

Case Report

Fingerprint Identifications from Explicit Photographs Lead to Pedophile Convictions

Cameron Forsyth

*Forensic Evidence and Technical Services Command
New South Wales Police Force, Australia*

Abstract: This case report discusses how usable friction ridge detail that was present in several pornographic photographs led to the positive identification of two offenders. This resulted in both offenders pleading guilty to child-related sex offenses.

Introduction

Many pedophiles and sex offenders use the safety of their own homes to access the internet to produce or exploit a database of child abuse material on a large geographic scale while maintaining their anonymity [1, 2]. A large portion of this child pornography material [referred to as “child abuse material” by New South Wales Police Force (NSWPF)] comprises digital images of offenders committing acts of sexual violence against infants or juveniles. Between 1999 and 2005, convictions for possessing, downloading, or distributing child abuse material rose over 500% in the United Kingdom [3]. Furthermore, Wolak et al. [4] estimated that during 2010 and 2011, more than 280 million files of child abuse material were shared worldwide.

True numbers of child abuse material images circulating the worldwide web are difficult to determine. However, the study by Wolak et al. [4] indicated that approximately 26,600 images were shared on an average day in the United States during 2010 and 2011.

Received September 12, 2019; accepted October 12, 2019

Traditionally, child sex offenders fall into three main categories: (1) those who only view child abuse material (fantasy offenders); (2) those who create the material for personal gratification (contact offenders); and (3) those who view, collect, create, and distribute child abuse material (mixed offenders) [1, 5]. Patterns of behavior of sex offenders have been examined in a study by Babchishin et al. [6], who found that one out of eight child pornography offenders will have a recorded “contact” sex offense against a child prior to producing his or her own child abuse material, suggesting that a number of warning signs or behavioral patterns occur prior to the production of child porn.

Investigation

As the result of a search warrant in Victoria for an unrelated matter, Victoria Police came into possession of images depicting child abuse material. These photographs depicted fingers exposing a child’s genitals. The photographs also contained several images of the friction ridge skin of the perpetrators. Investigations by Victoria Police resulted in two males (Offender A and Offender B) being arrested and charged with possession of the child abuse material. The Victoria Police discovered that the victim who was depicted in the material resided in New South Wales, prompting Victoria Police to contact and forward the material to investigators in NSW.

Ultimately, five images that were forwarded by Victoria Police were of suitable quality and clarity bearing clear friction ridge detail for comparison between the two nominated suspects in this matter. Before being compared, the genitals of the victim were “sanitized” (obscured). This had a twofold purpose: (1) it enabled the two fingerprint experts to work the case while not being subjected to the graphic image, and (2) it preserved the dignity of the victim in this matter. During the analysis and comparison phases of the images, the digital images needed to be flipped (Figure 1). (This enabled the comparison of the flipped digital image with the correct left to right orientation of the images as captured on the tenprint form.) The only other enhancements to the images were brightness and contrast. The initial comparison identified Offender A to four images containing child exploitation material. Upon verification, these preliminary identifications (Figure 2) results were provided to the lead investigator.

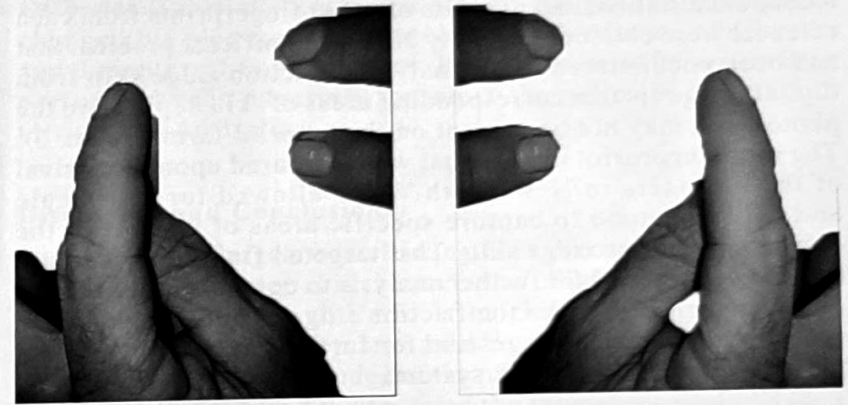


Figure 1

*Sanitized image (background showing genitals of the victim).
Left-hand image showing original cropped image.
Right-hand image showing flipped image for ease of comparison.*

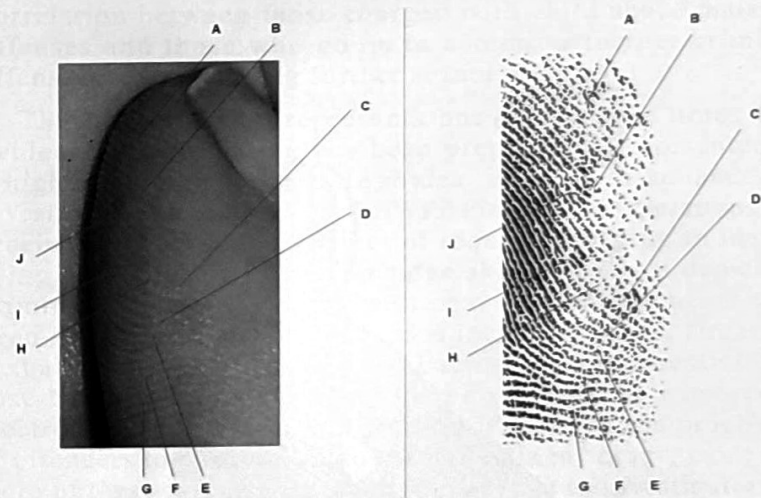


Figure 2

Marked comparison chart produced for court presentation.

Both offenders were extradited from Victoria and transported to New South Wales, where, upon arrival, they were taken to the local police station, and new sets of arrest fingerprints from each offender were obtained on 6 July 2016. A significant problem that has been encountered when analyzing friction ridge skin from digital images is that corresponding areas of skin depicted in the photograph may not be present on the tenprint form (Figure 3). The new fingerprint images that were captured upon the arrival of the offenders in New South Wales allowed for a strategic and lawful method to capture specific areas of interest of the offenders' friction ridge skin. This targeted fingerprint capture method was needed for further analysis to compare certain areas of friction ridge skin to the friction ridge skin depicted in the child abuse material images and for further presentation within the New South Wales legal system.

On 7 July 2016, a re-examination of the images that were supplied using the fingerprints for both offenders that were captured upon arrival in New South Wales was conducted. This further analysis and comparison reconfirmed the identification of Offender A to four of the images containing child exploitation material and enabled the identification of Offender B to the fifth image.

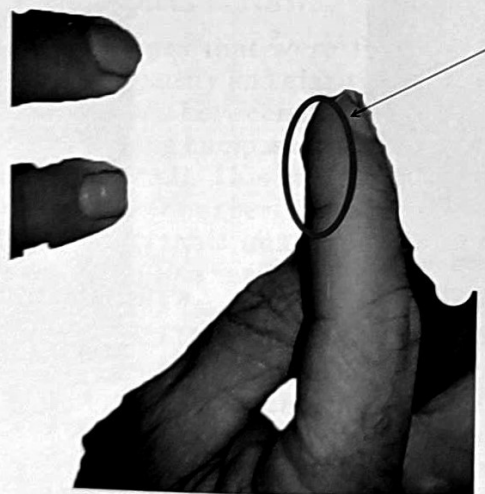


Figure 3
Area of interest in flipped image.

As a result of this evidence, Offender A entered an early guilty plea, resulting in a sentence of 15 years of imprisonment. Offender B initially entered a plea of not guilty, however, he changed his plea to guilty, resulting in a sentence of 13 years and 9 months of imprisonment. Prior to these offenses, neither person had been adversely known to the police in any state or territory in Australia.

Discussion and Conclusions

Some of the largest contributing factors to offenders producing child abuse material is the access to children to produce said material and the ease with which the child can be groomed [6]. Generally, contact offenders tend to groom victims to some degree without the knowledge of the parent or guardian. However, the case in this report deviates from the typical cases of child sex offending that are usually investigated by the NSWPF because the child was less than 12 months old and therefore too young to be groomed personally. Instead, the offenders groomed the parent and built trust to allow them solo access to the victim. They were able to use this opportunity for the purpose of making the child abuse material. Krone et al. [7] show that there is a high correlation between those charged with child abuse material offenses and those who go on to commit a further criminal offense (15%), including further sexual offenses.

This investigation represents one of the first times that evidence of this nature has been prepared and presented to a higher court in New South Wales. Because of advances in investigation techniques, the NSWPF Fingerprint Operations has received an increasing number of inquiries relating to identifying offenders from friction ridge skin on images depicting criminal offenses from nontraditional sources. Requests have been made for this service in cases including drugs, firearms, sexual assaults, and pedophiles. Each request is assessed on a case-by-case basis. Because of the quality of the cameras in electronic devices (e.g., cell phones, iPads) and the proclivity of offenders to post images to social media to "brag", more and more of these images will become available to investigators in the future.

Analyzing images that have been captured via phones tends to be difficult because of the positioning of the friction ridge skin within the images, the lack of scaling, and overall image quality. But cell phone cameras are improving, and resulting images can be quite high quality, resulting in identifiable images. Advances

in police investigations throughout Australia using this sort of imagery may assist to make a dent in child exploitation rings. The world of anonymity, previously enjoyed by child sex offenders, is being eroded through the digital age.

For further information, please contact:

Cameron Forsyth
Fingerprint Operations, Forensic Evidence and
Technical Services Command
New South Wales Police Force
Parramatta, New South Wales, Australia
fors1cam@police.nsw.gov.au

References

1. Thanh, L.; Murphy, L; Fedoroff, J. P. Understanding Online Child Sexual Exploitation Offenses. *Current Psychiatry Rep.* **2016**, (18), 74.
2. McCarthy, J. A. Internet Sexual Activity: a Comparison Between Contact and Non-contact Child Pornography Offenders. *J. Sex. Aggression* **2010**, 16 (2), 181–195.
3. Aslan, D.; Edelmann, R. Demographic and Offence Characteristics: A Comparison of Sex Offenders Convicted of Possessing Indecent Images of Children, Committing Contact Sex Offences or Both Offences. *J. For. Psychiatry & Psychology*, **2014**, 25 (2), 121–134.
4. Wolak, J.; Liberatore, M.; Levine, B. N. Measuring a Year of Child Pornography Trafficking by U.S. Computers on a Peer-to-Peer Network. *Child Abuse & Neglect* **2014**, 38 (2), 347–356.
5. Merdian, H. L.; Curtis, C.; Thakker, J.; Wilson, N.; Boer, D. P. The Three Dimensions of Online Child Pornography Offending. *J. Sex. Aggression* **2013**, 19 (1), 121–132.
6. Babchishin, K. M.; Hanson, R. K.; VanZuylen, H. Online Child Pornography Offenders are Different: A Meta-analysis of the Characteristics of Online and Offline Sex Offenders Against Children. *Archives of Sex Behaviour* **2015**, 44 (1), 45–66.
7. Krone, T.; Smith, R. G.; Cartwright, J.; Hutchings, A; Tomison, A; Napier, S. *Online Child Sexual Exploitation Offenders: A Study of Australian Law Enforcement Data.* Australian Institute of Criminology Grant CRG 58/12-13. 2017; pp 11, 52.