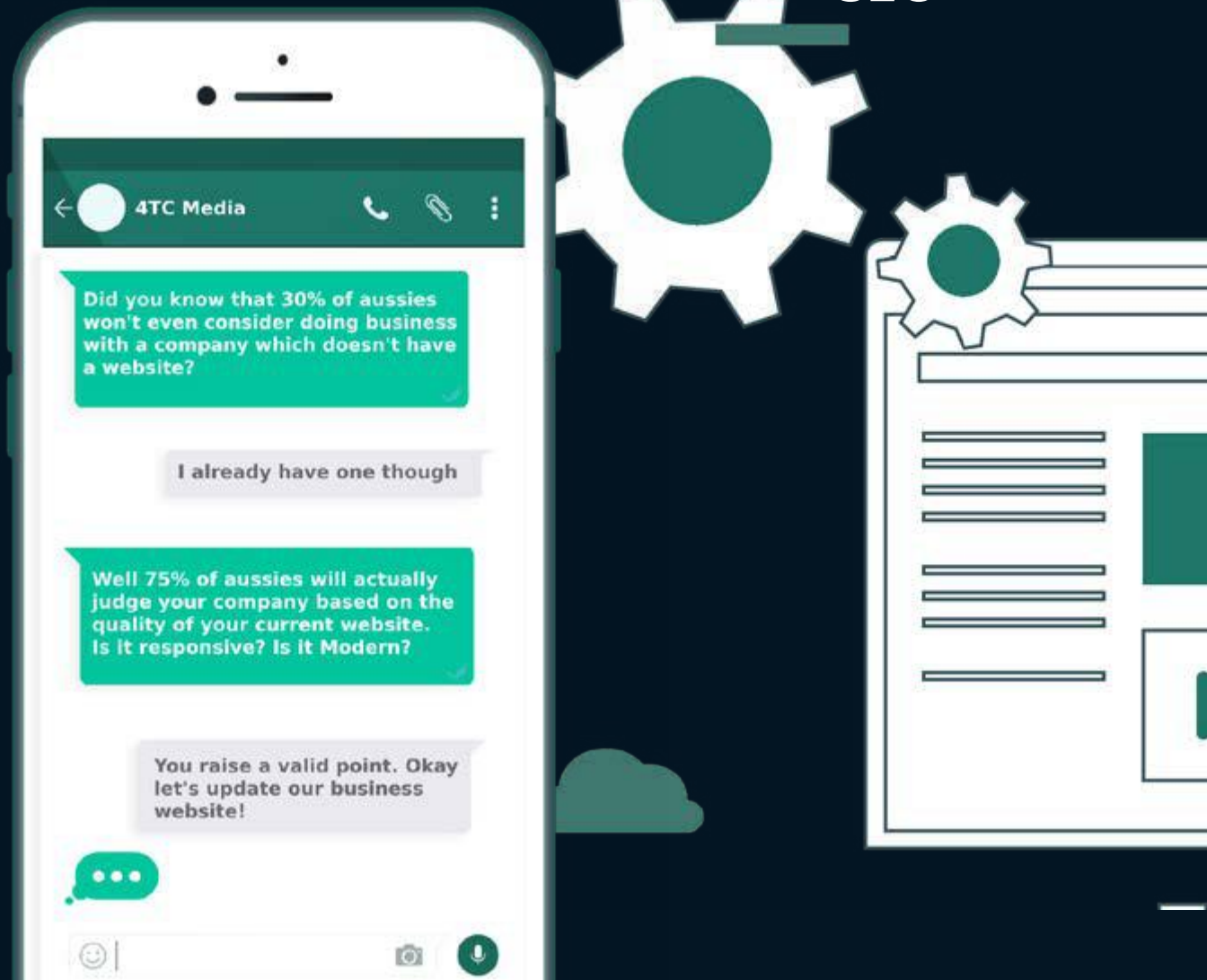


GIVE YOUR BUSINESS A FRESH LOOK
IN 2020

BUSINESS WEBSITES

from **\$990**

Web Design
Google Ads
SEO



Contact us today on management@4tcmedia.com.au or visit www.4tcmedia.com.au to take advantage of this offer.

CRIME STOPPERS VICTORIA

IS

A

NOT-FOR-PROFIT

ORGANISATION

**CRIME
STOPPERS**
.com.au
1800 333 000

VICTORIA

**HELP KEEP YOUR FAMILY
AND COMMUNITY SAFE**

DONATE ONLINE

