

## RECONCEPTUALISING REFORMS TO CROSS-EXAMINATION: EXTENDING THE RELIABILITY REVOLUTION BEYOND THE FORENSIC SCIENCES

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Cross-examination, as a central component of the adversarial trial, has long been thought of as a reliable method of revealing whether a witness is lying, mistaken or unreliable. However, in recent years it has increasingly been the subject of criticism, leading to reforms in various Australian states and territories, particularly in relation to vulnerable witnesses (such as children and domestic and family violence survivors). Cross-examination and the forensic sciences are similar in that they both utilise techniques to uncover and assess evidence from the subject – testimony from a witness or scientific findings from physical evidence. Although forensic science methods were presumed reliable for decades, the discipline has recently experienced a ‘reliability revolution’, with research challenging the reliability of various forensic science techniques. This article examines current empirical research on cross-examination methods and argues that the reliability revolution should now be extended to cross-examination to improve the reliability of testimony elicited from witnesses.

### I INTRODUCTION

Since its inception in the 18<sup>th</sup> and 19<sup>th</sup> centuries, modern cross-examination has been thought of as a reliable method of testing a witness’ evidence and revealing whether the witness is lying, mistaken or unreliable.<sup>1</sup> Recent empirical research indicates, however, that traditional cross-examination techniques may not produce accurate testimony, particularly for so-called ‘vulnerable’ or ‘special’ witnesses (such as children, sexual assault victims and those with intellectual disabilities).<sup>2</sup> As a result, some Australian states and territories have introduced reforms for vulnerable witnesses, including special measures provisions and guidelines for cross-examining children. However, these reforms do not necessarily address the potential unreliability of cross-examination techniques generally, nor are all reforms based on empirical evidence. Furthermore, there is a dearth of empirical research into some aspects of cross-examination, such as which techniques will actually produce *reliable* evidence (as opposed to showing that current techniques are unreliable) as well as how other witnesses that could be considered vulnerable (such as domestic and family violence (‘DFV’) victims) should ideally be questioned in order to elicit the most reliable testimony. In Australia’s adversarial legal system where significant weight is placed on oral evidence, it is critical that the methods being used to test that evidence are themselves reliable.

The issue of reliability, albeit in the forensic sciences, was brought to the forefront of academic discussions in the late 2000s when the United States’ National Research Council (‘NRC’) released its landmark report, *Strengthening Forensic Science in the United States: A Path Forward* (‘NRC Report’). That report emphasised the need for empirical research to address

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<sup>1</sup> Louise Ellison, *The Adversarial Process and the Vulnerable Witness* (Oxford University Press, 2001) 11.

<sup>2</sup> Feminist theory has also long posited that cross-examination is not reliable, based on women’s experiences in court: see, eg, Rosemary Hunter and Kathy Mack, ‘Exclusion and Silence: Procedure and Evidence’ in Ngaire Naffine and Rosemary J Owens (eds), *Sexing the Subject of Law* (LBC Information Services, 1997) 171, 181. While concerns have also been raised over techniques used in examination-in-chief, this article will focus on cross-examination because of its specific role in the adversarial trial as a method of challenging and testing the witness and his or her testimony.

issues of accuracy, reliability and validity in the forensic sciences.<sup>3</sup> Less than a decade later in 2016, the US President's Council of Advisors on Science and Technology ('PCAST') released its report, *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* ('PCAST Report').<sup>4</sup> That report was strongly critical of the state of several forensic science disciplines, emphasising the need for evaluation of forensic methods to scientifically determine whether they were valid and reliable. These reports spurred research into the reliability of various forensic science disciplines (which I term the 'reliability revolution'), with the subsequent body of research revealing that many forensic science methods were in fact not reliable or valid.<sup>5</sup> These results led to concerns being raised amongst legal practitioners and academics about the admissibility of forensic science evidence in the courtroom which, notably, had been admitted almost without question for decades.<sup>6</sup> Now, the issue of reliable forensic science evidence is at the centre of many discussions around the admissibility of expert opinion evidence.

In this article I argue that the reliability revolution which has gripped the forensic sciences in recent years must be extended to cross-examination. I use child witnesses and DFV survivors as case studies to illustrate that while research into the reliability of cross-examination techniques has been gaining traction, it is by no means comprehensive. Furthermore, modifying the law and legal practices to reflect the results of this research has not always been successful, while those reforms that have been introduced predominantly aim to reduce the distress of witnesses testifying rather than addressing issues with unreliable cross-examination techniques. Although the critique of cross-examination is by no means new, the purpose of this article is to reconceptualise these critiques through a new lens – that of reliability.

The article begins, in Part II, by exploring the concept of reliability in the forensic sciences. It discusses the NRC and PCAST Reports and considers how those reports have sparked change within the forensic science community. Part III then examines Australia's evidentiary rules for the admission of expert opinions and whether those rules require forensic science evidence to be reliable. Part IV discusses cross-examination as it is generally used today, drawing similarities between the legal treatment of forensic science evidence and cross-examination, before considering the results of empirical research on certain cross-examination techniques. Taking a closer look at the empirical research, Part V then examines specific classes of witness that may be especially vulnerable to traditional cross-examination techniques, namely child witnesses and DFV survivors – particularly those victims of DFV suffering Post-Traumatic Stress Disorder ('PTSD') and/or acquired brain injuries ('ABI'). It considers reforms that have been introduced in Australia to cater for the needs of these witness classes but argues that some of these reforms are insufficient to overcome problems such witnesses may have with giving evidence. The article concludes by advocating for a reliability revolution within the sphere of cross-examination and makes recommendations as to how evidence-based cross-examination could be achieved.<sup>7</sup>

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<sup>3</sup> National Research Council, *Strengthening Forensic Science in the United States: A Path Forward* (National Academies Press, August 2009) 22–23.

<sup>4</sup> President's Council of Advisors on Science and Technology, *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* (September 2016).

<sup>5</sup> This research has formed part of the larger general distrust of scientific methods that has become so prevalent over the last decade: see, eg, the replication crisis and issues with 'p-hacking' that have arisen in the sphere of psychology.

<sup>6</sup> Fingerprint evidence, for example, was almost universally believed to be infallible but examination of the literature by PCAST revealed a substantial false positive rate and issues with reliably applying the techniques in practice: President's Council of Advisors on Science and Technology (n 4) 9–11.

<sup>7</sup> But note that in the social sciences, the concepts of 'evidence-based policy', 'gold standard' research methodologies and objectivity in research have been questioned and criticised: see, eg, Greg Marston and Rob Watts, 'Tampering with the Evidence: A Critical Appraisal of Evidence-

## II RELIABILITY AND THE FORENSIC SCIENCES

Specific notions of reliability differ amongst science disciplines. The PCAST Report, however, utilised two key terms in defining what it meant for a forensic scientific method to be reliable – ‘foundational validity’, which refers to the extent to which a forensic science method is repeatable, reproducible and accurate, and ‘validity as applied’, which enquires into the extent to which the method has been reliably applied in practice.<sup>8</sup> Martire and Edmond similarly defined reliability as the extent to which results, observations or conclusions of a human, apparatus or procedure are reproducible.<sup>9</sup> However, they distinguished reliability from validity, defining validity as the extent to which a technique, procedure or analysis does what it is intended to do in a scientifically robust manner.<sup>10</sup> Regardless of specific definitions, at its core ‘reliability’ in the forensic sciences concerns the *accuracy* and *consistency* of methods, procedures or techniques, as well as of their application in specific scenarios by forensic science practitioners. As such techniques are intended to uncover some truth (usually constructed in terms of probabilities) from the physical evidence being examined (such as whether two fingerprints are consistent or whether a particular DNA sample likely belongs to the defendant), it is crucial to ultimate fact-finding that they produce results that are as free from error as possible.

Prior to publication of the NRC and PCAST Reports, commentary on the reliability of forensic science techniques was modest, at most. Many of the traditional forensic science techniques had been developed decades prior by investigators working in police laboratories.<sup>11</sup> Instead of testing these techniques during their development for reliability using empirical studies, they were developed through experience, observation and non-systematic experimentation, usually through investigation of particular crime scenes.<sup>12</sup> Most, if not all, of these newly developed techniques were subsequently used in criminal trials.<sup>13</sup> Acceptance by the courts conferred legitimacy on the various forensic science disciplines, both within the legal and forensic science spheres (what Edmond terms ‘pathological socio-legal co-production’).<sup>14</sup> It was not until the development of DNA technologies and their application to forensic settings in the 1980s that attention was drawn to the reliability and validity of forensic science techniques.<sup>15</sup> Significant research into DNA analysis ensured that techniques used were both reliable and valid, ‘[setting] the bar higher for other forensic science methodologies’.<sup>16</sup> DNA has since been used to exonerate those wrongfully convicted on the basis of faulty forensic science evidence, which raised concerns over the reliability of other forensic sciences.<sup>17</sup>

These concerns culminated in publication of the NRC and PCAST Reports, whose committees conducted extensive research into the state of the forensic sciences. Critically, the NRC Report

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Based Policy-Making’ (2003) 3(3) *The Drawing Board: An Australian Review of Public Affairs* 143; Robert J Sampson, ‘Gold Standard Myths: Observations on the Experimental Turn in Quantitative Criminology’ (2010) 26 *Journal of Quantitative Criminology* 489.

<sup>8</sup> President’s Council of Advisors on Science and Technology (n 4) 47–8, 56.

<sup>9</sup> Kristy A Martire and Gary Edmond, ‘Rethinking Expert Opinion Evidence’ (2017) 40 *Melbourne University Law Review* 967, 982.

<sup>10</sup> *Ibid.*

<sup>11</sup> Gary Edmond, ‘Forensic Science Evidence, Adversarial Criminal Proceedings, and Mainstream Scientific “Advice”’ in Darryl K Brown, Jenia Iontcheva Turner and Bettina Weisser (eds), *The Oxford Handbook of Criminal Process* (Oxford University Press, 2019) 760, 762; National Research Council (n 3) 42, 128.

<sup>12</sup> *Ibid.* For example, tool mark analysis and bite mark analysis were developed in this way.

<sup>13</sup> National Research Council (n 3) 42.

<sup>14</sup> Edmond (n 11) 763. See also National Research Council (n 3) 42.

<sup>15</sup> National Research Council (n 3) 40–1; PCAST (n 4) 25–6.

<sup>16</sup> National Research Council (n 3) 41.

<sup>17</sup> *Ibid.* 41–2; President’s Council of Advisors on Science and Technology (n 4) 25–6.

concluded that '[the] simple reality is that the interpretation of forensic evidence is not always based on scientific studies to determine its validity... Although research has been done in some disciplines, there is a notable dearth of peer-reviewed, published studies establishing the scientific bases and validity of many forensic methods'.<sup>18</sup> It emphasised that research into the accuracy, reliability and validity of forensic science disciplines was needed.<sup>19</sup> The PCAST Report built upon the NRC Report, strongly criticising both the foundational validity and validity as applied of many feature-comparison forensic disciplines, such as bite mark and footwear analysis. It concluded that '[for] forensic feature-comparison methods, establishing foundational validity based on empirical evidence is thus a *sine qua non*. Nothing can substitute for it'.<sup>20</sup>

Since publication of these reports, considerable research has been conducted into the reliability and validity of numerous forensic science techniques. This research has shown that some techniques, such as latent fingerprint analysis, are actually unreliable in some respects.<sup>21</sup> In addition to research into whether a technique works, academics have highlighted that research must be conducted into how well techniques work and in what conditions.<sup>22</sup> Emphasis is placed on knowing the limitations of techniques (error-rates), and communicating these to fact-finders.<sup>23</sup> Certainly, the forensic sciences have experienced a 'reliability revolution' in the last two decades, with practitioners becoming increasingly concerned about the reliability of their discipline's methods and procedures. For example, forensic odontologists in Australia (those who have historically given evidence on bite marks) have ceased using bite mark analysis to provide positive identifications of perpetrators and are now extremely conservative with their findings when discussing bite marks in court.<sup>24</sup> Furthermore, forensic science laboratories are universally encouraged to obtain accreditation as to their demonstrated reliability.<sup>25</sup>

Despite the significant emphasis on the reliability of forensic science techniques in recent years, little has changed in the law's response to forensic science evidence, although legal academics have increasingly advocated for change to Australian evidence law to reflect current

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<sup>18</sup> National Research Council (n 3) 8.

<sup>19</sup> Ibid 22–3.

<sup>20</sup> President's Council of Advisors on Science and Technology (n 4) 6.

<sup>21</sup> Felicity Graham, *Fingerprints and Expert Identification Evidence: Markers of Unreliability* (Paper, October 2014). Many practitioners have claimed that latent fingerprint analysis can identify the source of a latent print with 100% accuracy, but this is not the case: see Gary Edmond, Emma Cuncliffe and David Hamer, 'Fingerprint Comparison and Adversarialism: The Scientific and Historical Evidence' (2020) *Modern Law Review* (advance).

<sup>22</sup> Martire and Edmond (n 9) 994.

<sup>23</sup> See Gary Edmond, 'Forensic Science Evidence and the Conditions for Rational (Jury) Evaluation' (2015) 39 *Melbourne University Law Review* 77.

<sup>24</sup> See Australian Society of Forensic Odontology, *Guidelines for the Conduct of Bitemark Analysis in Australia* (October 2013); Mark Page, Jane Taylor and Matt Blenkin, 'Reality Bites – A Ten-Year Retrospective Analysis of Bitemark Casework in Australia' (2012) 216(1-3) *Forensic Science International* 216. Bite mark evidence in Australia is generally only given in relation to: questions over whether a bite was made by an animal or human (see, eg, *Salehi v The Queen* (1999) WASCA 279); whether injuries are consistent with a specific description of an alleged assault (see, eg, *Knight v State of NSW* (2002) NSWCA 392); what may have caused certain facial or dental injuries (see, eg, *Babic v The Queen* (2010) VSCA 198; *R v Baden-Clay* (2015) QCA 265; *R v RB* (2018) VSC 142); child abuse cases (see, eg, *R v Smith* (2013) NSWSC 796; *R v Abrahams* (2013) NSWSC 952); and sexual offence cases (see, eg, *SV v The Queen* (2017) ACTCA 41).

<sup>25</sup> See, eg, National Association of Testing Authorities Australia, 'Legal (Including Forensic Science) Accreditation Criteria Publications Checklist' (2020) <<https://www.nata.com.au/accreditation-information/accreditation-criteria-and-guidance/nata-accreditation-criteria-nac-packages/laboratory-accreditation-iso-iec-17025/category/20-legal>>.

scientific knowledge.<sup>26</sup> The next part will discuss Australia's expert opinion admissibility rules and whether those rules require expert evidence to be reliable.

### III EXPERT OPINION EVIDENCE AND RELIABILITY

Evidence law in Australian states and territories can be found either in the Uniform Evidence Law ('UEL') or the common law. In UEL jurisdictions,<sup>27</sup> admissibility of expert opinions is governed by section 79 of the UEL: opinions will be admissible where 'the person has specialised knowledge based on [their] training, study or experience' and their opinion is 'wholly or substantially based on that knowledge'. The court in *R v Tang* (2006) 65 NSWLR 681 considered the meaning of 'specialised knowledge' and drew on the US case of *Daubert v Merrell Dow Pharmaceuticals Inc.*, 509 U.S. 579 (1993) ('*Daubert*'). In *Daubert*, the court held that opinions based on 'scientific, technical and other specialised knowledge' must be both relevant and reliable to be admitted and outlined several factors to consider when determining whether such evidence was reliable:

1. Whether the theory or technique can be and has been tested,
2. Whether the theory or technique has been subjected to peer review and publication,
3. The known or potential error of a technique,
4. The existence and maintenance of standards controlling the technique's operation, and
5. The degree of acceptance of the technique within the relevant scientific community.<sup>28</sup>

Despite *Daubert's* emphasis on reliability, the court in *R v Tang* ultimately rejected the need for 'specialised knowledge' to be reliable to be admitted, holding that 'the focus of attention must be on the words "specialised knowledge", not on the introduction of an extraneous idea such as "reliability"'.<sup>29</sup> This has been endorsed by several courts in subsequent decisions,<sup>30</sup> meaning Australian law does not require forensic science or other expert evidence to actually be reliable for it to be admissible. Furthermore, Australian courts in UEL jurisdictions have been formally prevented from considering reliability when determining whether to exclude evidence under section 137 of the UEL (the probative versus prejudicial discretionary exclusion), rather holding that this is an issue to be considered by fact-finders.<sup>31</sup>

Expert evidence admissibility rules in Australian common law jurisdictions<sup>32</sup> differ from UEL jurisdictions, although similarly have no reliability criterion. To be admissible, the opinion must be beyond common knowledge and based on an established field of expertise, while the witness must be an expert in the field (their expertise obtained through training, study or experience).<sup>33</sup> There is no requirement that the field of expertise be proven as reliable.

Australian courts in both common law and UEL jurisdictions are therefore concerned most with the expert's qualifications and experience than with reliability of the methods used and

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<sup>26</sup> See, eg, Gary Edmond, 'Impartiality, Efficiency or Reliability? A Critical Response to Expert Evidence Law and Procedure in Australia' (2010) 42(2) *Australian Journal of Forensic Sciences* 83; Martire and Edmond (n 11); Christopher Beale and George Georgiou, "'His Winnowing Fan Is in His Hand'" (2020) 52(3) *Australian Journal of Forensic Sciences* 261.

<sup>27</sup> These include New South Wales, Victoria, Tasmania, the Australian Capital Territory, the Northern Territory, and the Commonwealth.

<sup>28</sup> *Daubert v Merrell Dow Pharmaceuticals Inc.*, 509 U.S. 579 (1993), 593–4.

<sup>29</sup> *Ibid* [137].

<sup>30</sup> See, eg, *Honeysett v The Queen* [2014] HCA 29, *R v Tuite* (2015) 49 VR 196, *IMM v The Queen* [2016] HCA 14.

<sup>31</sup> See *IMM v The Queen* [2016] HCA 14.

<sup>32</sup> These include Queensland, South Australia and Western Australia.

<sup>33</sup> *Clark v Ryan* (1960) 103 CLR 486, 491.

their application, leaving questions of reliability to fact-finders at trial.<sup>34</sup> Ultimately, courts tend to rely on precedent and the courts' long standing historical acceptance of expert evidence (particularly forensic science evidence) when deciding whether such evidence is admissible, ignoring current scientific knowledge.<sup>35</sup> However, this means that fact-finders may not actually be receiving reliable evidence, which calls into question the reliability of decisions made on the basis of that evidence.<sup>36</sup> As the PCAST Report cautions, '[when] new facts falsify old assumptions, courts should not be obliged to defer to past precedents: they should look afresh at the scientific issues'.<sup>37</sup>

Despite the current reluctance of Australian courts to embrace new scientific knowledge, legal academics (and, indeed, the legal profession) are increasingly becoming more aware of the issue of unreliable forensic science, with some academics advocating for reform of Australian evidence law.<sup>38</sup> This has laid the foundation for courts and the legal system to, one day, adopt legal standards consistent with knowledge generated by the forensic sciences' reliability revolution. Certainly, without the initial reliability revolution in the forensic sciences, a change within the law would be impossible.

While a significant focus of the reliability revolution has been on scientific knowledge derived from the forensic sciences, there is a great need for the revolution to be extended beyond this. It is crucial that the methods used to obtain oral evidence, arguably the key pillar of the adversarial criminal trial, be evidence-based. One aspect of giving oral testimony in particular – cross-examination – has increasingly been criticised as an unfair and unreliable method of questioning witnesses. Akin to the forensic sciences, the techniques and tactics used during cross-examination have not been developed on the basis of scientific knowledge yet have been accepted by the legal profession as legitimate methods of testing evidence. Furthermore, they have only just recently begun to be challenged and tested by various scientific fields. This research indicates that the techniques used may not be generating reliable evidence for fact-finders to base their decisions on. Therefore, as occurred with the forensic sciences, it is critical that comprehensive and systematic empirical research into cross-examination be conducted to determine the reliability of methods used. The next part will discuss the purposes of cross-examination and techniques that are routinely used in practice, before examining current empirical research into aspects of cross-examination.

#### IV CROSS-EXAMINATION

##### ***A Cross-Examination: Brief History, Purpose and Use in Practice***

Cross-examination developed in the 18<sup>th</sup> and 19<sup>th</sup> centuries largely in response to the rise of the adversarial criminal trial and increased use of counsel on behalf of the prosecution and defence.<sup>39</sup> It is just one aspect of the principle of orality, which provides that witnesses should give evidence live and in person before fact-finders because (it has long been thought) this will produce the most reliable evidence.<sup>40</sup> Oral testimony allows fact-finders themselves to assess

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<sup>34</sup> Gary Edmond, 'Forensic Science and the Myth of Adversarial Testing' (2020) 32(2) *Current Issues in Criminal Justice* 146, 153; Martire and Edmond (n 11) 984.

<sup>35</sup> Martire and Edmond (n 11) 984.

<sup>36</sup> Edmond (n 23).

<sup>37</sup> President's Council of Advisors on Science and Technology (n 4) 144.

<sup>38</sup> See, eg, Edmond (n 26); Martire and Edmond (n 11); Beale and Georgiou (n 26).

<sup>39</sup> John H Langbein, 'Historical Foundations of the Law of Evidence: A View from the Ryder Sources' (1996) 96(5) *Columbia Law Review* 1168, 1194 ('Historical Foundations'); Jules Epstein, 'Cross-Examination: Seemingly Ubiquitous, Purportedly Omnipotent and "At Risk"' (2009) 14 *Widener Law Review* 429, 431–2.

<sup>40</sup> Andrew Ligertwood and Gary Edmond, *Australian Evidence: A Principled Approach to the Common Law and Uniform Acts* (LexisNexis Butterworths, 6th ed, 2017) 816; Ellison (n 1) ch 2; Mandy Burton, Roger Evans and Andrew Sanders, 'Vulnerable and Intimidated Witnesses and the

the witness' honesty by observing his or her demeanour and responses to questions asked in examination-in-chief and cross-examination.<sup>41</sup> To that end, it has been argued that cross-examination was developed as a technique to uncover the truth and test the reliability of a witness' testimony, similar to the truth-seeking function of the forensic sciences.<sup>42</sup> Indeed, it has been heralded by Wigmore as 'the greatest legal engine ever invented for the discovery of truth'.<sup>43</sup> What is often glossed over in discussion of Wigmore's quote, however, is his recognition that cross-examination is a 'legal engine'. It was an approach to test witnesses' accuracy that was developed by lawyers, for the legal system. Just like many forensic science techniques were not developed by scientists but by investigators, cross-examination was not created and refined with the input of psychologists, linguists, social scientists and other experts in the field of human communication and behaviour. Although these fields were not yet fully developed at the time cross-examination arose, the legal system has largely failed to respond to knowledge relevant to cross-examination that has since been generated from these fields. Furthermore, while some empirical research has been conducted into cross-examination, the principles and techniques underpinning cross-examination have not been subjected to thorough and rigorous systematic testing.

From a legal perspective though, it is widely thought that the purpose of cross-examination is not to expose dishonesty but merely to advance the client's case, creating unreliable testimony and reasonable doubt in the minds of fact-finders.<sup>44</sup> Advocates are known to use a variety of techniques to discredit the witness and strengthen their client's argument. First, advocates often use complex language, such as double negatives, multifaceted questions, advanced vocabulary and 'legalese'.<sup>45</sup> Whether this is intentional or not, such language can impair a witness' comprehension, leading to confused, uncertain and inconsistent responses which in turn can affect credibility assessments of the witness by fact-finders.<sup>46</sup> Second, advocates may use coercive questioning techniques with the aim of controlling witnesses' responses and intimidating them into reacting poorly (in manner or word) in front of fact-finders (such as by breaking down, becoming hostile or answering 'I don't know').<sup>47</sup> This would include, for example, the use of rapid questioning, repetitive questioning, interruption, highlighting inconsistencies, questioning on peripheral details, and insulting the witness, as well as closed and leading questions, the types of questions traditionally thought best to use during cross-

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Adversarial Process in England and Wales' (2007) 11(1) *International Journal of Evidence and Proof* 1, 16.

<sup>41</sup> Ligertwood and Edmond (n 40) 816; Burton, Evans and Sanders (n 40) 16; Ellison (n 1) 11.

<sup>42</sup> Langbein, 'Historical Foundations' (n 39); Ligertwood and Edmond (n 40) 849, 860.

<sup>43</sup> John Henry Wigmore, *Evidence in Trials at Common Law* (Little, Brown, 3<sup>rd</sup> ed, 1940) s 1367.

<sup>44</sup> James Lindsay Glissan, *Cross-Examination Practice and Procedure: An Australian Perspective* (Butterworths, 2<sup>nd</sup> ed, 1991) 73–4; Daniel D Blinka, 'Ethics, Evidence, and the Modern Adversary Trial' (2006) 19 *Georgetown Journal of Legal Ethics* 1, 5; Phoebe Bowden, Terese Henning and David Plater, 'Balancing Fairness to Victims, Society and Defendants in the Cross-Examination of Vulnerable Witnesses: An Impossible Triangulation?' (2014) 37 *Melbourne University Law Review* 539, 540.

<sup>45</sup> Ellison (n 1) 94–8; Emily Henderson, 'Bigger Fish to Fry: Should the Reform of Cross-Examination Be Expanded Beyond Vulnerable Witnesses?' (2015) 19(2) *The International Journal of Evidence & Proof* 83, 84–5; Kirsten Hanna et al, 'Questioning Child Witnesses in New Zealand's Criminal Justice System: Is Cross-Examination Fair?' (2012) 19(4) *Psychiatry, Psychology and Law* 530; Adrian Keane, 'Cross-Examination of Vulnerable Witnesses – Towards a Blueprint for Re-Professionalisation' (2012) 16(2) *The International Journal of Evidence & Proof* 175; Bowden, Henning and Plater (n 44) 556.

<sup>46</sup> Ellison (n 1) 94–8; Bowden, Henning and Plater (n 44) 555–6.

<sup>47</sup> Ellison (n 1) 98–100; Henderson (n 45) 86–9; Keane (n 45); Hanna et al (n 45); Bowden, Henning and Plater (n 44) 555–6; Christopher J Lively et al, 'Seeking or Controlling the Truth? An Examination of Courtroom Questioning Practices by Canadian Lawyers' (2020) 26(4) *Psychology, Crime & Law* 343.

examination.<sup>48</sup> Finally, advocates may question the witness directly as to their credit.<sup>49</sup> The aim of this type of questioning is to make the witness appear untrustworthy and unreliable, and it particularly arises in cases of sexual assault or domestic violence where the trial often becomes a battle between the testimony of the victim and the accused.<sup>50</sup> It can involve questions going to the witness' past sexual history, morality generally or history of mental illness, and usually involves the implication of various myths and stereotypes related to the type of offence (such as the 'ideal rape').<sup>51</sup>

The use of these techniques suggests that cross-examination may not actually produce testimony that is reliable, particularly for witnesses with comprehension and communication difficulties. The next section considers key aspects of cross-examination that must be empirically tested in terms of their ability to elicit reliable testimony from witnesses (whether they have been tested already or are yet to be tested) and examines some of the research that has been conducted to date. While it is acknowledged that the aim of cross-examination is to test witnesses' evidence, ensuring the techniques used to do this are reliable in no way defeats the veracity of cross-examination – rather, reliable techniques will bolster the integrity of cross-examination and, indeed, the criminal trial, promoting a fairer trial for witnesses.

### **B Empirical Research on Cross-Examination**

To determine how reliable cross-examination is, each facet of it needs to be subjected to empirical analysis. It is not sufficient to establish that one technique, such as asking closed questions, produces accurate (or inaccurate) results; each technique must be treated like a discrete forensic science method that must be shown to be reliable before it can be used. Additionally, just like forensic science methods must be established as reliable for each specific practical application ('validity as applied' as used in the PCAST Report), cross-examination techniques must be proved reliable for different classes of witness. To that end, different facets of cross-examination include (but are not limited to):

- The reliability of witnesses' responses to each of the coercive and intimidatory techniques currently used (such as leading questions, closed questions, rapid questioning etc);
- The effect of complex language used during cross-examination on the reliability of witnesses' responses;
- The reliability of witnesses' responses to questions going to the witness' credit;
- The effect of witnesses' responses to the varying techniques employed, both verbal and demeanour, on jurors' perceptions of witness credibility;
- The effect of myths and stereotypes raised (or implied) by counsel during cross-examination on jurors' perceptions of the witness;
- Classes of witness whose testimony may be especially vulnerable to traditional cross-examination techniques (in terms of its reliability); and

<sup>48</sup> Emily Henderson, 'Best Evidence or Best Interests? What Does the Case Law Say About the Function of Criminal Cross-Examination?' (2016) 20(3) *The International Journal of Evidence & Proof* 183; Bowden, Henning and Plater (n 44) 555–6.

<sup>49</sup> Ellison (n 1) 88–94.

<sup>50</sup> Ibid; Mary Childs and Louise Ellison (eds), *Feminist Perspectives on Evidence* (Cavendish Publishing, 2000) chs 3 and 9. For a summary of common myths and stereotypes surrounding domestic violence victims see Lisa A Harrison and Cynthia Willis Esqueda, 'Myths and Stereotypes of Actors Involved in Domestic Violence: Implications for Domestic Violence Culpability Attributions' (1999) 4(2) *Aggression and Violent Behaviour* 129.

<sup>51</sup> Childs and Ellison (n 50) ch 3; Ellison (n 1) 88–94; Sarah Zydervelt et al, 'Lawyers' Strategies for Cross-Examining Rape Complainants: Have We Moved Beyond the 1950s?' (2016) 57 *British Journal of Criminology* 551.



- The types of questions (and conduct by advocates) that will produce the most reliable testimony during cross-examination, for witnesses generally and specific vulnerable classes of witness.

While research has already begun to address some of these areas, it lacks overall coherence under the umbrella of a systematic inquiry into the reliability of cross-examination techniques. Furthermore, some areas have not been examined comprehensively or, concerningly, at all. The following sections will discuss some of the empirical research that has been conducted to date, highlighting gaps in our current scientific knowledge of cross-examination techniques.

### **1 Stress and Memory**

Before discussing research into the more specific techniques currently employed by cross-examiners, it is pertinent to see what empirical research says about stress and memory. Testifying in court is inherently stressful, especially for the lay witness.<sup>52</sup> Cross-examination in particular has been singled out by witnesses (from experts to vulnerable witnesses) as an exceptionally stressful experience.<sup>53</sup> However, when testifying, witnesses are expected to relay their memories of what they witnessed as clearly and accurately as possible. Blinka highlights that when a witness provides testimony that is believed by fact-finders, four testimonial assumptions arise: 1) the witness accurately perceived the event through their senses, 2) they accurately recalled their perceptions, 3) their words accurately described their memories, and 4) they provided a sincere recount of their memories (that is, they were not lying).<sup>54</sup>

A large volume of empirical research shows that stressful situations can impair one's ability to both accurately recall and relay memories.<sup>55</sup> This can lead to incomplete recollections, stories that lack detail and/or errors and inconsistencies.<sup>56</sup> In the context of testifying before a jury, witnesses who give evidence in this way have been perceived as less credible.<sup>57</sup> This body of research therefore has significant implications for the cross-examination of witnesses – testimony elicited during the stressors of cross-examination may not be entirely accurate, with jurors relying on unreliable information as a basis for their decisions. The techniques currently used during cross-examination arguably increase the stress associated with testifying, making such testimony even more unreliable. We turn now to empirical research conducted into those techniques.

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<sup>52</sup> See, eg, Ellison (n 1) ch 2; Burton, Evans and Sanders (n 40) 2.

<sup>53</sup> Ibid; Henderson (n 45) 89; Heather Douglas, 'Domestic and Family Violence, Mental Health and Well-Being, and Legal Engagement' (2018) 25(3) *Psychiatry, Psychology and Law* 341, 348; Louise Ellison and Vanessa E Munro, 'Taking Trauma Seriously: Critical Reflections on the Criminal Justice Process' (2017) 21(3) *The International Journal of Evidence & Proof* 183, 192.

<sup>54</sup> Daniel D Blinka, 'Why Modern Evidence Law Lacks Credibility' (2010) 58(2) *Buffalo Law Review* 357, 377.

<sup>55</sup> See, eg, Sean M Lane and Kate A Houston, 'Eyewitness Memory' in Neil Brewer and Amy Bradfield Douglass (eds), *Psychological Science and the Law* (Guilford Publications, 2019) 104; Daniel Reisberg and Frederike Heuer, 'The Influence of Emotion on Memory in Forensic Settings' in Michael P Toglia et al (eds), *The Handbook of Eyewitness Psychology: Volume I* (Psychology Press, 2017); Kenneth A Deffenbacher et al, 'A Meta-Analytic Review of the Effects of High Stress on Eyewitness Memory' (2004) 28(6) *Law and Human Behavior* 687; Ellison (n 1) 19–20.

<sup>56</sup> Ellison (n 1) 21.

<sup>57</sup> See, eg, Brad E Bell and Elizabeth F Loftus, 'Trivial Persuasion in the Courtroom: The Power of (a Few) Minor Details' (1989) 56(5) *Journal of Personality and Social Psychology* 669; Garrett L Berman, Douglas J Narby and Brian L Cutler, 'Effects of Inconsistent Eyewitness Statements on Mock-Jurors' Evaluations of the Eyewitness, Perceptions of Defendant Culpability and Verdicts.' (1995) 19(1) *Law and Human Behavior* 79.

## 2 Complex Language and Coercive and Intimidatory Questioning

Much of the current empirical research into cross-examination analyses the effects of these two techniques used together, investigating the effects of typical ‘cross-examination’. Many psychological studies have found that witnesses are far less accurate in their responses when cross-examined using leading questions (and suppositional phrases), closed (or option-posing) questions, multipart questions, complex vocabulary and syntax, negatives and double negatives, and when they are provided with negative feedback (such as by responding to answers with ‘are you sure?’).<sup>58</sup> Such techniques have been found to confuse witnesses and make them more suggestible, particularly when questioned on peripheral details or when the witness is uncertain about their response.<sup>59</sup> Not only do such techniques have adverse effects on the reliability of a witness’ testimony, but research also demonstrates that witnesses questioned in this way are perceived by mock jurors as less accurate and therefore less credible, particularly when witnesses are inconsistent in their responses.<sup>60</sup> Suggestions have been made that jurors are more likely to believe a story with internal coherence (that is, a story told in narrative form), but typical cross-examination techniques do not allow this to occur.<sup>61</sup> Although, courts in Australian UEL jurisdictions now have the power to order that witnesses give their evidence wholly or partly in narrative form.<sup>62</sup> Furthermore, all Australian jurisdictions require a court to disallow ‘improper questions’ – questions that are misleading, confusing, intimidating, humiliating, repetitive and, in some jurisdictions, questions that are put to the witness in an insulting manner or those based on stereotype.<sup>63</sup>

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<sup>58</sup> See, eg, Jacqueline Wheatcroft and Louise Ellison, “‘Could You Ask Me That in a Different Way Please?’ Exploring the Impact of Courtroom Questioning and Witness Familiarisation on Adult Witness Accuracy’ [2010] (11) *Criminal Law Review* 823; Jacqueline M Wheatcroft, Graham F Wagstaff and Mark R Kebbell, ‘The Influence of Courtroom Questioning Style on Actual and Perceived Eyewitness Confidence and Accuracy’ (2004) 9(1) *Legal and Criminological Psychology* 83; Jacqueline M Wheatcroft and Sarah Woods, ‘Effectiveness of Witness Preparation and Cross-Examination Non-Directive and Directive Leading Question Styles on Witness Accuracy and Confidence’ (2010) 14(3) *The International Journal of Evidence & Proof* 187; Tim Valentine and Katie Maras, ‘The Effect of Cross-Examination on the Accuracy of Adult Eyewitness Testimony’ (2011) 25(4) *Applied Cognitive Psychology* 554; Fiona Jack and Rachel Zajac, ‘The Effect of Age and Reminders on Witnesses’ Responses to Cross-Examination-Style Questioning’ (2014) 3(1) *Journal of Applied Research in Memory and Cognition* 1; Mark R Kebbell, Laura Evans and Shane D Johnson, ‘The Influence of Lawyers’ Questions on Witness Accuracy, Confidence, and Reaction Times and on Mock Jurors’ Interpretation of Witness Accuracy’ (2010) 7(3) *Journal of Investigative Psychology and Offender Profiling* 262; Mark R Kebbell and David C Giles, ‘Some Experimental Influences of Lawyers’ Complicated Questions on Eyewitness Confidence and Accuracy’ (2000) 134(2) *The Journal of Psychology* 129.

<sup>59</sup> Wheatcroft and Ellison (n 58).

<sup>60</sup> Wheatcroft, Wagstaff and Kebbell (n 58); Mark R Kebbell, Laura Evans and Shane D Johnson, ‘The Influence of Lawyers’ Questions on Witness Accuracy, Confidence, and Reaction Times and on Mock Jurors’ Interpretation of Witness Accuracy’ (2010) 7(3) *Journal of Investigative Psychology and Offender Profiling* 262; Garrett L Berman, Douglas J Narby and Brian L Cutler, ‘Effects of Inconsistent Eyewitness Statements on Mock-Jurors’ Evaluations of the Eyewitness, Perceptions of Defendant Culpability and Verdicts.’ (1995) 19(1) *Law and Human Behavior* 79; Brad E Bell and Elizabeth F Loftus, ‘Trivial Persuasion in the Courtroom: The Power of (a Few) Minor Details’ (1989) 56(5) *Journal of Personality and Social Psychology* 669.

<sup>61</sup> Deborah Epstein and Lisa Goodman, ‘Discounting Women: Doubting Domestic Violence Survivors’ Credibility and Dismissing Their Experiences’ (2019) 167 *University of Pennsylvania Law Review* 399, 406–7; Ellison (n 1) ch 5; Negar Katirai, ‘Retraumatized in Court’ (2020) 62 *Arizona Law Review* 81, 107. But note, nor do typical examination-in-chief techniques permit a witness giving their testimony in narrative style.

<sup>62</sup> See Uniform Evidence Legislation (‘UEL’) s 29(2).

<sup>63</sup> UEL s 41; *Evidence Act 1977* (Qld) s 21; *Evidence Act 1906* (WA) s 26. In South Australia, the court may disallow questions that are ‘vexatious and not relevant to any matter proper to be inquired into’: *Evidence Act 1929* (SA).

With regard to different types of questions asked, one psychological study showed that witnesses were less accurate as questions moved from free recall to open-ended questions to specific questions to forced-choice questions.<sup>64</sup> Other studies have shown that witnesses provide more accurate testimony in response to non-directive leading questions (such as ‘was the street the white car turned into called Willow St?’) as opposed to directive leading questions (‘the street the white car turned into was called Willow St, wasn’t it?’).<sup>65</sup>

The results of studies into cross-examination have been reflected in the ample literature on police interviewing techniques. That body of empirical research reveals that open questions result in more accurate responses; leading and misleading questions have adverse effects on accuracy; and multipart, rapid-fire and option-posing questions result in less accurate (and sometimes more suggestible) responses.<sup>66</sup> Notably, these effects are worsened when the witness is considered ‘vulnerable’.<sup>67</sup> This body of empirical research has formed the basis for the creation of evidence-based police interviewing protocols which aim to ensure interviews are conducted in such a way that only the most reliable evidence is obtained.<sup>68</sup> I propose that the creation of such an evidence-base for cross-examination is critical to ensuring witnesses provide the most reliable oral evidence they can in court.

### **3 Cross-Examination as to Credit**

Cross-examination as to credit can influence the reliability of a witness’ testimony in two ways. First, it can be used to make the witness appear untrustworthy and therefore result in the jury believing any evidence given by the witness to be unreliable (when it is not). Second, it can be used to make the witness feel uncomfortable, humiliated, frustrated or confused, leading to the giving of inconsistent and inaccurate evidence.

Much of the empirical research in this area has not focused on cross-examination per se, but on the effects of myths and stereotypes as well as issues going to a witness’ credit (such as his or her morality or past criminal conduct) on jurors’ perceptions of the witness. Psychological studies, for example, have shown that the decisions of mock jurors sitting on sexual assault or rape cases are significantly influenced by whether the crime and victim conformed to ‘real rape’ stereotypes.<sup>69</sup> These stereotypes posit that a ‘real rape’ is one in which the defendant was

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<sup>64</sup> Kent H Marquis, James Marshall and Stuart Oskamp, ‘Testimony Validity as a Function of Question Form, Atmosphere, and Item Difficulty’ (1972) 2(2) *Journal of Applied Social Psychology* 167.

<sup>65</sup> Wheatcraft and Woods (n 58); Georgina Gous and Jacqueline M Wheatcroft, ‘Directive Leading Questions and Preparation Technique Effects on Witness Accuracy’ (2020) 10(1) *SAGE Open* 1.

<sup>66</sup> See, eg, Gavin E Oxburgh, Trong Myklebust and Time Grant, ‘The Question of Question Types in Police Interviews: A Review of the Literature from a Psychological and Linguistic Perspective’ (2010) 17(1) *International Journal of Speech, Language and the Law* 45; Stephanie J Sharman and Martine B Powell, ‘A Comparison of Adult Witnesses’ Suggestibility Across Various Types of Leading Questions’ (2011) 26(1) *Applied Cognitive Psychology* 48; Anne M Ridley, Fiona Gabbert and David J La Rooy, *Suggestibility in Legal Contexts: Psychological Research and Forensic Implications* (John Wiley & Sons Ltd, 2012). For a discussion of the literature on police interviewing see Lorraine Hope and Fiona Gabbert, ‘Interviewing Witnesses and Victims’ in Neil Brewer and Amy Bradfield Douglass (eds), *Psychological Science and the Law* (Guilford Publications, 2019) 130.

<sup>67</sup> See, eg, Katie L Maras and Rachel Wilcock, ‘Suggestibility in Vulnerable Groups: Witnesses with Intellectual Disability, Autism Spectrum Disorder and Older People’ in Anne M Ridley, Fiona Gabbert and David J La Rooy (eds), *Suggestibility in Legal Contexts: Psychological Research and Forensic Implications* (John Wiley & Sons Ltd, 2012) 149.

<sup>68</sup> Hope and Gabbert (n 66) 141–4.

<sup>69</sup> For an overview of the research see Fiona Leverick, ‘What Do We Know about Rape Myths and Juror Decision Making?’ (2020) 24(3) *The International Journal of Evidence & Proof* 255.

a stranger, the victim fought back and was physically hurt, the victim reported the rape promptly, and the victim was sexually inexperienced with a respectable lifestyle.<sup>70</sup> Victims are also expected to display mild emotion while in court (such as by being tearful or visibly upset). The testimony of victims that do not conform to these myths tends to be treated with caution by mock jurors, with victims perceived as less credible.<sup>71</sup>

Other empirical research has involved examination of court transcripts to determine what type of questions are typically used to challenge a witness' credibility and how the witness responds to such questions. Research into the cross-examination of child witnesses,<sup>72</sup> for example, shows that advocates rely on stereotypes about the developmental capacities of children, tending to accuse child witnesses of being dishonest or poor eyewitnesses (arguing that because of their age, they are unable to effectively perceive the event, distinguish between fantasy and reality, remember the event correctly, communicate their memories to the court, or are being coached by adults).<sup>73</sup> Where this occurs, children have been shown to comply with the questions asked or change their answers, especially when questioned about specific inconsistencies in their testimony or on peripheral details.<sup>74</sup> Although not conducted in a laboratory setting where witness accuracy could be assessed, this research indicates that cross-examining on issues going to the witness' credit may not produce accurate or reliable testimony.

#### 4 Demeanour

Cross-examination is believed to be useful not just for assessing the content of a witness' testimony, but also his or her demeanour when giving that evidence. The legal system presumes that people (in criminal trials, fact-finders) are able to tell when another person is lying based on their demeanour. It is commonly believed that visual cues such as gaze aversion, fidgeting, blinking, gestures, head movement, postural shifts, and hand and feet

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<sup>70</sup> Ellison (n 1) 92.

<sup>71</sup> Regina A Schuller et al, 'Judgments of Sexual Assault: The Impact of Complainant Emotional Demeanor, Gender, and Victim Stereotypes' (2010) 13(4) *New Criminal Law Review* 759; Blake M McKimmie, Barbara M Masser and Renata Bongiorno, 'What Counts as Rape? The Effect of Offense Prototypes, Victim Stereotypes, and Participant Gender on How the Complainant and Defendant Are Perceived' (2014) 29(12) *Journal of Interpersonal Violence* 2273; Louise Ellison and Vanessa E Munro, 'Better the Devil You Know? "Real Rape" Stereotypes and the Relevance of a Previous Relationship in (Mock) Juror Deliberations' (2013) 17(4) *The International Journal of Evidence & Proof* 299; Louise Ellison and Vanessa E Munro, 'Reacting to Rape: Exploring Mock Jurors' Assessments of Complainant Credibility' (2008) 49(2) *British Journal of Criminology* 202; Louise Ellison and Vanessa E Munro, 'Of "Normal Sex" and "Real Rape": Exploring The Use of Socio-Sexual Scripts in (Mock) Jury Deliberation' (2009) 18(3) *Social & Legal Studies* 291.

<sup>72</sup> For useful overviews on the empirical research in the field of the cross-examination of children see Rachel Zajac, Sarah O'Neill and Harlene Hayne, 'Disorder in the Courtroom? Child Witnesses under Cross-Examination' (2012) 32(3) *Developmental Review* 181; Rachel Zajac, 'Investigative Interviewing in the Courtroom: Child Witnesses under Cross-Examination' in Ray Bull, Tim Valentine and Tom Williamson (eds), *Handbook of Psychology of Investigative Interviewing* (Wiley-Blackwell, 2009) 161; Joanne Morrison et al, 'Communication and Cross-Examination in Court for Children and Adults with Intellectual Disabilities: A Systematic Review' (2019) 23(4) *International Journal of Evidence and Proof* 366.

<sup>73</sup> Zajac, O'Neill and Hayne (n 72); Mark Brennan, 'The Battle for Credibility-Themes in the Cross Examination of Child Victim Witnesses' (1994) 7(1) *International Journal for the Semiotics of Law* 51; Zsófia A Szojka et al, 'Challenging the Credibility of Alleged Victims of Child Sexual Abuse in Scottish Courts.' (2017) 23(2) *Psychology, Public Policy, and Law* 200; Hanna et al (n 45).

<sup>74</sup> Szojka et al (n 73); Rachel Zajac and Paula Cannan, 'Cross-Examination of Sexual Assault Complainants: A Developmental Comparison' (2009) 16(Sup 1) *Psychiatry, Psychology and Law* s36; Rachel Zajac, Julien Gross and Harlene Hayne, 'Asked and Answered: Questioning Children in the Courtroom' (2003) 10(1) *Psychiatry, Psychology and Law* 199.

movements indicate that a person may be lying.<sup>75</sup> However, empirical research has demonstrated that this is not the case, and that the ability to distinguish an honest person from a dishonest person based on their demeanour sits at around 50%.<sup>76</sup> Indeed, many visual cues to deception, such as fidgeting, blushing and avoiding eye contact, are identical to physical manifestations of stress (which would be expected in the stressful courtroom environment).<sup>77</sup> In reality, studies show that people are better at detecting deception through auditory cues.<sup>78</sup>

## 5 *Specific Classes of Witness*

The foregoing discussion of empirical research into cross-examination indicates that certain classes of witness may be more vulnerable to giving unreliable evidence when cross-examined, particularly if commonly used techniques are applied. Because of their developmental immaturity, children, for example, are generally thought to lack the linguistic, cognitive and emotional capacities necessary to fully understand questions asked of them.<sup>79</sup> A similar argument arises for persons with intellectual disabilities. Furthermore, those who do not speak English as their first language generally lack the linguistic skills necessary to understand and navigate cross-examination questioning. In the last few decades, sexual assault victims have also been established as a special class of witness, the trauma of the event and the particular kinds of questions asked during cross-examination (for example, those going to credit) thought to place them at greater risk of giving inaccurate evidence. Even more recently, DFV survivors have begun to arise as a specific class, owing to their unique experiences and harms suffered.<sup>80</sup> While there has been a growing body of literature on these classes in recent years, they are in no way the only classes of witness that may be vulnerable to traditional cross-examination – other classes of witness may exist too. Furthermore, it is important to stress that the way a witness is treated in court cannot (and should not) be based on whether he or she falls within a particular class – the needs and capacities of each individual witness must be the focus, with the class of witness used as a guide to how such witnesses may be questioned reliably.

These classes of witness – children, intellectually impaired, sexual assault and DFV victims – are usually collectively termed ‘vulnerable’ or ‘special’ witnesses and are often quoted in the literature as feeling as though cross-examination was the worst aspect of giving evidence in court.<sup>81</sup> However, the state of empirical research into the effects of cross-examination on the ability of witnesses falling within each of these named classes to give reliable evidence varies widely. Considerable research has been conducted into how traditional cross-examination techniques impact the testimony of children as well as what techniques should be used to produce the most reliable evidence from that witness class. However, scarcely any empirical

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<sup>75</sup> Miron Zuckerman, Richard Koestner and Robert Driver, ‘Beliefs about Cues Associated with Deception’ (1981) 6(2) *Journal of Nonverbal Behavior* 105; Michael J Saks and Barbara A Spellman, *The Psychological Foundations of Evidence Law* (NYU Press, 2016) 124.

<sup>76</sup> See, eg, Charles F Bond and Bella DePaulo, ‘Individual Differences in Detecting Deception’ (2008) 134 *Psychological Bulletin* 477; Charles F Bond and Bella DePaulo, ‘Accuracy of Deception Judgments’ (2006) 10 *Personality and Social Psychology Review* 214; Saks and Spellman (n 75) 123; Aldert Vrij, ‘Why Professionals fail to Catch Liars and How They Can Improve’ (2004) 9 *Legal and Criminological Psychology* 159; Olin Guy Wellborn, ‘Demeanour’ (1991) 76 *Cornell Law Review* 1075.

<sup>77</sup> Ellison (n 1) 23; Burton, Evans and Sanders (n 40) 16.

<sup>78</sup> See, eg, Blake M McKimmie, Barbara M Masser and Renata Bongiorno, ‘Looking Shifty but Telling the Truth: The Effect of Witness Demeanour on Mock Jurors’ Perceptions’ (2014) 21(2) *Psychiatry, Psychology and Law* 297. Saks and Spellman (n 75) 124.

<sup>79</sup> John P Schuman, Nicholas Bala and Kang Lee, ‘Developmentally Appropriate Questions for Child Witnesses’ (1999) 25 *Queen’s Law Journal* 251.

<sup>80</sup> Ellison (n 1) 18–9.

<sup>81</sup> See generally Ellison (n 1) ch 2.

research has been conducted into cross-examination and DFV survivors, particularly those with psychological or neurological conditions such as PTSD and/or ABI. The next part will examine the empirical research into cross-examination as it applies to these two witness classes. It will demonstrate that, while progress is being made towards evidence-based cross-examination in some areas, there is a dearth of research in other important areas, making a reliability revolution crucial.

## V CLASSES OF WITNESS: A CASE STUDY INTO THE STATE OF EMPIRICAL RESEARCH ON CROSS-EXAMINATION

### **A Child Witnesses**

Children may be called to testify as witnesses to crimes they observed or as victims of a crime they experienced. Unsurprisingly, psychological research and interviews with child witnesses reveal that cross-examination adversely affects the understanding and accuracy of the testimony of children and adolescents, due to the type of questions asked, the manner in which they are asked, and the language used.<sup>82</sup> Children frequently do not understand cross-examination type questions posed to them in research settings,<sup>83</sup> and will often attempt to answer ambiguous questions or questions that do not make sense in court.<sup>84</sup> More generally, children may simply fail to understand the meaning of words or sentences (particularly when negatives are used), or ascribe different meanings to words than that intended by the advocate.<sup>85</sup> Furthermore, children questioned in a courtroom-like environment tend to be less accurate in their responses than children questioned in a less stressful environment.<sup>86</sup>

Empirical research into the kinds of questions that facilitate understanding and accuracy shows that children are most accurate when responding to open ended, free recall questions compared to directive, leading and closed questions.<sup>87</sup> Research has focused on ‘developmentally appropriate questioning’ – questions that are simple grammatically, contain only one idea, avoid complex vocabulary and legal terminology, are short, and are spoken slowly, clearly and in a supportive (and non-intimidating) manner.<sup>88</sup> Questioning in this way promotes greater understanding by child witnesses and ensures their responses are as accurate and reliable as possible.

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<sup>82</sup> See, eg, J W Turtle and G L Wells, ‘Children Versus Adults as Eyewitnesses: Whose Testimony Holds Up Under Cross-Examination?’ in Robert N Sykes, Peter E Morris and Michael M Gruneberg (eds), *Practical Aspects of Memory: Current Research and Issues* (John Wiley & Sons, 1988) 27; Rachel Zajac and Harlene Hayne, ‘I Don’t Think That’s What Really Happened: The Effect of Cross-Examination on the Accuracy of Children’s Reports (2003) 9(3) *Journal of Experimental Psychology* 187; Jack and Zajac (n 58); Joyce Plotnikoff and Richard Woolfson, “Kicking and Screaming”: The Slow Road to Best Evidence’ in John R Spencer and Michael E Lamb (eds), *Children and Cross-Examination: Time to Change the Rules?* (Hart, 2012) 21.

<sup>83</sup> See, eg, Nancy Perry et al, ‘When Lawyers Question Children: Is Justice Served?’ (1995) 19(6) *Law and Human Behavior* 609; Mark Brennan and Rosalin Brennan, *Strange Language; Child Victim Witnesses Under Cross-Examination* (CSU Literary Studies Network, 1988).

<sup>84</sup> Zajac, Gross and Hayne (n 74).

<sup>85</sup> Schuman, Bala and Lee (n 79).

<sup>86</sup> Karen J Saywitz and Rebecca Nathanson, ‘Children’s Testimony and Their Perceptions of Stress In and Out of the Courtroom’ (1993) 17(5) *Child Abuse & Neglect* 613.

<sup>87</sup> Michael E Lamb and Angèle Fauchier, ‘The Effects of Question Type on Self-Contradictions by Children in the Course of Forensic Interviews’ (2001) 15(5) *Applied Cognitive Psychology* 483; Helen R Dent and Geoffrey M Stephenson, ‘An Experimental Study of the Effectiveness of Different Techniques of Questioning Child Witnesses’ (1979) 18(1) *British Journal of Social and Clinical Psychology* 41; Plotnikoff and Woolfson (n 82).

<sup>88</sup> Schuman, Bala and Lee (n 79). See also Gail S Goodman et al, ‘Children’s Testimony About a Stressful Event: Improving Children’s Reports’ (1991) 1(1) *Journal of Narrative and Life History* 69.

All Australian states and territories have recognised the issues children have with traditional cross-examination and as a result have made reforms to the way children provide their testimony to improve the quality of their evidence.<sup>89</sup> In Queensland, for example, evidence of children<sup>90</sup> must be pre-recorded<sup>91</sup> or, if this cannot occur, must be given at trial through an audio-visual link or from behind a screen.<sup>92</sup> When giving evidence, a child may have a support person near him or her.<sup>93</sup> The court may also order that the public be excluded from the courtroom when the child gives evidence or the videorecording is played.<sup>94</sup> In addition, the child cannot be cross-examined by the accused.<sup>95</sup> Similar measures exist in WA,<sup>96</sup> SA,<sup>97</sup> the NT,<sup>98</sup> NSW,<sup>99</sup> Victoria,<sup>100</sup> the ACT<sup>101</sup> and Tasmania.<sup>102</sup> WA, Victoria and the ACT also allow for appointment of a communicator or intermediary who communicates and explains to the child questions put to him or her as well as to the court the evidence given by the child.<sup>103</sup>

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<sup>89</sup> Various reports have been published on children giving evidence: see, eg, Australian Law Reform Commission, *Seen and Heard: Priority for Children in the Legal Process* (ALRC Report No 84, 19 November 1997) ch 14 'Children's Evidence'; Queensland Law Reform Commission, *The Receipt of Evidence by Queensland Courts: The Evidence of Children* (QLRC Report No 55, June 2000). Evidence legislation in Queensland, Tasmania and the NT includes provisions that explicitly recognise that 'children tend to be vulnerable in dealings with persons in authority' and therefore they should be given the benefit of special measures: *Evidence Act 1977* (Qld) s 9E, *Evidence (Children and Special Witnesses) Act 2001* (Tas) s 3A and *Evidence Act 1939* (NT) s 21D. These three provisions (as well as *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 4A) also specify principles the court must take into account when dealing with child witnesses, such as limiting the distress or trauma suffered by the child and ensuring the child is not intimidated.

<sup>90</sup> A child is a person under 16 years old: *Evidence Act 1977* (Qld) s 21AD.

<sup>91</sup> *Ibid* ss 21AB(a)(i), 21AK.

<sup>92</sup> *Ibid* ss 21AB(a)(ii), 21AQ.

<sup>93</sup> *Ibid* s 21AV.

<sup>94</sup> *Ibid* s 21AU.

<sup>95</sup> *Ibid* s 21N.

<sup>96</sup> *Evidence Act 1906* (WA) ss 106E (support person), 106G (cross-examination by accused), 106HB (video recording of evidence-in-chief), 106I (video recording of whole of evidence), 106N (audio-visual link and screens). A child is anyone under 18 years old: s 106A.

<sup>97</sup> *Evidence Act 1929* (SA) ss 12 (support person for young children), 13A (measures available for vulnerable witnesses include CCTV, video recording of evidence, screens, defendant excluded from courtroom, support person, extra time, removal of wigs and gowns), 13B (cross-examination by accused), 13C (video recording of evidence), 69 (clearing court). A child is anyone under 18 years old, a 'young child' is anyone under 12 years old and a 'vulnerable witness' includes children under 16 years old: s 4.

<sup>98</sup> *Evidence Act 1929* (NT) ss 21A (measures available for vulnerable witnesses include audio-visual link, screens, support person, exclusion of public from courtroom), 21E (video recording of evidence), 21QA (cross-examination by accused). A child is anyone under 18 years old: s 21AA. 'Vulnerable witnesses' include children: s 21AB.

<sup>99</sup> *Criminal Procedure Act 1986* (NSW) ss 306U (video recording of evidence-in-chief), 306ZB (CCTV), 306ZH (screens and planned seating arrangements), 306ZK (support person), 306ZL (cross-examination by accused). 'Vulnerable person' includes a child: s 306M(1).

<sup>100</sup> *Criminal Procedure Act 2009* (Vic) ss 367 (video recording of evidence-in-chief), 370 (video recording of whole of evidence at special hearing). Child means anyone under 18 years old: s 3.

<sup>101</sup> *Evidence (Miscellaneous Provisions) Act 1991* (ACT) ss 9 (audio-visual link), 101 (support person), 102 (closed court).

<sup>102</sup> *Evidence (Children and Special Witnesses) Act 2001* (Tas) ss 4 (support person), 5 (prior statements admissible), 6 (video recording of whole of evidence at special hearing), 6B (audio-visual link), 8A (cross-examination by accused). A child is anyone under 18 years old: s 2.

<sup>103</sup> *Evidence Act 1906* (WA) s 106F; *Criminal Procedure Act 2009* (Vic) ss 389I, 389K; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) ss 4AI, 4AJ, 4AM.

Although these measures may reduce the distress or trauma suffered by children who give evidence, they do not exclude cross-examination altogether or alter the way in which it is conducted in any significant way – children must still be cross-examined if they give evidence via audio-visual link or have their evidence pre-recorded, and they must still be questioned if they give their evidence through a communicator or intermediary. Only in Victoria and the ACT do provisions exist permitting ‘ground rules hearings’ – hearings during which the court can make directions about how a witness can be questioned.<sup>104</sup> While in the ACT these hearings are available where the court is satisfied that to do so would be in the interests of justice,<sup>105</sup> in Victoria they only apply to cases involving sexual offences, family violence offences or injuries or threats of injuries to the witness, when the witness is a child or has a cognitive impairment.<sup>106</sup> Furthermore, such hearings are not available Australia-wide. This means there is still potential for children to be questioned using unreliable techniques.

However, although not found in law, best practice guidelines for the cross-examination of child witnesses do exist in Australia.<sup>107</sup> The vast majority of recommendations are based on the results of empirical research and include such things as using simple, common words; only asking one short question at a time; ensuring questions only contain one idea; avoiding the use of negatives and leading, suggestive, closed or ‘tag’ questions (preferring open questions); using signposting and the active voice; using the child’s words and asking questions from the child’s point of view; and ensuring questions are not asked in an intimidating manner. Certainly, for child witnesses being cross-examined, the reliability revolution has already begun. This is more than can be said for another class of witness, DFV survivors.

### **B Domestic and Family Violence Survivors**

While DFV can be committed against both women and men (by women and men), it is considered by scholars to be gendered, with research indicating that men principally perpetrate this type of violence against women.<sup>108</sup> It is often part of a complex pattern of abusive behaviours and can include physical violence, sexual abuse, economic abuse, psychological abuse and damage to property, amongst other forms of abuse.<sup>109</sup> From a legal perspective, DFV is unique in that it can involve conduct constituting different criminal offences. Some of these offences include assault, stalking, manslaughter, murder, sexual assault and non-fatal strangulation (‘NFS’). Because of the nature of the abuse suffered and (often) the prolonged period of time over which the abuse is perpetrated, victims may acquire various psychological or neurological conditions, such as trauma (which may be so severe as to constitute complex trauma or even PTSD) or ABI.<sup>110</sup> Psychological and neurological

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<sup>104</sup> *Criminal Procedure Act 2009* (Vic) s 389E; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 4AF.

<sup>105</sup> *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 4AB.

<sup>106</sup> *Criminal Procedure Act 2009* (Vic) s 389A.

<sup>107</sup> See, eg, Australasian Institute of Judicial Administration, *Bench Book for Children Giving Evidence in Australian Courts* (Bench Book, March 2020); Government of Western Australia, *Equal Justice Bench Book* (Bench Book, November 2009); District Court of Western Australia, *Guidelines for Cross-Examination of Children and Persons Suffering a Mental Disability*, Circular to Practitioners (No CRIM 2010/1, 8 September 2010).

<sup>108</sup> Renata Alexander, ‘Women and Domestic Violence’ in Patricia Eastal (ed), *Women and the Law in Australia* (2010, LexisNexis Butterworths) 152, 152; see generally Evan Stark, *Coercive Control: The Entrapment of Women in Personal Life* (Oxford University Press, 2007).

<sup>109</sup> *National Domestic and Family Violence Bench Book* (Bench Book, June 2020) pt 3.1 <<https://dfvbenchbook.aija.org.au/contents>>.

<sup>110</sup> See, eg, Katherine M Iverson, Christina M Dardis and Terri K Pogoda, ‘Traumatic Brain Injury and PTSD Symptoms as a Consequence of Intimate Partner Violence’ (2017) 74 *Comprehensive Psychiatry* 80; Ohio Domestic Violence Network, *Working with Brain Injuries and Mental Health in Domestic Violence Programs: Findings from the Field* (Report, August 2020); Darshini Ayton, Elizabeth Pritchard and Tess Tsindos, ‘Acquired Brain Injury in the Context of Family Violence: A



disorders such as these greatly impact on victims' cognitive capacities (such as their comprehension, memory and attention), which can have significant effects on their ability to engage with police investigators, tell their story in court, and withstand traditional cross-examination techniques.<sup>111</sup>

A diagnosis of PTSD under the *Diagnostic and Statistical Manual of Mental Disorders-5* requires:

- Exposure to actual or threatened death, serious injury or sexual violence (the 'traumatic event');
- Intrusion symptoms, including recurrent, involuntary and intrusive distressing memories or dreams of the traumatic event, flashbacks, and psychological distress at exposure to cues related to the event;
- Avoidance symptoms, including avoidance of distressing memories, thoughts or feelings associated with the event;
- Negative alterations in cognition and mood, including an inability to remember aspects of the traumatic event, negative beliefs about oneself or others, self-blame for the event, persistent negative emotional state, and detachment from others;
- Alterations in arousal and reactivity, including irritation and anger, recklessness, hypervigilance, exaggerated startle response, problems concentrating, and sleep disturbances; and
- These symptoms last more than one month.

Memories associated with the traumatic event are abnormal – they are not stored in verbal, linear narrative form but as wordless sensations and images whose aspects are dissociated from each other.<sup>112</sup> This makes it extremely difficult to accurately, comprehensively and consistently recall and explain the event, which significantly impacts on the ability of DFV victims suffering from PTSD to testify in court.<sup>113</sup> Other symptoms of PTSD may also adversely

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Systematic Scoping Review of Incidence, Prevalence, and Contributing Factors' (2019) *Trauma, Violence, & Abuse*; Trish J Smith and Courtney M Holmes, 'Assessment and Treatment of Brain Injury in Women Impacted by Intimate Partner Violence and Post-Traumatic Stress Disorder' (2018) 8(1) *The Professional Counselor* 1, 2–3; Mary Ann Dutton and Lisa A Goodman, 'Posttraumatic Stress Disorder among Battered Women: Analysis of Legal Implications' (1994) 12(3) *Behavioral Sciences & the Law* 215; L M Howard et al, 'Domestic Violence and Severe Psychiatric Disorders: Prevalence and Interventions' (2010) 40(6) *Psychological Medicine* 881; Cathy Humphreys and Ravi Thiara, 'Mental Health and Domestic Violence: "I Call It Symptoms of Abuse"' (2003) 33(2) *British Journal of Social Work* 209; Loring Jones, Margaret Hughes and Ulrike Unterstaller, 'Post-Traumatic Stress Disorder (PTSD) in Victims of Domestic Violence: A Review of the Research' (2001) 2(2) *Trauma, Violence, & Abuse* 99; Michael Salter et al, "A Deep Wound Under my Heart": *Constructions of Complex Trauma and Implications for Women's Wellbeing and Safety from Violence* (Research Report Issue 12, May 2020).

<sup>111</sup> See Epstein and Goodman (n 61); Jennifer J Vasterling, Richard A Bryant and Terence M Keane (eds), *PTSD and Mild Traumatic Brain Injury* (The Guilford Press, 2012), 23, 26, 63, 71.

<sup>112</sup> Judith Herman, *Trauma and Recovery: The Aftermath of Violence – From Domestic Abuse to Political Terror* (BasicBooks, 1997) 37–8; Charlotte Bishop and Vanessa Bettinson, 'Evidencing Domestic Violence, Including Behaviour That Falls under the New Offence of "Controlling or Coercive Behaviour"' (2018) 22(1) *The International Journal of Evidence & Proof* 3, 157; Vasterling et al (n 111) 89. But note coherence of memories may depend on the conditions under which a memory is retrieved, such as whether the person is asked specific questions in relation to the memory or simply asked to describe what happened: Andrea Taylor et al, 'Judgments of Memory Coherence Depend on the Conditions Under Which a Memory Is Retrieved, Regardless of Reported PTSD Symptoms' (2020) *Journal of Applied Research in Memory and Cognition*.

<sup>113</sup> Herman (n 112) ch 2; Bishop and Bettinson (n 112) 15–7; Epstein and Goodman (n 61).

affect the victim's testimony – recollection of events or seeing the defendant again may trigger flashbacks in court, causing the victim to breakdown or be unable to complete her testimony; the victim may be suffering from amnesia and simply not remember what happened; or the victim may testify in a flat, emotionless manner or, conversely, become extremely emotional or angry.<sup>114</sup> Defence counsel may use these very symptoms against the victim in cross-examination to show she is lying, mistaken or unreliable as a witness.<sup>115</sup> As Epstein points out, '[the] symptoms of their trauma – the reliable indicators that abuse has in fact occurred – are perversely wielded against their own credibility in court'.<sup>116</sup>

ABI refers to injury to the brain that occurs after birth. It may be traumatic ('TBI') – the injury is caused by external force to the head, neck or face – or non-traumatic – caused by an internal factor, such as lack of oxygen to the brain (through, for example, strangulation).<sup>117</sup> ABI can result in a variety of physical, cognitive and behavioural changes, such as vision and hearing disturbances, chronic pain, speech impairments, fatigue, problems with memory and concentration, long-term cognitive impairment, difficulties with goal-setting and assessing consequences, inappropriate behaviour, irritability or aggression, and psychiatric disorders.<sup>118</sup> Like the symptoms of PTSD, these symptoms (particularly those that affect cognition) can have serious effects on a victim's ability to testify effectively in court. On the stand, victims may appear confused or uncertain; comply with the examiner's suggestions; be unable to recall events, logically articulate what occurred or answer the question asked; or fatigue rapidly and fail to finish their testimony.<sup>119</sup> Again, during cross-examination, defence counsel may use such reactions to establish the victim as unreliable or dishonest.

A prime example of DFV conduct that can result in both PTSD and ABI is non-fatal strangulation. Strangulation involves external compression of the neck that impedes oxygen to or from the brain by preventing blood flow or breathing.<sup>120</sup> Unconsciousness may occur within seconds and death within minutes.<sup>121</sup> Not only would this be a sufficiently traumatic event to trigger PTSD, the very act of impeding oxygen to the brain almost certainly causes some form of ABI (and may also result in other serious physical injuries, such as stroke, pulmonary edema, paralysis or internal injuries causing delayed death).<sup>122</sup>

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<sup>114</sup> Vasterling et al (n 111) 72–3; Herman (n 112) ch 2; Bishop and Bettinson (n 112) 15–7; Epstein and Goodman (n 61).

<sup>115</sup> See, eg, Douglas (n 53) 351.

<sup>116</sup> Epstein and Goodman (n 61) 422.

<sup>117</sup> Ibid.

<sup>118</sup> Ibid 5–6; Kathleen Monahan, 'Intimate Partner Violence (IPV) and Neurological Outcomes: A Review for Practitioners' (2019) 28(7) *Journal of Aggression, Maltreatment & Trauma* 807, 812–3; Jacquelyn C Campbell et al, 'The Effects of Intimate Partner Violence and Probable Traumatic Brain Injury on Central Nervous System Symptoms' (2018) 27(6) *Journal of Women's Health* 761; Jeffrey T Barth et al., 'Mild Traumatic Brain Injury: Definitions' in Gerald Young, Andrew W Kane and Keith Nicholson (eds), *Psychological Knowledge in Court: PTSD, Pain, and TBI* (Springer, 2006) 271, 277.

<sup>119</sup> Epstein and Goodman (n 61) 408.

<sup>120</sup> Gael B Strack and Casey Gwinn, 'On the Edge of Homicide: Strangulation as a Prelude' (2011) 26 *Criminal Justice* 32, 33; Adam J Pritchard, Amy Reckdenwald and Chelsea Nordham, 'Nonfatal Strangulation as Part of Domestic Violence: A Review of Research' (2017) 18(4) *Trauma, Violence and Abuse* 407, 410.

<sup>121</sup> Strack and Gwinn (n 120) 33.

<sup>122</sup> Andi Foley, 'Strangulation: Know the Symptoms, Save a Life' (2015) 41(1) *Journal of Emergency Nurses* 89, 89–90; Strack and Gwinn (n 120) 33–5; Heather Douglas and Robin Fitzgerald, 'Strangulation, Domestic Violence and the Legal Response' (2014) 36 *Sydney Law Review* 231, 233; Dean A Hawley, George E McClane and Gael B Strack, 'A Review of 300 Attempted Strangulation Cases Part III: Injuries in Fatal Cases' (2001) 21(3) *The Journal of Emergency Medicine* 317, 319–20; Pritchard et al (n 120) 410, 413; Manisha Joshi, Kristie A Thomas and Susan B Sorenson, "'I Didn't Know I Could Turn Colors': Health Problems and Health Care Experiences of Women Strangled by an Intimate Partner' (2012) 51(9) *Social Work in Health Care*

NFS is now an offence in many Australian states and territories.<sup>123</sup> However, often there will be no external evidence of any injury following strangulation,<sup>124</sup> or injuries may only arise hours or days after the event.<sup>125</sup> Furthermore, women who have been strangled may not be aware of the serious and potentially deadly consequences of what they have experienced, and therefore delay obtaining medical assistance or reporting the event to police.<sup>126</sup> Hence, issues may arise with the collection and/or availability of physical evidence necessary to prosecute a case of NFS. This means prosecutions of NFS often rely on the testimony of the victim, so it is crucial that examination-in-chief and, in particular, cross-examination produce reliable evidence on which fact-finders can base their decisions. Unreliable questioning techniques may make the NFS victim (who is suffering from PTSD and/or ABI) incorrectly appear dishonest or unreliable which, ultimately, could be a significant barrier to the prosecution of NFS cases.

Despite the significant impact of PTSD and ABI symptoms on DFV victims' ability to give their best evidence, there is a dearth of empirical research into how traditional cross-examination techniques affect the reliability of evidence obtained from victims suffering from one of these conditions, let alone those who suffer from both conditions.<sup>127</sup> Indeed, Ellison and Munro highlight that there has been a marked absence of discussions surrounding the ways in which the additional stressors associated with cross-examination might undermine the quality of evidence given by witnesses with PTSD.<sup>128</sup> One psychological study revealed that cross-examination of participants who viewed a graphic car accident on film (intended to be akin to a traumatic memory) was suggestive enough to induce participants to change their answers.<sup>129</sup> However, this study did not look specifically at persons actually suffering from PTSD.

It is possible to infer from the research on adult witnesses generally, as well as child witnesses, that traditional cross-examination techniques would not produce reliable evidence from DFV witnesses with PTSD and/or ABI. However, this has not been confirmed with empirical research – it is possible that this witness class reacts differently to cross-examination compared to robust adult witnesses and child witnesses due to the unique nature of their

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798, 806; Kathleen Monahan, Archana Purushotham and Anat Biegon, 'Neurological Implications of Nonfatal Strangulation and Intimate Partner Violence' (2019) 14(3) *Future Neurology*.

<sup>123</sup> See *Criminal Code Act 1899* (Qld) s 315A; *Crimes Act 1900 No 40* (NSW) s 37; *Crimes Act 1900* (ACT) ss 27 and 28; *Criminal Law Consolidation Act 1935* (SA) s 20A; *Criminal Code Act Compilation Act 1913* (WA) s 298.

<sup>124</sup> Hawley et al (n 122) 317; Strack and Gwinn (n 120) 33; Nancy Glass et al, 'Non-Fatal Strangulation is an Important Risk Factor for Homicide of Women' (2008) 35(3) *Journal of Emergency Medicine* 329, 333.

<sup>125</sup> Hawley et al (n 122) 320; Douglas and Fitzgerald (n 122) 235.

<sup>126</sup> Pritchard et al (n 120) 408; Allison Turkel, 'Understanding, Investigating and Prosecuting Strangulation Cases' (2007) 41 *Prosecutor* 20, 22; Ohio Domestic Violence Network (n 103) 9–10; Shireen S Rajaram et al, 'Intimate Partner Violence and Brain Injury Screening' [2020] *Violence Against Women* 1, 3.

<sup>127</sup> Indeed, very little research has investigated the interplay of PTSD and ABI in the context of DFV generally: see, eg, Ayton, Pritchard and Tsindos (n 110) 12; Laura E Kwako et al, 'Traumatic Brain Injury in Intimate Partner Violence: A Critical Review of Outcomes and Mechanisms' (2011) 12(3) *Trauma, Violence, & Abuse* 115, 119; Kathleen Monahan, 'Intimate Partner Violence (IPV) and Neurological Outcomes: A Review for Practitioners' (2019) 28(7) *Journal of Aggression, Maltreatment & Trauma* 807, 813. See generally Vasterling, Bryant and Keane (n 111); Meaghan L O'Donnell et al, 'Posttraumatic Disorders Following Injury: Assessment and Other Methodological Considerations' in Gerald Young, Andrew W Kane and Keith Nicholson (eds), *Psychological Knowledge in Court: PTSD, Pain, and TBI* (Springer, 2006) 70, 75.

<sup>128</sup> Ellison and Munro (n 53) 192.

<sup>129</sup> Daisy A Segovia, Deryn Strange and Melanie KT Takarangi, 'Trauma Memories on Trial: Is Cross-Examination a Safeguard against Distorted Analogue Traumatic Memories?' (2017) 25(1) *Memory* 95.

vulnerability. More concerningly, no empirical research exists examining how to obtain the most reliable evidence from such witnesses during cross-examination (in contrast to the research on child witnesses). One barrister has recommended that witnesses suffering from TBI or certain psychiatric conditions should be allowed to tell their whole story in their own words with minimal interference during cross-examination, with unambiguous questions kept within their level of understanding.<sup>130</sup>

In relation to NFS victims, the California District Attorneys Association has cautioned against asking chronology-related questions, instead questioning using open-ended non-leading questions and focusing on the victim's thoughts, emotions and sensory information.<sup>131</sup>

Furthermore, no evidence-based best practice guidelines exist for the cross-examination of DFV survivors suffering from PTSD and/or ABI. Some guidelines exist in relation to vulnerable witnesses generally or witnesses with cognitive impairments (which sometimes includes witnesses with ABI),<sup>132</sup> but these do not address the specific problems faced by DFV survivors with PTSD and/or ABI during cross-examination (and are not all based on empirical research).

Much of the research in this area of neuropsychology surrounds how experts should give their evidence, or how these cognitive conditions affect the defendant.<sup>133</sup> As McGorrery's study of Australian case law indicates, there has been very little acknowledgement of what problems *victims* with PTSD face in court (let alone those suffering from ABI).<sup>134</sup>

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<sup>130</sup> Keith Rewell, 'The Ethics of Acting for the Most Vulnerable' [2010] (99) *Precedent* 10.

<sup>131</sup> California District Attorneys Association, *Investigation and Prosecution of Strangulation Cases* (Report, 2020) 53–5.

<sup>132</sup> See, eg, Judicial College of Victoria, *Disability Access Bench Book* (Judicial College of Victoria, 2016); Judicial Commission of New South Wales, *Local Court Bench Book* (Judicial Commission of New South Wales, 2019) [10-000] 'Evidence from Vulnerable Persons'; Government of South Australia, *Supporting Vulnerable Witnesses in the Giving of Evidence: Guidelines for Securing Best Evidence* (Report, 2017); The Advocate's Gateway, *General Principles from Research, Policy and Guidance: Planning to Question a Vulnerable Person or Someone with Communication Needs* (Toolkit 2, 2 September 2019).

<sup>133</sup> See, eg, Russell L Adams and Eugene J Rankin, 'A Practical Guide to Forensic Neuropsychological Evaluations and Testimony' in Russell L Adams et al (eds), *Neuropsychology for Clinical Practice: Etiology, Assessment, and Treatment of Common Neurological Disorders* (American Psychological Association, 1996) 455.

<sup>134</sup> Paul McGorrery, 'Judicial Recognition of PTSD in Crime Victims: A Review of How Much Credence Australian Courts Give to Crime-Induced PTSD' (2016) 24(2) *Journal of Law and Medicine* 478. Most commentary on PTSD and victims relates to diagnoses of PTSD for the purpose of establishing causality in tort or similar actions: see, eg, Young, Kane and Nicholson (n 120).

While in Queensland,<sup>135</sup> WA,<sup>136</sup> SA,<sup>137</sup> the NT,<sup>138</sup> NSW,<sup>139</sup> Victoria,<sup>140</sup> the ACT<sup>141</sup> and Tasmania<sup>142</sup> some special measures provisions are open to DFV survivors generally as well as those survivors suffering from PTSD and/or ABI, the same issues arise as with child witnesses – witnesses must still be questioned in some form. Furthermore, while these measures aim to address the trauma and distress suffered by DFV victim-witnesses, almost all do not address the issues that arise as a result of *how* witnesses are questioned.

Only in Victoria (if the family violence victim has a cognitive impairment) and the ACT (if in the interests of justice) are courts given the discretion to hold ground rules hearings,<sup>143</sup> and in

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<sup>135</sup> ‘Special witnesses’ include domestic violence victims, persons likely to suffer severe emotional trauma, and persons who would likely be disadvantaged as a witness due to a mental or intellectual impairment: *Evidence Act 1977* (Qld) s 21A(1). Special measures available include exclusion of the defendant and/or public from the courtroom, audio-visual link, support persons, video recording of evidence, rest breaks, use of simple questions, and questions limited by time: s 21A(2).

<sup>136</sup> ‘Special witnesses’ include persons likely to suffer severe emotional trauma, be intimidated or distressed, or unlikely to give evidence satisfactorily by reason of mental impairment: *Evidence Act 1906* (WA) s 106R(3). Special measures available include support persons, communicator, video recording of evidence, audio-visual link, and screens: ss 106R(4), 106RA, 106N.

<sup>137</sup> ‘Vulnerable witnesses’ include persons with a cognitive impairment and victims who would be specially disadvantaged if not treated as a vulnerable witness: *Evidence Act 1929* (SA) s 4(1). Special measures include CCTV, video recorded evidence, screens, exclusion of the defendant from the courtroom, support persons, extra time, removal of wigs and gowns, an order that evidence be taken in a particular way, and recorded statements to police: ss 13A, 13BB, 13C.

<sup>138</sup> ‘Vulnerable witnesses’ include domestic violence victims and persons with a cognitive impairment or intellectual disability: *Evidence Act 1939* (NT). Special measures available include audio-visual link, screens, support persons, exclusion of the public from the courtroom, video recording of evidence, and recorded statements to police: ss 21A, 21E, 21H.

<sup>139</sup> ‘Vulnerable persons’ include people with cognitive impairments (ie, intellectual disabilities, developmental disorders, neurological disorders, dementia, severe mental illness, and brain injuries): *Criminal Procedure Act 1986* (NSW) s 306M. Special measures include admissibility of previous representations, video recorded evidence-in-chief, CCTV, screens, planned seating arrangements, support persons, recorded statements to police, proceedings in camera, and audio-visual link: ss 306S, 306U, 306ZB, 306ZH, 306ZK, 289F, 289U, 289V.

<sup>140</sup> Special measures available during family violence offence proceedings include CCTV, screens, support persons, exclusion of certain persons from court, removal of robes, seating of legal practitioners during questioning, and recorded statements to police: *Criminal Procedure Act 2009* (Vic) ss 360, 387E. If the witness during a family violence offence proceeding has a cognitive impairment, special measures include video recording of evidence-in-chief, ground rules hearings, and intermediaries: ss 367, 389E, 389I, 389K.

<sup>141</sup> ‘Vulnerable adults’ include persons with a vulnerability that is likely to affect their ability to give evidence and persons likely to suffer severe emotional trauma or be intimidated or distressed by giving evidence; ‘intellectually impaired’ persons include people with a cognitive impairment arising from an ABI or neurological disorder; ‘witness with a disability’ is a witness with a mental or physical disability that affects their ability to give evidence: *Evidence (Miscellaneous Provisions) Act 1991* (ACT) s 42. Special measures include audio-visual link, screens, support persons, closed court, video recording of police interview as evidence-in-chief, recorded statements to police, ground rules hearings, and intermediaries: ss 4AB, 4AF, 4AI, 4AJ, 47, 49, 50, 52, 68, 81B.

<sup>142</sup> ‘Special witnesses’ include domestic violence victims, persons likely to suffer severe emotional trauma or intimidation, and persons who would likely be disadvantaged as a witness due to a mental or intellectual impairment: *Evidence (Children and Special Witnesses) Act 2001* (Tas) s 8. Special measures include support persons, audio-visual link, admissibility of previous statements, video recording of evidence at a special hearing, exclusion of certain persons from the courtroom: s 8(2).

<sup>143</sup> *Criminal Procedure Act 2009* (Vic) ss 389A, 389B, 389E; *Evidence (Miscellaneous Provisions) Act 1991* (ACT) ss 4AB, 4AF.

Queensland are courts given the discretion to make an order that questions be kept simple for special witnesses.<sup>144</sup> As Bishop and Bettinson highlight in relation to similar measures in England and Wales, special measures may not be sufficient to overcome the fear many victims of DFV have of being cross-examined, resulting in such witnesses refusing to testify.<sup>145</sup> Some academics have advocated for the increased use of pre-trial preparation of such witnesses for cross-examination,<sup>146</sup> but empirical research indicates that this may not improve the reliability of evidence obtained.<sup>147</sup>

## VI EXTENDING THE RELIABILITY REVOLUTION TO CROSS-EXAMINATION

So, what is the current state of empirical research into cross-examination and how has the research that has been conducted to date been translated into legal practice? While some aspects of cross-examination have received significant attention by researchers, others have scarcely been looked at. Much research has been conducted into the effects of stress and techniques such as complex language and coercive questioning on the reliability of witness testimony. However, this research has not always been extended to classes of witness that may find traditional cross-examination challenging, such as DFV survivors. Nor have the results of this research been effectively reflected in the law – robust witnesses are still required to give oral evidence in court and are allowed to be questioned using these traditional techniques (unless the court exercises its discretion to disallow improper questions). Current empirical research has also not effectively addressed issues such as rapid and repetitive questioning or the effects of cross-examination as to credit on the accuracy of testimony elicited.

Furthermore, with the exception of child witnesses, there is a dearth of empirical research into what sort of techniques actually produce *reliable* evidence – for witnesses generally as well as vulnerable classes such as DFV survivors. While some legal reforms have been introduced in Australia for children and other vulnerable witnesses, they predominantly focus on reducing the trauma and distress associated with testifying rather than addressing issues that specifically arise with cross-examination. Only the discretionary ground rules hearings in Victoria (which are of limited application) and the ACT, as well as the guidelines for questioning child witnesses, acknowledge and address these issues. If cross-examination is to retain its central role in the adversarial trial, fairness requires that the techniques used in *all* jurisdictions actually produce reliable evidence, no matter who the witness is. Although some progress has been made towards reliable cross-examination, more can and needs to be done. The forensic sciences have shown us that it is possible – it is time for the reliability revolution to take hold within the sphere of cross-examination.

What would this new reliability revolution look like? A multidisciplinary approach will be key. Developing techniques to produce reliable evidence should proceed in two stages – first, development of proposed techniques based on theory, and second, empirical testing of those techniques for reliability in practice using large-scale repeatable experimental designs. To ensure fairness for the accused, however, any techniques developed must also operate to effectively test the witness' evidence. It is crucial that experts in language and communication, such as linguists, play a central role in question and technique development. Psychologists and other medical professionals, such as neurologists and psychiatrists, may also be necessary to advise on what techniques would be appropriate, particularly when developing questioning methods for classes of vulnerable witnesses. Empirically testing techniques for reliability (both proposed new techniques and techniques already in use) will largely fall into the hands of psychologists and linguists who are able to assess the effects of the techniques on, for example, the comprehension of the witness and the reliability of their account under

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<sup>144</sup> *Evidence Act 1977* (Qld) s 21A(2)(f)(ii).

<sup>145</sup> Bishop and Bettinson (n 112) 7.

<sup>146</sup> See, eg, Louise Ellison, 'Witness Preparation and the Prosecution of Rape' (2007) 27(2) *Legal Studies* 171; Ellison and Munro (n 53) 193.

<sup>147</sup> Gous and Wheatcroft (n 65).

courtroom-like conditions. Empirical testing should also be extended to investigating how reliable and credible fact-finders perceive witnesses to be when these techniques are used. While difficulties may arise designing experiments that genuinely replicate the courtroom environment with its attendant stressors, experiments utilising mock jurors and mock cross-examination are widely used by academics working in the field of psychology and law. While such experiments may not be completely ecologically valid, they still provide useful information and are ethically the closest way to engage in courtroom-related experimental research. Suggestions for detailed experimental designs are beyond the scope of this article.

However, as the forensic sciences have shown us and as the legal system has experienced in relation to empirical research on certain cross-examination techniques and robust witnesses, further issues may arise with translating the results of this empirical research into practice. Education of legal professionals and advocacy for reform will therefore be key to ensuring cross-examination is grounded in empirical evidence. Until then, fact-finders should be made aware of the potential limitations of cross-examination, just as they are told of error rates for forensic science methods. The courts cannot leave such issues to the jury to determine because the majority of fact-finders would not be aware of how cross-examination can produce unreliable evidence. To make a rational decision, jurors must possess *all* information relevant to their decision, especially information that they would be unaware of.<sup>148</sup>

A further issue arises with the possibility that once empirical research has been conducted, lawyers will intentionally use those techniques shown to be unreliable, knowing that in doing so, there is a good chance they will discredit the witness or create reasonable doubt about their testimony. This is antithetical to ensuring witnesses are treated fairly and, indeed, to a fair trial. While protections for the defendant are fundamental to criminal trials (as seen through, for example, the presumption of innocence and the standard of proof of beyond reasonable doubt), trials will not be fair to any party where the very evidence on which fact-finders base their decision is not reliable. Ensuring that only reliable methods are used in no way violates rights of the defendant; rather, it safeguards the integrity of the trial. A fundamental culture change within the legal profession will be necessary to ensure lawyers and judges understand the importance of, and utilise, evidence-based cross-examination techniques. In this respect, professional bodies, such as the Bar Association, will have a crucial role to play in educating legal personnel.

The law has long been an insulated profession, relying on its own intuitions and historical practices. Where new, evidence-based information comes to light, however, tradition and precedent are no reason to continue doing things the same way. As Martire and Edmond conclude in relation to the forensic sciences, '[as] a general principle, courts should not allow or persist with practices that are inconsistent with mainstream scientific knowledge'.<sup>149</sup> The forensic sciences have brought to light the importance of reliability, particularly when those sciences are applied to the law. But reliability is in no way restricted to the presentation of expert scientific evidence in court. Any technique used to produce or test evidence must be reliable, especially when justice for the victim or the liberty of the accused is at stake. Indeed, the concept of reliability is not foreign to the law – evidence law is based on the underlying principle that only the most reliable information should be made available to fact-finders to ensure that they do not make erroneous decisions.<sup>150</sup> As such, many of the rules of evidence operate to exclude unreliable evidence, for example, the rule against hearsay<sup>151</sup> and the discretionary rule to exclude evidence where its probative value is outweighed by unfair

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<sup>148</sup> Edmond (n 23).

<sup>149</sup> Martire and Edmond (n 11) 998.

<sup>150</sup> Langbein (n 39); John H Langbein, 'The English Criminal Trial Jury on the Eve of the French Revolution' in *Duncker & Humblot* (1987) 28 ('English Criminal Trial Jury').

<sup>151</sup> Langbein, 'English Criminal Trial Jury' (n 138); Ligertwood and Edmond (n 40) ch 7; Saks and Spellman (n 75) 184–5.

prejudice to the defendant.<sup>152</sup> In the same way the law approaches other unreliable evidence, certain cross-examination techniques should not be used to test evidence if they produce evidence that is not reliable. As cross-examination and the centrality of oral evidence in adversarial trials appears to be here to stay, now is the time to extend the reliability revolution to cross-examination and, perhaps, other aspects of criminal trials too.

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<sup>152</sup> Saks and Spellman (n 75) ch 2.