Accepted for publication in Psychiatry, Psychology and the Law (July 2018). Please do not quote from this version without permission from authors.

The Science behind *Bayley v The Queen* (2016)

Alena Skalon & Jennifer L. Beaudry

Swinburne University of Technology

Author note: Alena Skalon, Department of Psychological Sciences; School of Health Sciences; Faculty of Health, Arts and Design; Swinburne University of Technology, Hawthorn, Victoria, Australia; postal address: PO Box 218, Hawthorn, Victoria 3122 Australia; telephone: +61 3 9214 5028; email: askalon@swin.edu.au.

Jennifer L. Beaudry, Department of Psychological Sciences; School of Health Sciences; Faculty of Health, Arts and Design; Swinburne University of Technology, Hawthorn, Victoria, Australia; postal address: Mail H24, PO Box 218, Hawthorn, Victoria 3122 Australia; telephone: +61 3 9214 5028; email: jbeaudry@swin.edu.au.

Abstract

Eyewitness identification was the principal evidence in *DPP v Bayley* (2015), in which Adrian Bayley received a jail sentence for the rape and assault of a woman that took place in 2000. Twelve years after the attack, the victim identified Bayley from a photograph seen on Facebook and later in a formal police identification procedure. At the time of the initial Facebook identification the victim knew about Bayley's involvement in Gillian Meagher's case. Bayley successfully appealed this conviction in 2016. The Court of Appeal held that the identification evidence in this case had multiple weaknesses and should not have been permitted at the initial trial. In the decision, the Court relied on legal precedents to support their judgement. In this article we review the empirical evidence regarding each of the issues raised by the Court. In addition, we review how the stressfulness of an event can influence the reliability of an identification, and explore why the jury may have rendered a guilty verdict based on the weak identification evidence.

Keywords: eyewitness identification, identification procedure, photoboard identification, identification evidence, Facebook identification, Bayley, eyewitness evidence

The Science behind *Bayley v The Queen* (2016)

Identification evidence often plays an important role in criminal trials and *DPP v Bayley* (2015; conviction trial 1) is one of the examples in which a defendant was convicted based almost entirely on an identification made by the victim. Alarming, the jury convicted Adrian Bayley despite multiple weaknesses in the identification evidence in this case. The Court of Appeal ruled that the evidence should not have been permitted in the initial trial due to a number of factors. In this article, we review the empirical evidence regarding each of the issues raised by the Court. Specifically, we discuss how delay can affect identification accuracy, potential problems with an identification from a single photograph, the influence of expectations on people's decisions, and how a change in the perpetrator's appearance between the crime and identification can affect identification accuracy. We also discuss how prior exposure to the suspect's photograph can influence subsequent identification attempts (referred to by the courts as the displacement effect), and discuss the distinction between evidence of identification and evidence of similarity. We also raise two additional factors not mentioned in the appeal decision: the impact of stress on the reliability of an identification, and potential explanations for why the jury convicted Adrian Bayley at the initial trial.

This case brings to life some of the most-discussed issues associated with eyewitness identification evidence. Who should determine the reliability of this evidence? When should it be deemed inadmissible? Can juries appropriately evaluate the quality of identification evidence? Psychological science can provide some insight into the best ways to collect and handle identification evidence, as well as the ways of presenting this evidence to the jury to ensure the defendant's right to a fair trial.

The Facts of the Case

In November 2000, an 18-year old female (referred to as GH) was walking in St Kilda when a Mini Minor car approached her and the driver suggested paying money in exchange for sex. GH agreed and got into the car. Shortly after they drove away, the driver punched

GH in the face, drove down a narrow alley, blocked the passenger's door, and raped her. GH eventually escaped from her attacker. She testified that she decided not to report the crime to the police because she thought that the police would not believe her. She did, however, report the incident to a health service for those involved with street-based sex work, and placed a description of her attacker on a noticeboard. According to her description, the man had "short, blonde spikey hair," "ranga arms," and was "evil eyed during the attack" (*Bayley v The Queen*, 2016, at [26]).

Twelve years after the attack, GH saw a photo of Adrian Bayley on Facebook when she was scrolling through a missing persons page. At that time, she knew that Bayley had been arrested on 27 September for the rape and murder of Gillian Meagher (*Bayley v The Queen*, 2016). She called Crime Stoppers to report that she recognised him as the man who raped her in 2000. The photo from which GH identified Bayley had been taken 11 years after her rape. On 29 October 2012, she made a statement to a member of the Homicide squad of the Victoria Police. On 1 February, 2013, GH was informed that Adrian Bayley had been charged with multiple offences against her, and 10 days later she was invited to the police station to view a photoboard of 12 men. GH admitted that between the initial Facebook identification and the photoboard identification, she saw Bayley's photo in the media on multiple occasions in relation to Gillian Meagher's case. When GH identified the photo of Bayley from the photoboard, she said, "It definitely looks like No. 4" (*Bayley v The Queen*, 2016, at [41]). By the time of this photoboard identification, GH had seen photos of Bayley multiple times, and she knew that he had been charged with the rape and murder of Gillian Meagher, as well as multiple charges against GH herself, including false imprisonment, assault, and rape.

On the 14 July 2015, Adrian Bayley was convicted by the County Court of Victoria of the offences against GH. In the original trial, the defence counsel sought to exclude the identification evidence on the basis of section 137 of the *Evidence Act 2008* (Vic): "evidence

should not be admitted if its probative value is outweighed by the danger of unfair prejudice to the defendant” (s 137). The judge refused to exclude the evidence, ruling that the probative value of the Facebook identification was not outweighed by unfair prejudice, and that the photoboard identification had its own probative value. The County Court of Victoria’s approach to section 137 aligns with *Dupas v The Queen* (2012)—the jury can accept evidence as credible without accepting it as reliable. In other words, the jury can hear the identification evidence but choose to not convict based on that evidence.

The Court of Appeal Judgement

On appeal against the *DPP v Bayley* (2015) decision, the defence argued that the conviction was based on unsafe or unsatisfactory grounds; that is, that the evidence was too problematic and the jury could not have reasonably rendered a guilty verdict based on such evidence. The Victorian Court of Appeal held that the identification evidence should not have been admitted in the first place and took a different approach to section 137, consistent with the High Court decision in *IMM v The Queen* (2016). It determined that while a trial judge should proceed on the assumption that the jury will accept the evidence, and should not have regard to the credibility or reliability of the evidence, the trial judge should nevertheless exclude the evidence if it is not merely weak but “simply unconvincing” – if its probative value is scant.

In their decision, the Court of Appeal detailed six problems with the identification evidence:

1. The initial identification was made from a single photograph seen on Facebook.
2. The photograph from which the Facebook identification was made was taken 11 years after the rape.
3. The identification was made 12 years after the rape.

4. The circumstances of the identification were suggestive because GH was aware that Adrian Bayley was under arrest for the rape and murder of Gillian Meagher.
5. The victim may have selected the photograph of Adrian Bayley from the formal police photoboard as a result of the displacement effect. In other words, GH's memory for the original perpetrator may have been contaminated after seeing Bayley's image on Facebook, which may have influenced her identification during the photoboard.
6. The photoboard identification provided evidence of similarity—not identification—because when she selected Bayley, GH said, "It [the perpetrator] definitely looks like number four [the photo of Adrian Bayley]" (*Bayley v The Queen*, 2016, at [58]).

After weighing the probative value of the identification evidence, the judge concluded that it should have been excluded in the initial trial. Because there was no other evidence, the Court of Appeal acquitted Bayley on all charges in GH's case.

Issues with the Identification Evidence

In their decision, the Court identified several important factors that can undermine the reliability of identification evidence. In this article, we will turn to psychological literature to seek answers to issues outlined by the Court of Appeal. What does the empirical research tell us about the influence of delay on identification accuracy? How reliable are identifications made from a single photograph? Does knowledge of the suspect's background influence the decision-making process? How does the displacement effect (seeing someone's face before the identification procedure) affect the reliability of an identification? In addition to briefly reviewing the psychology of eyewitness identifications, we will discuss factors that may have influenced the jury's views as to this weak evidence, leading them to render a guilty verdict in the initial trial. We would like to emphasise that the aim of this article is to present the

psychological research relevant to this case, not to provide a legal analysis of the court's decision. Critically, we are not questioning GH's report of the assault or her decision to not initially report it, nor are we making any judgement about Bayley's involvement in her assault; rather, we present the empirical evidence to explain why the identification evidence was not strong enough to uphold Bayley's conviction.

In an ideal world, memory would work like a recording device, copying events, storing them without error, and reproducing them without modification. The reality is, however, that memory is a reconstructive process; memories are not preserved in an unchanged way. Memory is not a simple process. It includes three stages: encoding, storage, and retrieval and at each stage, information can be lost or contaminated (Foster, 2009). We present the issues with the identification evidence in this case in line with this conceptualisation of memory. Differentiating the three stages of memory is important because it allows us to see how GH's memory may have been affected by outside factors—both before the police were contacted (e.g., the length of the delay or circumstances of the Facebook identification) and once the police became involved (e.g., how the photoboard identification procedure was conducted). This distinction between factors under and outside of the control of the criminal justice system is crucial because the criminal justice system can influence only those factors under their direct control (Wells, 1978).

Issues at the Encoding Stage

The first stage, encoding, occurs when a person is first exposed to the material (Foster, 2009). Several factors can influence the quality of memory at the encoding phase, including: how much attention the witness paid to the perpetrator's face; how long the witness saw the perpetrator (a.k.a., exposure duration); the quality of witnessing conditions (such as lighting and distance); and amount of stress experienced by the witness. Twelve years after the attack, it is difficult to reconstruct the quality of witnessing conditions (e.g., the lighting, the exposure duration, etc.). What is certain, however, is that experiencing a

violent sexual attack is undoubtedly an extremely stressful experience. During the attack GH testified that she was “pleading [for her] life” and “was horrified and in agony” (*Bayley v The Queen*, 2016, at [30]).

Stress. Although people are unlikely to forget that a stressful event occurred, the questions of practical importance are: How accurate are people’s memories about the central details of that stressful event? Do people memorise the face of a once-seen perpetrator? In response to these questions, the research indicates that memories for highly-stressful events are generally poor. A meta-analysis of 27 tests of eyewitnesses’ identification performance indicated that stress levels are negatively correlated to identification accuracy (Deffenbacher, Borstein, Penrod, & McGorty, 2004). Eyewitnesses who experience high levels of stress make more false identifications compared to low stress circumstances. Although the evidence that stress impairs identification accuracy is robust, these results are based on experiments conducted in the laboratory under controlled conditions. One could argue that these laboratory results may not be indicative of the workings of memory in real-life.

One of the most realistic studies to date with unequivocally stressful conditions supports these laboratory findings. Five hundred military personnel were interrogated during a survival-training program designed to imitate the prisoner-of-war experience. All participants were interrogated under high- and low-stress conditions. In the high-stress condition, an interrogator physically confronted the participants; in the low-stress condition, another person interrogated them without physical confrontation. The interrogations lasted a total of 40 minutes each, with 4 hours between them. When the interrogation did not involve physical confrontation (i.e., low-stress condition), 76% of participants correctly identified the interrogator from a simultaneous photoboard; in contrast, only 34% made an accurate identification when the interrogation was highly stressful. Similarly, 68% of participants in the high stress condition made a false positive identification, compared to only 12% in low stress condition (Morgan et al., 2004). Similar results were obtained in another study that

tested the accuracy of eyewitness identifications under stress. Valentine and Mesout (2009) recorded participants' heart rate and levels of anxiety during their visit to the London Dungeon. During the visit, participants encountered a "scary person" who they were later asked to describe and identify from a 9-person simultaneous target-present photoboard. Out of all participants who experienced high levels of state anxiety, only 17% correctly identified the "scary person", compared to 75% of correct identifications among those who had lower state anxiety scores.

Memories for highly stressful events are also more prone to incorporate false information. When participants in the survival-training course were presented with the photo of another person between the time of the interrogation and the presentation of the photoboard, 91% subsequently mistakenly identified that innocent person as their interrogator, even though the actual interrogator was not present in the photoboard (Morgan, Southwick, Steffian, Hazlett, & Loftus, 2013).

Issues at the Storage Stage

The storage stage is the period between the initial exposure and later recollection of that information. Events that take place between the crime and identification procedure (during the storage stage) can also influence an eyewitness's memory, because memory, once encoded, is still susceptible to extraneous influences. Memories can fade if there is a long delay between the crime and the identification, but they also can be replaced or altered if an eyewitness discusses the event with other witnesses, police officers, or reads media reports.

Delay. GH identified Adrian Bayley 12 years after her attack. Common sense suggests that long delays may decrease identification accuracy, but what does the research tell us? To answer this question, we turn to studies examining people's memory for once-seen faces after a delay. Most eyewitness studies investigating delay have varied the time between the exposure to the perpetrator and the identification attempt (usually from a photoboard) from one day to one week. A meta-analysis of 53 studies found that long delays reduced

people's ability to identify once-seen faces (Deffenbacher, Bornstein, McGorty, & Penrod, 2008). Shepherd (1983) reported the longest delay tested to date: 11 months. After a one-week delay, 65% correctly identified the perpetrator; in contrast, after an 11-month delay, only 10% made an accurate identification.

The majority of these studies, however, focused on identifications made from photoboards, a procedure that differs from the conditions of GH's Facebook identification from a single photo. Research demonstrated that accuracy of identifications from a single photo (i.e., a showup) decreased within 24 hours (Dysart & Lindsay, 2007). Although no research examined the effects of a 12-year delay on a person's ability to recognise a perpetrator from Facebook, there is little reason to suspect that an identification made under these conditions would produce higher accuracy rates, given that memory consistently degrades over time. One could reasonably conclude that—12 years after the crime—GH's memory for the perpetrator would certainly have been less reliable than it would have been immediately after the offence.

The influence of expectations. When GH identified Bayley from Facebook, she was already aware of Gillian Meagher's death and knew that Bayley had been arrested for her rape and murder (*Bayley v The Queen*, 2016). Knowledge of a suspect's background can influence the expectations held by the witness and skew the decision-making process, increasing the probability of a false identification. Confirmation bias refers to the tendency to seek information that confirms one's expectations and beliefs while disregarding all other information (Plous, 1993). This bias occurs automatically, emerging regardless of a person's wishes or attempts to be impartial (e.g., Nickerson, 1998; Findley & Scott, 2006; Kunda, 1990). This bias can be observed in a variety of tasks, but for the sake of brevity, we will focus on the ones most relevant to the forensic context.

When making identification decisions, eyewitnesses may be influenced by various factors, rather than basing their decisions solely on simple recognition. Factors such as beliefs

about the case or hints given by the police officer during the identification procedure can skew an eyewitness's decision process. In the field-simulation study examining eyewitnesses identifications from showups, false identification rates were higher when eyewitnesses believed that they witnessed an actual crime (40%), compared to the laboratory conditions (13%; Eisen, Smith, Olaguez, & Skerritt-Perta, 2017). This result highlights the influence that emotions and expectations can have of decision making.

In one study, participant-eyewitnesses were exposed to a crime video and asked to make an identification from a photoboard that did not contain the perpetrator from the video. After their identification decision, some participants were told that another photoboard member (not the one they chose) confessed. The majority (61%) of participants changed their decision and instead identified the alleged confessor. Moreover, half of the participants who did not initially make an identification abandoned their original correct rejection and chose the alleged confessor (Hasel & Kassin, 2009). This finding highlights the lack of independence of evidence and illustrates that eyewitnesses may be willing to identify a person even if they do not recognise him. This situation is dangerous because eyewitnesses may become invested in a choice that can replace their original memory altogether (see the section on the displacement effect).

Expectations can also influence eyewitnesses' behaviour in more subtle situations. For example, when eyewitnesses receive pre-identification instructions suggesting that the perpetrator is in the photoboard, they are more willing to choose someone, compared to when they are warned that the perpetrator may or may not be present (for a meta-analysis of 18 studies see Steblay, 1997; for a review see Steblay, 2013). This willingness to choose—and the associated consequences—is exacerbated when the photoboard does not contain the perpetrator. Furthermore, the photoboard administrators' expectations can also affect eyewitnesses' choices. When the administrator knows the suspect's identity, eyewitnesses are more than twice as likely to choose the suspect than any other photoboard member,

regardless of the actual guilt of the suspect (Austin, Zimmerman, Rhead, & Kovera, 2013; Canter, Hammond, & Youngs, 2013) and they are more confident in that decision (Charman & Quiroz, 2016). In a broader context, the influence of expectations on decision-making has also been studied in forensic science (for a review see National Research Council, 2009). If the forensic expert is aware that the suspect confessed, the probability of finding a match between a sample found at the crime scene and a sample from the suspect increased. This effect was observed in a handwriting comparison task (Kukucka & Kassin, 2012), a fingerprint comparison (e.g., Dror, Peron, Hind, & Charlton, 2005), and even DNA testing (Dror & Hampikian, 2011).

In the present case, the details of the Facebook identification are unknown. It is unclear whether GH was scrolling that page to identify her attacker or if she was looking at that page for the details of Gillian Meagher's case or for some other purpose. What is certain, however, is that—when she first saw his photo—GH knew of Bayley's involvement in Gillian Meagher's case. Thus, this knowledge may have influenced her expectations of Bayley and predisposed her to identify him as the person who raped her.

Issues at the Retrieval Stage

Retrieval is a process of actively searching for information. Every time a person tries to remember something, he or she is actually rebuilding or reconstructing that memory. It is during this reconstruction that errors can occur because information from other sources can be incorporated into memory. Some of the factors that can affect accuracy at this stage are how the identification procedure was conducted or what instructions the officer gave to the witness prior to conducting a photoboard. These factors can affect accuracy at future retrievals, as well as influencing the witness' confidence in that memory. In the present case, these factors include: the initial Facebook identification was made from a single photograph, which could influence an eyewitness's willingness to identify a person shown in the photo as the perpetrator; the memory for the perpetrator could have been displaced by Adrian Bayley's

face; the photo was taken 11 years after the attack; and the appearance of the perpetrator might have changed.

Single photograph identification. GH initially identified Bayley from a single photograph on Facebook, which is similar to a showup procedure. In a show-up, the police present the eyewitness with a single suspect or a photo of the suspect and ask the eyewitness to decide whether this person is the perpetrator (Dysart & Lindsay, 2007). Why is a show-up problematic? First, it immediately reveals to the eyewitness the identity of the suspect and influences the eyewitness's expectations that the suspect is likely to be the perpetrator (Dysart & Lindsay, 2007). Second, if presented with the show-up, the eyewitness has only two options—identify the person or reject the photo. Thus, a show-up produces more identification errors compared to a photoboard (Gronlund et al., 2012). Moreover, even immediate show-ups still perform worse than delayed photoboards (Wetmore et al., 2015). Show-ups are particularly dangerous for innocent suspects, with eyewitnesses making more false identifications from show-ups compared to photoboards (Stebly, Dysart, Fulero, & Lindsay, 2003). This risk increases with repeated showups (Smith et al., 2014).

In contrast, in a photoboard an eyewitness is shown the photos of a suspect and several foils (known-innocent people) and is unaware of which person is the actual suspect. The addition of foils serves two important functions. First, it reduces the suggestiveness of the procedure because an eyewitness does not know which person is the police's suspect. Second, if an eyewitness chooses a foil, it demonstrates their willingness to choose from the photoboard even in the absence of a strong recognition (Gronlund et al., 2012). In Bayley's case, however, the photoboard did not serve any of these functions because GH was aware of the identity of the suspect and had previously identified him from Facebook.

Displacement effect. The Court of Appeal argued that a displacement effect could have taken place, in that GH's initial memory of the perpetrator may have been displaced

with an image of Adrian Bayley. The displacement effect was originally described in *Alexander v The Queen* (1981):

Having been shown a photograph, the memory of it may be more clearly retained than the memory of the original sighting of the offender and may, accordingly, displace that original memory. Any subsequent face-to-face identification, in court or in an identification parade, may, on the identifying witness's part, in truth involve a matching of the man so identified with the remembered photograph, which has displaced in his memory his recollection of the original sighting. (p. 409)

Although common in legal rulings, the term “displacement effect” is not used in psychological literature. Instead, psychologists would categorise the “displacement effect” as the *mugshot exposure effect*. A mugshot exposure (i.e., viewing a photograph of a person prior to the identification procedure) decreases eyewitnesses identification accuracy (for a meta-analyses of mugshot exposure effects, see Deffenbacher, Bornstein, & Penrod, 2006). However, the term that best describes a situation when an eyewitness makes *repeated* identification decisions is the *mugshot commitment effect*. When an eyewitness identifies someone, they are more likely to choose the same person again, even if this person is not the actual perpetrator. An eyewitness chooses the person again because they are committed to their initial identification decision (Dysart, Lindsay, Hammond, & Dupuis, 2001). Although the consequences of the mugshot exposure and the mugshot commitment effects are similar (i.e., the wrong person has been selected as the perpetrator), the mechanisms driving the eyewitness's decision are different. In the case of mugshot exposure, the memory of one face replaces the memory for the perpetrator's face. In the case of commitment, however, the eyewitness is making the erroneous decision because they had previously identified the same person.

The commitment effect demonstrates that repeated identification decisions are not independent: an earlier decision can influence subsequent ones. This means that one

identification procedure cannot be used to confirm the eyewitness's identification from a previous procedure. Any correspondence between decisions from the two procedures may simply be the result of the commitment effect, and should not be interpreted as evidence of the eyewitness's accuracy (Lawson & Dysart, 2015). In the Bayley case, GH made an initial identification decision before the formal photoboard, potentially resulting in the commitment effect.

The photo was taken 11 years after the attack. The Court of Appeal noted that the age of Adrian Bayley's photo at the time of the Facebook identification is one of the factors that diminished the probative value of the evidence. This is an important consideration because a change in appearance (e.g., disguise, ageing) can affect identification accuracy (e.g., Laughery, Alexander, & Lane, 1971; Mansour et al., 2012; Wells & Hryciw, 1984). As one might expect, similarity between the perpetrator's appearance at the time of exposure and at the time of identification increases the probability of making a correct identification (Molinaro, Arndorfer, & Charman, 2013). Changing the style of the perpetrator's facial hair or hairstyle can impair identification accuracy (Patterson & Baddeley, 1977; Patterson, 1978; Pozzulo & Marcinak, 2007). One could argue, however, that Adrian Bayley's appearance did not significantly change between 2000 and 2011 (see figure 1); thus, this factor may have had little influence on GH's decision to identify him.

Insert Figure 1 here.

Evidence of Similarity. When GH identified Adrian Bayley from the photoboard, she said, "It [the perpetrator] definitely looks like number four [the photo of Adrian Bayley]" (*Bayley v The Queen*, 2016, at [41]). The Court of Appeal used this statement to influence their interpretation of the weight of this evidence; they deemed her selection to be evidence of similarity rather than evidence of a positive identification. The Australian Law Reform Commission Report (2006) describes evidence of identification as, "Where a witness claims to recognise the defendant as the person seen on the relevant occasion" (section 13.11).

Whereas evidence of similarity (or evidence of resemblance) is described as, “Evidence that a person shares certain features or attributes in common with the accused or that he or she looks like the accused” (section 13.11). This raises the question of whether *the choice of words* with which an eyewitness makes an identification is indicative of the weight of the evidence. To date, no eyewitness studies, to our knowledge, have directly investigated whether the words that the eyewitness uses when making an identification can be indicative of one of two types of evidence: identification vs. similarity evidence. Nonetheless, a relevant line of research to investigate the decision processes eyewitnesses use to reach their decisions, and how these processes relate to identification accuracy.

Wells (1984) suggested that when an eyewitness is presented with a photoboard, he or she can engage in one of two decision strategies: relative or absolute judgments. The relative judgment strategy describes the process in which an eyewitness compares several photoboard members with each other, trying to find the closest match to their memory among those present. An eyewitness who uses relative judgment chooses the photoboard member who looks *most* like the perpetrator *among* other members, provided he is a close enough match to the witness’ memory. This is a problematic strategy if the photoboard does not, in fact, contain the actual perpetrator. Thus, it puts an innocent suspect at risk if he happens to look more similar to the perpetrator than the other photoboard members (Wells, 1984; Wells, 1993). An absolute judgment, on the other hand, refers to a process in which an eyewitness identifies the photoboard member *only* when this member is a good match to the eyewitness’s memory; thus, there are no between-member comparisons. Wells (1984) argued that an absolute judgement reduces the risk of false identification, because an eyewitness makes a selection only when the suspect is a good match to his or her memory of the perpetrator, not when the suspect is simply the best match among the presented alternatives.

Other researchers have conceptualised the eyewitness identification decision process as being automatic or deliberative (Dunning & Stern, 1994). They measured underlying

decision processes by asking eyewitnesses how they reached their decision. Endorsing statements reflecting comparisons between line-up members or engaging in a process of elimination suggests a more deliberative strategy rather than automatic recognition (Dunning & Stern, 1994). Accurate eyewitnesses tended to report automatic recognition of the perpetrator (i.e., that the person ‘popped out’ to them), whereas inaccurate eyewitnesses tended to engage in a deliberate process of eliminating other options, until they found a good enough match.

This distinction between automatic recognition and process of elimination resembles the Courts’ distinction between evidence of identification and evidence of similarity, respectively. However, to date there is no empirical evidence that could show the distinction between evidence of similarity and evidence of identification. In the present case, when GH chose the photo of Adrian Bayley, she said, “it definitely looks like...,” but did not indicate that she based this decision on a comparison amongst photoboard members (e.g., “it looks *most* like...”). As such, it is difficult to evaluate the Court of Appeal’s reasoning in light of the current scientific evidence. More research is necessary to support the Court’s willingness to give more weight to evidence of identification than evidence of similarity by exploring how the two conceptualisations relate to identification accuracy.

Summary and Additional Considerations

As we mentioned, it is important to differentiate between factors that were not under the control of the criminal justice system (e.g., the length of the delay or circumstances of the Facebook identification) and those that can be controlled (e.g., how the photoboard identification procedure was conducted). Nonetheless, evidence obtained under suggestive circumstances can influence jurors’ judgments and their willingness to convict the defendant. The present case illustrates that memory is fragile and at each of the three stages of memory multiple factors can undermine the accuracy of memory and, consequently, the reliability of the identification evidence. We agree with the Court’s ruling that GH’s photoboard

identification should not have been admitted as evidence against Bayley because the circumstances under which the identification was obtained were overly suggestive. We now turn to another matter—namely the jury’s decision to convict Bayley at the initial trial despite the weak evidence against the defendant.

Why Did the Jury Render a Guilty Verdict?

An impartial jury ensures that the defendant’s right to a fair trial is met. The notion of the jury’s impartiality—basing their verdict on the evidence presented at trial, not on beliefs or information obtained outside the courtroom—is one of the basic assumptions of the Australian criminal justice system. However, the question remains, can jurors ignore extra-legal information and base their decisions only on evidence presented at trial? The jury convicted Bayley despite multiple weaknesses in the identification evidence and defence’s attempt to educate jurors by asking an expert psychologist—Associate Professor Richard Kemp—to testify about the problems with the identification evidence.

The Court of Appeal disagreed with the jury’s verdict and argued that the evidence was too weak to support a guilty verdict. *Bayley v The Queen* (2016) ruled that, “Having made our own independent assessment of the evidence as a whole, we are firmly of the view that a properly instructed jury, applying themselves appropriately to their task, must have had a reasonable doubt as to the applicant’s guilt. GH’s identification evidence was so weak that no other conclusion was reasonably open” (at [99]).

Eyewitness evidence is extremely persuasive to jurors (Boyce, Beaudry, & Lindsay, 2007). The mere presence of such evidence—regardless of its reliability—can drastically increase guilt ratings (Loftus, 1974). People attribute disproportionate weight to eyewitness evidence partially because they overestimate the accuracy of eyewitness memory. For example, Brigham and Bothwell (1983) presented descriptions of previously-conducted studies and asked participants to predict the accuracy of those eyewitnesses. The vast majority of participants overestimated the eyewitnesses’ accuracy rates, illustrating

“overbelief” of eyewitnesses and a general lack of knowledge of factors that influence eyewitness accuracy. Even when jurors were aware of the suggestiveness of an identification procedure, they still believed the eyewitness evidence (e.g., Devenport, Stinson, Cutler, & Kravitz, 2002). Thus, although people may be able to distinguish between fair and suggestive procedures, they do not use this information when rendering a verdict. The persuasiveness of eyewitness evidence, coupled with a lack of knowledge of factors that influence eyewitness evidence and a disregard of the dangers of suggestive procedures, increases the risk of juries basing their decision on unreliable evidence.

Furthermore, by the time of GH’s case, Adrian Bayley had already been convicted of the rape and murder of Gillian Meagher, whose tragic death attracted significant media attention. Thousands of people participated in a march in memory of Gillian Meagher on the 30th of September, 2013 (Zielinski, 2013). Even though GH’s case was heard in 2014, it is highly probable that jurors still remembered the circumstances of Gillian Meagher’s death and that Adrian Bayley pleaded guilty to her murder. This knowledge might have influenced jurors’ expectations and skewed their perception of the defendant in favour of the prosecution before the trial had even begun.

Pre-trial publicity exposes jurors to information about the case that may not be true or may not be admissible in court, such as non-existent evidence or the defendant’s history of prior offences. This pre-trial information may irreversibly bias jurors’ perceptions of the case. Subsequent information presented within the court case itself may be perceived through the lens of the pre-trial publicity. Research into the effects of pre-trial publicity found that it increased jurors’ willingness to convict the defendant (for a meta-analysis, see Steblay, Besirevic, Fulero, & Jimenez-Lorente, 1999), decreased the perceived credibility of the defendant, and elicited a negative emotional response from jurors (Ruva, Guenther, & Yarbrough, 2011). This effect was even stronger in cases involving sexual assault and murder than in other types of cases (Steblay et al., 1999). The influence of pre-trial publicity is so

strong that not even traditional legal safeguards, such as jury selection or judicial instructions, have been unable to overcome its biasing effects (Kramer et al., 1990; Lieberman & Arndt, 2000). Moreover, the deliberation process that is believed to serve as a safeguard against any individually-held prejudices did the opposite by increasing the damaging effects of pre-trial publicity and leading to more guilty verdicts than reported in pre-deliberation votes (Kramer et al., 1990). Furthermore, social media (e.g., Facebook) and the internet can also compromise the independence of jury decision making as jurors can search for information about the case despite being instructed not to do so.

Identification made by GH was persuasive to the jury, because she testified about her firsthand experience and jurors can be insensitive to factors that undermine the reliability of an identification. Moreover, given the widespread media attention received by this case, it is possible that the jury still remembered who Adrian Bayley was and that knowledge affected their decision-making. Examples such as this illustrate a need for revision of the Criminal Justice System's perceptions of jurors as purely rational decision makers and a need to focus on ways to improve accuracy of jurors' evaluation of eyewitness evidence.

Discussion

Our review highlighted several issues regarding the probative value of the identification evidence in Adrian Bayley's trial. For the most part, the psychological research supports the issues identified by the Court of Appeal (i.e., delay, change of appearance, single photograph identification, and the influence of expectations). However, two issues required additional scrutiny. First, the Court raised concerns about the possibility of GH's memory for the perpetrator being displaced by Bayley's photo during the Facebook identification. In the legal literature it is known as the displacement effect. However, in psychological literature a similar phenomenon is called a mugshot exposure. The difference in terms that appear to be describing the same effect may contribute to confusion and miscommunication between legal practitioners and psychological scholars. Moreover, in the case of GH's photoboard

identification, the mugshot commitment effect offers the best explanation. GH did not simply see Adrian Bayley, she identified him from the Facebook photograph, a situation that is different from the traditional mugshot exposure effect. Second, the distinction between evidence of identification and evidence of similarity based on the choice of words with which an eyewitness makes an identification lacks empirical support. Although an eyewitness's self-reported decision strategy may correlate with their identification accuracy there is conflicting research about its utility (e.g., Ross, Benton, McDonnell, Metzger, & Silver, 2007) and it is not yet clear how these decisions processes correspond to the distinction between two types of evidence.

A separate issue was the jury's decision to convict Bayley at the initial trial based on the weak identification evidence alone. Lay people may not possess appropriate knowledge about factors that affect eyewitness accuracy and are often convinced by this type of evidence regardless of the quality of witnessing and identification conditions. The media coverage surrounding Bayley may have also played a role in this case. Jurors may find it difficult to make decisions independent of information they saw or heard outside of the courtroom. Even when instructed not to do so, they still have a tendency to rely on information heard elsewhere when deciding the case. Future research must find effective ways of educating jurors and/or increasing the role of judges as gatekeepers for this type of evidence.

Bayley v The Queen (2016) adds to a number of other cases in which a Facebook identification was an issue. Identifications made from Facebook provide new challenges for the criminal justice system. The decisions are made outside of the police station, without the benefit of any of the traditional safeguards used to ensure the fairness of the procedure. Moreover, an initial Facebook identification may contaminate an eyewitness's memory for the perpetrator and significantly increase the risk of the commitment effect in a subsequent formal identification procedure. How are these emerging Facebook identifications currently dealt with in Australia? McGorrey (2015) provided an overview of five recent cases that

discussed such identifications; only one case rendered Facebook identifications inadmissible (*Strauss v The Police*, 2013). In four other cases, the Facebook identification evidence was admitted, even though these identifications were made under highly suggestive circumstances in the absence of any safeguards.

These leading cases are likely to influence how the police and courts approach Facebook identifications in future cases. In his recommendations, McGorry (2015) underlined the importance of collecting initial statements from eyewitnesses at the crime scene and warning them not to use Facebook. Obtaining an uncontaminated confidence statement is of utmost importance, as the confidence at the time of the identification can be indicative of an eyewitness's accuracy (Brewer & Wells, 2006; Wixted & Wells, 2017). It is unclear, however, whether the confidence-accuracy relationship has similar utility in cases of Facebook identification. McGorry (2015) also argued that the formal identification procedure should be conducted, even if an eyewitness identified the suspect from Facebook. He noted that even though there is a high risk of the displacement effect, the formal procedure can highlight the unreliability of the eyewitness if he or she fails to identify the suspect from the photoboard (*Strauss v The Police*, 2013). In our opinion, however, any subsequent procedure should not be admitted in court, because it may be the result of the commitment effect rather than an indication of a strong memory for the suspect as the perpetrator (see Steblay & Dysart, 2016).

Conclusion

This review demonstrates that lawyers and psychologists may reach the same conclusions, but use different reasoning and evidence to inform their decisions. Judges base their decisions on the events observed in the case before them and use legal precedents. Psychologists, on the other hand, rely on findings from experimental studies that are generally accepted by the field. Some of the Court of Appeal's case observations correspond to the findings of psychological studies, but some do not. This case highlighted some of the

issues that are not yet addressed by psychological science. It is unclear how Facebook identifications differ from the traditional form of identifications and what is the best way to communicate with eyewitnesses in such cases. The difference between evidence of similarity and evidence of identification is another gap that psychologists should fill. We would also like to underline the need for continued interaction between psychological researchers and legal practitioners. It is important to establish ongoing communication to ensure the consistency and effectiveness of legal decisions and the applicability and relevance of psychological research.

Acknowledgments

This work was partially supported by the Swinburne Postgraduate Research Award to the first author. We thank Professor James Ogloff for his comments on the earlier version of this article and for his guidance and expertise. We would like to thank Dr. Mehera San Roque for her advice. We are grateful to Professor Mirko Bagaric for his suggestions. We also thank Dr. Michelle Noon and Mr. Jamie Smith-Morvell for their thorough reviews and insightful suggestions.

Declaration of Interest

Alena Skalon has declared no conflicts of interest. Jennifer L. Beaudry has declared no conflicts of interest.

Ethical approval

This article does not contain any studies with human participants or animals performed by any of the authors.

References

- Alexander v The Queen* (1981) 145 CLR 395
- ALRC Report 102 (2006, February, 8). Retrieved from <https://www.alrc.gov.au/publications/report-102>
- Austin, J. L., Zimmerman, D. M., Rhead, L., & Kovera, M. B. (2013). Double-blind lineup administration. In B. L. Cutler (Ed.), *Reform of eyewitness identification procedures* (pp. 139–160). Washington, DC: The American Psychological Association.
- Bayley v The Queen* [2016] VSCA 160
- Boyce, M. A., Beaudry, J. L., & Lindsay, R. C. L. (2007). Belief of eyewitness identification evidence. In R. Lindsay, D. Ross, D. Read, & M. Toglia (Eds.), *Handbook of Eyewitness Psychology: Memory for People* (pp. 501–525). Mahwah, NJ: Lawrence Erlbaum and Associates.
- Brewer, N., & Wells, G. L. (2006). The confidence-accuracy relationship in eyewitness identification: effects of lineup instructions, foil similarity, and target-absent base rates. *Journal of Experimental Psychology: Applied*, 12, 11.
- Brigham, J. C. & Bothwell, R. K. (1983). The ability of prospective jurors to estimate the accuracy of eyewitness identifications. *Law and Human Behavior*, 7, 19–30.
- Canter, D., Hammond, L., & Youngs, D. (2013). Cognitive bias in line-up identifications: the impact of administrator knowledge. *Science & Justice*, 53.2, 83–88. Web.
- Charman, S. D., & Quiroz, V. (2016). Blind sequential lineup administration reduces both false identifications and confidence in those false identifications. *Law and Human Behavior*, 40(5), 477–487. <http://dx.doi.org/10.1037/lhb0000197>
- Deffenbacher, K. A., Bornstein, B. H., & Penrod, S. D. (2006). Mugshot exposure effects: retroactive interference, source confusion, and unconscious transference. *Law & Human Behavior*, 30, 287–307. <http://dx.doi.org/10.1007/s10979-006-9008-1>

- Deffenbacher, K. A., Bornstein, B. H., McGorty, E. K., & Penrod, S. D. (2008). Forgetting the once-seen face: estimating the strength of an eyewitness's memory representation. *Journal of Experimental Psychology: Applied*, 14(2), 139–150.
DOI: 10.1037/1076-898X.14.2.139
- Deffenbacher, K. A., Bornstein, B. H., Penrod, S. D., & McGorty, E. K. (2004). A meta-analytic review of the effects of high stress on eyewitness memory. *Law and Human Behavior*, 28(6), 687–706. doi:<http://dx.doi.org/10.1007/s10979-004-0565-x>
- Devenport, J. L., Stinson, V., Cutler, B. L., & Kravitz, D. A. (2002). How effective are the crossexamination and expert testimony safeguards? Jurors' perceptions of the suggestiveness and fairness of biased lineup procedures. *Journal of Applied Psychology*, 87(6), 1042–1054.
- DPP v Bayley* [2015] VSCA 698, conviction trial 1
- Dror, I. E., & Hampikian, G. (2011). Subjectivity and bias in forensic DNA mixture interpretation. *Science & Justice*, 51, 204–208.
<http://dx.doi.org/10.1016/j.scijus.2011.08.004>
- Dror, I. E., Peron, A. E., Hind, S. –L., & Charlton, D. (2005). When emotions get the better of us: The effect of contextual top-down processing on matching fingerprints. *Applied Cognitive Psychology*, 19, 799–809. <http://dx.doi.org/10.1002/acp.1130>
- Dunning, D., & Stern, L. B. (1994). Distinguishing accurate from inaccurate eyewitness identifications via inquiries about decision processes. *Journal of Personality and Social Psychology*, 67(5), 818.
- Dupas v The Queen* (2012) 40 VR 182
- Dysart, J. E., & Lindsay, R. C. L. (2007). Show-up identifications: Suggestive technique or reliable method? In R. C. L. Lindsay, D. F. Ross, M. P. Toglia, & D. Read (Eds.), *The handbook of eyewitness psychology, Volume 2: Memory for people* (pp. 137–153). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

- Dysart, J. E., Lindsay, R. C. L., Hammond, R., & Dupuis, P. (2001). Mug shot exposure prior to lineup identification: Interference, transference, and commitment effects. *Journal of Applied Psychology, 86*(6), 1280–1284. doi:<http://dx.doi.org/10.1037/0021-9010.86.6.1280>
- Eisen, M. L., Smith, A. M., Olaguez, A. P., & Skerritt-Perta, A. S. (2017). An examination of showups conducted by law enforcement using a field-simulation paradigm. *Psychology, Public Policy, and Law, 23*(1), 1–22. <http://dx.doi.org/10.1037/law0000115>
- Evidence Act 2008 (Vic). Retrieved from http://www.austlii.edu.au/au/legis/vic/consol_act/ea200880/
- Findley, K. A., & Scott, M. S. (2006). The multiple dimensions of tunnel vision in criminal cases. *Wisconsin Law Review, 2*.
- Foster, J. K. (2009). *Memory: A very short introduction*. Oxford: Oxford University Press.
- Gronlund, S. D., Carlson, C. A., Neuschatz, J. S., Goodsell, C. A., Wetmore, S. A., Wooten, A., et al. (2012). Showups versus lineups: An evaluation using ROC analysis. *Journal of Applied Research in Memory and Cognition, 1*, 221–228.
- Hasel, L. E., & Kassin, S. M. (2009). On the presumption of evidentiary independence: Can confessions corrupt eyewitness identifications? *Psychological Science, 20*, 122–126. <http://dx.doi.org/10.1111/j.1467-9280.2008.02262.x>
- IMM v The Queen* (2016) 330 ALR 382
- Kramer, G. P., Kerr, N. L., & Carroll, J. S. (1990). Pretrial publicity, judicial remedies, and jury bias. *Law and Human Behavior, 14*, 409–438.
- Kukucka, J., & Kassin, S. M. (2012, April). Do confessions taint juror perceptions of handwriting evidence? Paper presented at the Annual Meeting of the American Psychology–Law Society San Juan, Puerto Rico, March 14–17.

- Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, 108, 480–498.
<http://dx.doi.org/10.1037/0033-2909.108.3.480>
- Laughery, K. R., Alexander, J. F., & Lane, A. B. (1971). Recognition of human faces: Effects of target exposure time, target position, pose position and type of photograph. *Journal of Applied Psychology*, 51, 477–483.
- Lawson, V. Z., & Dysart, J. E. (2015). Searching for suspects: Mugshot files and showups (street identifications). In T. Valentine, & J. Davis (Eds.), *Forensic facial identification: Theory and practice of identification from eyewitnesses, composites and CCTV* (pp. 71–92). Chichester: Wiley Blackwell. <http://onlinelibrary.wiley.com/doi/10.1002/9781118469538.ch4/summary>
- Lieberman, J. D., & Arndt, J. (2000). Understanding the limits of limiting instruction: Social psychological explanations for the failure of instructions to disregard pretrial publicity and other inadmissible evidence. *Psychology, Public Policy, and Law*, 6, 677–711.
- Loftus, E. F. (1974). Reconstructing memory: The incredible witness. *Psychology Today*, 8, 116–119.
- Mansour, J. K., Beaudry, J. L., Bertrand, M. I., Kalmet, N., Melsom, E. I., & Lindsay, R. C. (2012). Impact of disguise on identification decisions and confidence with simultaneous and sequential lineups. *Law and human behavior*, 36(6), 513.
- McGorrery, P. (2015). The limited impact of Facebook and the displacement effect on the admissibility of identification evidence. *Criminal Law Journal*, 39(4):208.
- Molinaro, P. F., Arndorfer, A., & Charman, S. D. (2013). Appearance–change instruction effects on eyewitness identification accuracy are not moderated by amount of appearance change. *Law and Human Behavior*, 37, 432–440.
<http://dx.doi.org/10.1037/lhb0000049>

Morgan, C. A., III, Hazlett, G., Doran, A., Garrett, S., Hoyt, G., Thomas, P., et al. (2004).

Accuracy of eyewitness memory for persons encountered during exposure to highly intense stress. *International Journal of Law and Psychiatry*, 27(3), 265–279.

Morgan, C. A., Southwick, S., Steffian, G., Hazlett, G. A., & Loftus, E. F. (2013).

Misinformation can influence memory for recently experienced, highly stressful events. *International journal of law and psychiatry*, 36(1), 11–17.

National Research Council. (2009). *Strengthening forensic science in the United States: a path forward*. National Academies Press.

Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises.

Review of General Psychology, 2, 175–220. <http://dx.doi.org/10.1037/1089-2680.2.2.175>

Patterson, K. E. (1978). Person recognition: More than a pretty face. In M. M. Gruneberg, P.

E. Morris, & R. N. Sykes (Eds.), *Practical Aspects of Memory* (pp. 227–235). London, UK: Academic Press.

Patterson, K. E., & Baddeley, A. D. (1977). When face recognition fails. *Journal of*

Experimental Psychology: Human Learning and Memory, 3, 406–417.

Plous, S. (1993). *The psychology of judgment and decision making*. New York, NY, England:

Mcgraw–Hill Book Company

Pozzulo, J. D., & Marciniak, S. (2007). Comparing identification procedures when the

perpetrator has changed appearance. *Psychology, Crime, and Law*, 12, 429–438.

Ross, D. F., Benton, T. R., McDonnell, S., Metzger, R., & Silver, C. (2007). When accurate

and inaccurate eyewitnesses look the same: a limitation of the ‘pop-out’ effect and the 10-to 12-second rule. *Applied Cognitive Psychology*, 21, 677–690.

Russell, M. (2013, January 18). Meagher accused to contest murder, rape charges. *The Age*.

Retrieved from <http://www.theage.com.au/victoria/meagher-accused-to-contest-murder-rape-charges-20130117-2cx6f.html>

- Ruva, C. L., Guenther, C. C., & Yarbrough, A. (2011). Positive and negative pre-trial publicity: The roles of impression formation, emotion and predecisional distortion. *Criminal Justice and Behavior*, 38, 511–534. DOI: 10.1177/0093854811400823
- Shepherd, J.W., Ellis, H.D., & Davies, G.M. (1982). *Identification evidence: A psychological evaluation*. Aberdeen, Scotland: Aberdeen University Press.
- Smith, A. M., Bertrand, M., Lindsay, R. C. L., Kalmet, N., Grossman, D., & Provenzano, D. (2014). The impact of multiple show-ups on eyewitness decision-making and innocence risk. *Journal of Experimental Psychology: Applied*, 20, 247–259. <http://dx.doi.org/10.1037/xap0000018>
- Steblay, N. K. (2013). Lineup instructions. In B. L. Cutler (Ed.), *Reform of eyewitness identification* (pp.65–86). Washington, DC: American Psychological Association.
- Steblay, N. K., & Dysart, J. E. (2016). Repeated eyewitness identification procedures with the same suspect. *Journal of Applied Research in Memory and Cognition*, 5, 284–289.
- Steblay, N. M. (1997). Social influence in eyewitness recall: A meta-analytic review of lineup instruction effects. *Law and Human Behavior*, 21(3), 283–297. <http://dx.doi.org/10.1023/A:1024890732059>
- Steblay, N. M., Besirevic, J., Fulero, S. M., & Jimenez-Lorente, B. (1999). The effects of pretrial publicity on juror verdicts: A meta-analytic review. *Law and Human Behavior*, 23(2), 219.
- Steblay, N., Dysart, J., Fulero, S., & Lindsay, R. C. L. (2003). Eyewitness accuracy rates in police showup and lineup presentations: A metaanalytic comparison. *Law and Human Behavior*, 27, 523–540. <http://dx.doi.org/10.1023/A:1025438223608>
- Strauss v. The Police (2013) 115 SASR 90
- Valentine, T., & Mesout, J. (2009). Eyewitness identification under stress in the London Dungeon. *Applied Cognitive Psychology*, 23, 151–161.

- Wells, G. L. (1978). Applied eyewitness-testimony research: System variables and estimator variables. *Journal of Personality and Social Psychology*, 36, 1546-1557.
- Wells, G. L. (1984). The psychology of lineup identifications. *Journal of Applied Social Psychology*, 14, 89-103.
- Wells, G. L. (1993). What do we know about eyewitness identification? *American Psychologist*, 48, 553-571. doi:10.1037/0003-066X.48.5.553.
- Wells, G. L., & Hryciw, B. (1984). Memory for faces: Encoding and retrieval operations. *Memory and Cognition*, 12, 338-344.
- Wetmore, S. A., Neuschatz, J. S., Gronlund, S. D., Wooten, A., Goodsell, C. A., & Carlson, C. A. (2016). "Effect of retention interval on showup and lineup performance": Corrigendum. *Journal of Applied Research in Memory and Cognition*, 5(1), 94.
<http://dx.doi.org/10.1016/j.jarmac.2015.11.001>
- Wixted, J. T., & Wells, G. L. (2017). The relationship between eyewitness confidence and identification accuracy: A new synthesis. *Psychological Science in the Public Interest*, 18(1), 10-65.
- Zielinski, C. (2013, September 30). Thousands march to remember Jill Meagher. *The Age*. Retrieved from: <http://www.theage.com.au/victoria/thousands-march-to-remember-jill-meagher-20130929-2umj1.html>

Figures

Figure 1. Left: Adrian Bayley in 2000 (source: County Court of Victoria); right: Adrian Bayley in 2011 (source: Facebook).