Advances in Psychology and Law 5

Monica K. Miller
Brian H. Bornstein *Editors*

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To Sally Hollenbaugh, for your love, patience, and friendship. You helped make me who I am today.—M.M.
In loving memory of Sandra Emler.—B.B.

Preface

The first half of the year 2020 has brought much turmoil and uncertainty. Preparing this volume has provided us with some welcome comforts—working with great authors and a great publisher to produce Volume 5 of the *Advances in Psychology and Law* book series. As with the four volumes that preceded it, Volume 5 is an opportunity to reflect on changes to the legal landscape of the country—some which have brought their own turmoil and uncertainty. With issues ranging from gun policy to the death penalty to the experiences of victims, witnesses, and exonerees, the volume is filled with thought-provoking perspectives by three dozen authors with diverse experiences and interests. Each chapter reviews the statutes, case law, and procedures relevant to the topic, along with a synthesis of the relevant psychology research. Chapters conclude with suggestions for legal changes and future research directions. We hope readers find this formula a helpful way to learn about new topics and perspectives in legal psychology.

We would like to thank Springer for their continued support of our book series. A special thanks belongs to Sharon Panulla and Sylvana Ruggirello who saw us through Volumes 1–4 and the conception of Volume 5. We wish you well on your new endeavors and will always be grateful for your guidance as we started this adventure. We also would like to thank Judith Newlin and Sofia Geck for their new visions for the series; we look forward to working with you further!

This volume begins with chapters related to witnesses. In Chap. 1, Rumschik, Berman, and Cutler review the research on person-matching: the ability of a person to determine whether an image before him is of the person physically before him. For example, security personnel must determine whether an identification card matches the person presenting it; jurors must decide whether a surveillance video matches the defendant. Existing and future research have important implications for many legal settings.

Chapter 2 explores the psychological research related to informant witnesses such as co-conspirators and jailhouse informants. Wetmore and colleagues discuss how cross-examination and instructions have not tempered jurors' tendencies to believe such unreliable testimony. They present a number of psychological theories

that influence this tendency and offer safeguards that can reduce the risk of wrongful convictions.

Goldfarb and colleagues discuss the growing body of research on a different type of witness: adults who allege were victimized as children. They review the legal arguments (e.g., statutes of limitations) and implications of research relevant to victims' memories of abuse and abilities to communicate such abuse during psychological evaluations or police interviews. While some memories are flawed, many have shown to be accurate—leading to a recommendation of relaxed statutes of limitations for some "historical" abuse cases on a case-by-case basis to ensure justice for victims.

Being interviewed by police can be stressful for victims, witnesses, and suspects—especially when their language proficiency is low, as in the case of nonnative speakers. In Chap. 4, Goodman-Delahunty and colleagues discuss the legal consequences of having interpreters during police interviews. This chapter reviews relevant literature and offers some best practices to guide this practice.

Chapter 5 expands on the theme of best practices, specifically concerning safeguards about eyewitness identification evidence. Skalon, San Roque, and Beaudry discuss how education and admissibility rules are safeguards that are intended to ensure a fair trial.

Some safeguards, like careful interviewing of victims who are reporting historical abuse or suspects who do not speak English, can successfully promote just outcomes. However, when legal safeguards are absent or unsuccessful, injustice can occur. Kirshenbaum and colleagues tackle the issue of wrongful convictions—and the plight of exonerees. Chapter 6 presents an overview of factors that determine whether exonerees are able to successfully reintegrate into society after their release from prison. There are both individual-level and community-level factors that affect reintegration, along with legal policies designed to ease their transition.

Wrongful convictions are but one of many justice and ethical concerns of modern days. The next three chapters trace the history of three other ethical and justice topics: the death penalty, racial bias, and the use of courts to address social problems.

West and Miller trace the changes in the use and methods of the death penalty throughout history, noting both societal and personal influences. They also note emerging research on the experiences of death-row inmates. In doing so, they note a number of injustices that still exist, including racial bias on how the penalty is sought by prosecutors and doled out by jurors.

Chapter 8 continues the theme of racial injustices, specifically investigating historical and current public attitudes toward the police. Police have long struggled to build positive relationships with communities of color, but recent events, like those that triggered the *Black Lives Matter* movement, have impeded that progress. Cole, April, and Trinker highlight the systematic issues that promote racial disparities in attitudes toward the police, highlighting justice principles such as legitimacy and procedural justice.

Like Chap. 8, Chap. 9 discusses justice in terms of underlying justice principles (procedural justice, therapeutic jurisprudence) that are the basis of some problem-solving courts. This chapter also has a historical component, as it traces the

development of such courts in the United States and beyond. Miller, Block, and DeVault summarize the frequency with which various justice and psychological principles are used in the existing research evaluating problem-solving courts. They also discuss the range and quality of evaluations conducted, offering suggestions for courts of the future.

Evaluation will be critical for the topic of the final chapter: gun policy. Pirelli, Schrantz, and Wechsler synthesize the psychological research relevant to mental health-related gun laws. They conclude with a number of science-based recommendations that can inform gun policies in the United States, with hopes of reducing gun-related violence like homicides and suicides.

As this brief synopsis of the contents of Volume 5 highlights many fascinating topics within the field of legal psychology are worthy of attention. Some of the topics are timeless, for instance, the death penalty and race-based attitudes toward police. Others are emerging, such as video technology that "witnesses" persons or crimes and the use of psychology to create better gun policies. Many topics concern the well-being of those who come in contact with the legal system, such as victims who are interviewed, offenders who experience social issues (e.g., drug addiction), and those who are wrongfully convicted. And, many topics are designed to help us understand the effects of witnesses (including jailhouse informants), police interviewing techniques, and other safeguards designed to ensure that the legal system promotes justice. Volume 5 of *Advances in Psychology and Law* includes all these topics. We have enjoyed learning about these interesting topics, and we hope that readers do as well.

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Person-Matching: Real-Time Identifications of Persons from Photos and Videos

Danielle M. Rumschik, Garrett L. Berman, and Brian L. Cutler

On a daily basis, the real-time identification of persons from images occurs millions of times. According to the U.S. Federal Aviation Administration's website, for example, 2.6 million airline passengers fly each day. That means that, each day, security staff in the United States attempt real-time identifications of persons from their government-issued identifications, such as passports, driver's licenses, and Trusted Traveler's documents. Add to the number of flyers the number of persons requested to prove their identities to purchase alcohol, cigarettes, lottery tickets, and other controlled substances; the number who show identification cards to enter their schools, workplaces, and other protected environments; and shoppers required to prove that they are the owners of the credit cards they are using. The ubiquity of video recordings provides yet additional opportunities for real-time identifications. Surveillance cameras, body-worn cameras, dashboard cameras, and citizen journalists' cell phone cameras capture suspicious activity, providing opportunities for police and fact-finders to, in real time, determine whether a suspect in custody is the person caught on video.

Henceforth, for ease of exposition, we refer to the real-time matching of persons with presented images as *person-matching*. The sheer volume of person-matching activity and the stakes involved in getting it right would lead one to think that the task of person-matching has been mastered. Our review of the nascent research on person-matching, however, reveals that the task is far more difficult than one might expect, with accuracy rates dependent on a range of viewer and image-related

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factors. In this chapter, we review separately the research literature on person-matching from photos and person-matching from videos. Within each of these subsections, we illustrate the research methods used and identify the major conclusions to date. Following our review of these separate areas, we provide an integrative view, identifying common findings and differences between the two literatures. We end with discussions of the applied implications of the person-matching research and some directions for future research.

Psychological Theories of Person-Matching from Photos and Videos

Recognition of unfamiliar faces involves many different mechanisms of the human brain. These mechanisms and connections are present by 3–5 years of age (McKone, Crookes, Jeffery, & Dilks, 2012). Bruce and Young (1986) theorized that faces were recognized using a four-component method. Component 1 consists of the social interactions with a person that lead to the encoding of invariant configurations of features. This information is then sent to face recognition units in the brain (Component 2) that assess familiarity and resemblance of the face. Then, the representation of the face stimulates the biographical information and name retrieval by person identity nodes (Components 3 and 4). Likewise, Gobbini and Haxby (2007) proposed that two interconnected brain systems are responsible for face recognition: the core system, which encodes the visual appearances of faces, and the extended system, which contains all of one's knowledge about a person including personality traits, mental states, biographical information, and memories. These models of face recognition rely solely on the perceptual details that can be garnered from viewing a person's face. The perceptual details lead to the retrieval of biographical information about a person and that information can be used to make an identification. Bullot (2014) suggests that perceptual information is not the sole way that a person can be identified and that previous theories have disregarded any causal history that may aid in identification. According to Bullot, causal history includes things that cannot be known through physical perception but must be learned through interactions with a person. For example, facts about the person, biographical information, an ability to understand the target's mentality, and memories are all a part of a causal history. Bullot proposes the Causal-history theory of identification that states that, regardless of whether perceptual or causal evidence is prioritized, successful acts of person recognition must involve causal historical factors. Whichever theory is used to account for how persons are recognized in real time, it remains that unfamiliar PMP is a difficult task affected by many factors.

Person-matching with unfamiliar targets often proves to be very difficult. Much of the person-matching literature focuses specifically on face-matching and is done

involving photos, not live persons. Person-matching difficulty can arise from either a data-limitation or a resource-limitation. Data-limitation refers to low-quality images that provide limited information about a person's appearance (Jenkins & Burton, 2011; Norman & Bobrow, 1975). According to this view, person-matching is image-bound, and the images often provide limited information about all the potential ways that a face could look (Bruce, Henderson, Newman, & Burton, 2001; Hancock, Bruce, & Burton, 2000; Johnston & Edmonds, 2009). One theory explaining this low recognition rate is holistic configural processing (Burton, Schweinberger, Jenkins, & Kaufmann, 2015). Holistic configural processing involves encoding faces according to their spatial layouts (the distance between the eyes, the distance between the nose and the mouth, etc.). This inter-featural processing of the spatial layout determines the configuration of the face. When presented with limited representations of a face, a person's encoding of the facial configuration might prohibit transfer to different views of that face. For example, person-matchingaccuracy suffered as a result of the use of degraded images or single rather than multiple images (e.g., Bindemann & Sandford, 2011; Bruce et al., 2001). More generally, research supporting data-limitation problems has shown that when high-quality photos are used, match accuracy increases (Bruce et al., 1999; Henderson, Bruce, & Burton, 2001).

Person-matching accuracy is also affected by resource-limitation (Alenezi & Bindemann, 2013; Bindemann, Avetisyan, & Rakow, 2012; Liu, Collin, & Chaudhuri, 2000). Resource-limitation refers to individual differences in person-matching ability. Face images contain enough information to allow face matching across different time periods and viewpoints, but observers vary in their abilities to make use of the information. For example, individual differences in visual processing capacities (Megreya & Burton, 2006; Rose, Feldman, & Jankowski, 2003), facial perception abilities (Schmalzl, Palermo, & Coltheart, 2008; Wilmer et al., 2010; Zhu et al., 2010), and perceptional discrimination, memory, and mental speed (Burton, White, & McNeill, 2010; Megreya & Burton, 2006) can influence person-matching abilities. Person-matching abilities are further influenced by stimulus variables, such as appearance changes between photos (e.g., Bindemann & Sandford, 2011; Kemp, Towell, & Pike, 1997) and lighting of the photo (e.g., Longmore, Liu, & Young, 2015), as well as individual factors such as fatigue (e.g., Alenezi, Bindemann, Fysh, & Johnston, 2015) and perceptual viewpoint (e.g., Bruce et al., 1999; Longmore et al., 2015). Studies supporting resource-limitation have found that observers were better able to match faces when the image quality was degraded but were challenged when high-quality images were used but from different viewpoints (Bindemann, Attard, Leach, & Johnston, 2013). In summary, theories suggest that PMP and PMV decisions are difficult, due to individual differences with respect to abilities, the individual's mental state, and the quality of the stimuli.

Person-Matching from Photos (PMP)

As noted above, PMP occurs millions of times per day in various security contexts. PMP has four potential outcomes. First, the agent (officer, clerk, agent, etc.) can correctly conclude that the person matches the photo, that the photo is of the person presenting himself or herself (a "true positive"). Second, the agent can correctly conclude that the person does not match the photo, that is, the agent correctly concludes that the person and photo are two different people (a "true negative"). Third, the agent can incorrectly conclude that the person matches the photo (a "false positive"). In other words, the person and photo are different people, but the agent mistakenly concludes that they are the same person. Fourth, the agent can incorrectly conclude that the person does not match the photo (a "false negative"), meaning that the photo is of the person who is presenting himself or herself, but the agent mistakenly concludes that they are different people.

The various errors (false positives and false negatives) in PMP have significant consequences. Controlled substances typically require a minimum age limit for purchase. When a clerk sells alcohol to an under-age drinker with a borrowed identification card of an older friend or sibling, the clerk has broken a law for which the clerk, the storeowner, and the under-age purchaser may suffer criminal penalties, and the purchaser is subject to various risks from drinking alcohol. As another example, the recent influx of immigrants to European countries has resulted in some refugees using "Ghost-passports" (Wirth & Carbon, 2017), or passports belonging to friends and relatives with similar-looking faces. Travel bans and other discriminatory practices have led to increases in stolen passports. Some immigrants who might not otherwise qualify as refugees are stealing passports from people from countries that would qualify them for refugee status, such as Syria (Abdul-Ahad & Kingsley, 2015). Thus, PMP errors of the false-positive type contribute to immigration under false pretenses, highlighting a global impact of PMP failures. Sometimes, false-positive PMP consequences are disastrous. For example, law enforcement officials believe that one of the suicide bombers involved in the November 2015 terror attacks in Paris used a stolen Syrian passport to enter France (Kingsley, 2015). The 19 men responsible for hijacking four commercial airlines in the September 11th, 2001 attacks on the United States passed through airport security with fraudulent identity documents (Cimons, 2001).

How accurate is PMP? Some research has found accuracy rates of about 80% under ideal lab conditions (Bindemann, Avetisyan, & Blackwell, 2010; Megreya, Bindemann, & Harvard, 2011). Under more taxing, real-world conditions, accuracy rates can plummet to chance levels (Bindemann & Sandford, 2011; Davis & Valentine, 2008; Henderson et al., 2001; Kemp et al., 1997). In the remainder of this section, we review the psychological theories associated with PMP decision processes and the current state of the research on PMP.

Laboratory research on PMP provides insights regarding PMP accuracy but with the limitation that the real-world conditions in which PMP take place depart significantly from the sterile conditions of the laboratory. Some laboratory researchers

have taken efforts to enhance ecological validity with the idea of better approximating real-world conditions, however. Perhaps more importantly, the controlled nature of the laboratory and the attendant benefits of random assignment and ability to manipulate variables provide insights into the factors that systematically influence PMP. Laboratory research is particularly appropriate for improving our understanding of the psychological mechanisms underlying PMP. Field research on PMP, discussed in the following section, informs us about PMP processes when used in a naturalistic environment.

With respect to overall PMP accuracy, Bruce (1982) found that, even though accuracy for matching unfamiliar face images (using the same picture) was high, around 90% (Hochberg & Galper, 1967; Nickerson, 1965; Yin, 1969), accuracy dropped to 60% when different images are used in the matching process. Bindemann and Sandford (2011) found that participants performed lower than expected when presented with a PMP task involving unfamiliar persons. Bindemann and Sandford (2011) compared matching rates from three different photo IDs of the same person. One of the photos was 19 months old and the other two photos were 3 months old. Participants were shown one ID at a time, and the ID remained in view while selecting the target from a set of 30 face photos. The set of photos and the ID remained visible until a decision was made. Results showed that, at best, only 67% of matching decisions were accurate. Overall performance dropped to 38% when attempting to match the target to all three of the IDs.

The emergence and popularity of security cameras in public and private areas to prevent property and personal crime have become a driving factor for PMP research because still photos are sometimes acquired from the video and then displayed to witnesses to match to a suspect. Using an image taken from security camera footage, Bruce et al. (1999) had participants compare a high-quality video still to a photo array of the target and similar-looking fillers. Errors were made on a substantial proportion of trials, even when the video stills and photo arrays were similar in the angles of view and facial expressions.

As noted above, laboratory research provides some insights into overall PMP accuracy and is particularly well suited for understanding the factors that influence PMP and providing insights to the psychological process underlying PMP. In the remainder of this section, we review research on the factors affecting PMP accuracy. These factors include image quality, base rate of PMP mismatches, familiarity, recency of photo, time pressure, expertise, and training.

Image Quality

Henderson et al. (2001) examined the impact of image quality on PMP accuracy. When participants were asked to match greyscale, low-quality stills from CCTV video to a target-present photo, the accuracy rate was about 30%. In a second experiment, participants were presented with stills from broadcast-quality footage and asked to match the photo to a photo array. Results markedly improved with higher

quality photos, yielding an accuracy rate of 64% across both target-present and target-absent arrays. Later research found that matching physically present suspects to high-quality video and images from security camera footage was also highly susceptible to error (Davis & Valentine, 2008).

Base-Rate of PMP Mismatches

Bindemann et al. (2010) recognized that the 50% split between matching and mismatching photo pairs typical of laboratory research was unrealistic in practice and may be distorting PMP decisions, as identity mismatches are relatively uncommon. In order to determine if the over-representation of mismatches in research skewed PMP results, they tested participants' PMP performance under low (2%) and high (50%) mismatch prevalence. Participants were presented with pairs of face photos on a screen and then asked to decide whether the two photos depicted the same person or different people. More of the identity mismatches (true negatives) were detected under 2% than 50% prevalence. The improvement of mismatch accuracy seemed to come at the expense of false positives, with observers erroneously classifying matches as mismatches on 25% of the trials.

Familiarity

As stated above, studies comparing familiar and unfamiliar faces demonstrate higher degrees of accuracy for identifying familiar individuals (Bahrick, Bahrick, & Wittlinger, 1975; Klatzky & Forrest, 1984). The familiar face matching effect is evidence that facial identification is different for familiar and unfamiliar faces (Bruce et al., 2001; Hancock et al., 2000; Jenkins & Burton, 2011; Johnston & Edmonds, 2009). Ellis, Shepherd, and Davies (1979) found that familiar faces are recognized from their internal features, such as eyes, nose, and mouth, while unfamiliar faces are recognized from their external features, like hair and face shape. Recognition of familiar faces is robust, even under difficult viewing conditions (Bahrick et al., 1975; Bindemann, Burton, Leuthold, & Schweinberger, 2008; Burton, Wilson, Cowan, & Bruce, 1999; Lie, Seetzen, Burton, & Chaudhuri, 2003). When participants were asked to make identifications of familiar video targets or comparison photos, participants were able to match or reject pairs with over 90% accuracy (Bruce et al., 2001). In contrast, ability to accurately identify unfamiliar faces was weak, even under optimal viewing conditions (Bruce et al., 1999, 2001; Henderson et al., 2001; Megreya & Burton, 2006, 2008). PMPaccuracy for unfamiliar faces increased to levels of 90% when the same image was presented for comparison (Hochberg & Galper, 1967; Nickerson, 1965; Yin, 1969). Accuracy rates dropped to 60% when different images were used (Bruce, 1982). These results suggest that recognition of unfamiliar faces may be a function of different visual

processes such as "picture recognition" more so than "face recognition" (Hancock et al., 2000). In this distinction, picture recognition refers to when a viewer's perception of a person is constrained to a single image of an unfamiliar face and when that singular image is the only cue she has to match with a target image. Face recognition processes, by contrast, elicit more cues such as matching targets using internal features (Ellis et al., 1979), comparing the target face with stored images (Longmore, Liu, & Young, 2015) or the averaging of multiple exposures (Burton, Jenkins, Hancock, & White, 2005). Even under ideal conditions (comparing two high-quality photos taken moments apart with faces in the same lighting, expression, and view), participants averaged 10–30% errors when matching unfamiliar faces (Burton et al., 2010; Megreya et al., 2011), suggesting that unfamiliar face matching relies on picture recognition and not face recognition.

Recency of Photo

Most passports in North America are valid for 10 years, while driver's licenses and ID cards may be valid anywhere from 5 years to decades (in states where there is no requirement for updating the photo on the license). Megreya, Sandford, and Burton (2013) compared matching accuracy for photos taken on the same day versus months apart. Participants were instructed to match a target face to a face embedded within a 10-face array. Results showed that participants accurately identified the correct face on 79% of occasions in the same-day picture condition. Accuracy dropped dramatically to 58% when different-day photos were displayed.

Time Pressure

Time passage and time pressure are ever-present variables confronting professionals who engage in PMP. Airport and border service security agents are expected to accurately perform tedious and repetitive PMP tasks throughout their shifts. For example, Australian and UK passport officers are expected to process about 90% of passengers in a passport queue (length unspecified) within 30 min of arriving on shift (Fysh & Bindemann, 2017). Although high efficiency is needed for consumer satisfaction, high efficiency compromises accuracy, for accuracy rates rise and fall with photo presentation duration (Chiller-Glaus, Schwaninger, & Hofer, 2007). Time pressure influences presentation duration and interferes with close scrutiny of a passport and the passport bearer. To examine the effects of time pressure on accuracy judgments, some studies used onscreen displays and prompts indicating to participants that they were behind pace to finish in the allotted time and that they needed to speed up (Bindemann, Fysh, Cross, & Watts, 2016; Fysh & Bindemann, 2017). Fysh and Bindemann (2017) examined the influence of time pressure changes on PMP accuracy in 2-s intervals between 2 and 10 s. Stimuli were composed of

high-quality photo images alongside student ID photos taken at least 3 months earlier. The base-rate of mismatches was low (7.5%). Although performance on match trials was comparable across time pressure conditions, time pressure impacted mismatch performance. Mismatch accuracy (true negatives) deteriorated as the average time target per trial was reduced. The ability to detect true negatives was worst in the 4- and 2-s conditions and at nearly chance levels (53%) in the 2-s condition. Fysh and Bindemann (2017) also found a matching response bias in each time pressure condition except the 10-s block. The bias to classify faces as matches was also found by Özbek and Bindemann (2011).

Issues associated with the time pressure experienced by PMP professionals can also be exacerbated by the divided attention demands posed by the additional tasks they are required to perform, such as checking and verifying personal details included on identity documents and whether the documents are valid. Lee, Vast, and Butavicius (2006) examined the effects of the cognitive load on PMP accuracy by having participants complete 400 face-matching trials in a factorial design in which they independently manipulated time pressure (6 vs. 15 s per trial) and the presence of an additional task (required to answer a question about the details of the ID card vs. no question). Participants in the additional task conditions mistakenly rejected more than half of the actual match pairs (false negatives) while mistakenly accepting 10% of the mismatched pairs (false positives). McCaffery and Burton (2016) also found increases in false positives and false negatives when participants were tasked with assessing additional biographical information. Additionally, they found a bias toward classifying photos as matching when participants were tasked with assessing the biographic information.

In an effort to mitigate the impact of time pressure on PMP judgments, Alenezi et al. (2015) tested two different strategies to reduce fatigue and mistakes in long PMP trials. Their first experiment consisted of 1000 face-matching trials with 5-min breaks after each block of 200 trials. Results showed an inverse relationship between number of trials and overall accuracy, mostly due to a tendency to classify true matches as false positives. In their second experiment, participants were moved into a new room after each 5-min block. Similarly, accuracy declined across trials, with the largest decline for mismatch accuracy. Their two experiments found that neither enforced rest through a required break nor moving rooms eliminated the accuracy decline during long matching tasks.

Training in PMP

Training participants in facial identification has been examined as a way to increase PMP accuracy, but the research findings are mixed. Multiple training methods have been employed. One method is to focus the participant's attention on features, such as internal feature focus training (e.g., Paterson et al., 2017) and face shape classification (e.g., Towler, White, and Kemp (2014). Another approach is to provide trial-by-trial accuracy feedback (e.g., Alenezi & Bindemann, 2013; White, Kemp,

Jenkins, & Burton, 2014) and overall accuracy feedback (e.g., Alenezi & Bindemann, 2013). Davis, Forrest, Treml, and Jansari (2017) found that controls familiarized with the decision-making process made slightly fewer false positives and slightly more true negatives than untrained controls. In contrast, Lee, Wilkinson, Memon, and Houston (2009) found no accuracy differences between individuals experienced in facial identification, those who were partially trained, or those who were untrained. Training does have some implications for PMP when facial features change, for example, as a natural result of aging (Paterson et al., 2017). Training individuals to attend to internal features of unfamiliar faces may improve identification accuracy when external features have been changed but may also lead to higher rates of false negatives when features are unchanged (Paterson et al., 2017). Using the approach of focusing participants on facial features, Megreya and Bindemann (2018) found both improvement and decline in PMP accuracy when participants were instructed to focus on specific facial features and make comparisons across the two photos. PMP accuracy increased when participants focused on the eyebrows but decreased when participants focused on the ears. Research conducted by Rumschik and Cutler (2019) found that instructions to compare the noses in photos reduced false positives when compared to other feature instructions, but not significantly more than holistic comparisons.

Feedback is an important aspect of any training program but is often nonexistent or delayed in the context of real-world PMP decisions. Receiving feedback allows trainees to learn from their mistakes and to reassess the standards they are using to make match or mismatch decisions. Alenezi and Bindemann (2013) conducted a series of experiments to examine the effects of feedback type on PMP accuracy. In one experiment, immediate feedback did not improve performance but was effective for maintaining accuracy and reducing false positives. In another experiment, participants were provided with overall performance feedback instead of trial-by-trial feedback. Overall feedback was not effective in helping participants to maintain accuracy, suggesting that trial-by-trial feedback may be necessary for maintaining accuracy. In general, Alenezi and Bindemann showed that accuracy declines throughout a matching task, especially for true negatives, and that trial-by-trial feedback is useful for reducing this decline in accuracy.

Expertise in PMP

The training research discussed above examines the effects of training in laboratory studies. Some research has also examined expertise as an individual difference variable. Expertise can be obtained through some combination of training or experience. Police and forensically trained identifiers are often called upon to make identification decisions after a civilian has identified a suspect. Police officers and trained identifiers have more experience than civilians in making these types of decisions, but experience may not increase accuracy. Papesh (2018) examined individual differences in face matching as a function of age and occupational

experience. Participants were either students, notaries, or bank workers. Participants were presented with 30 different photo pairs (15 matched and 15 mismatched pairs). One student ID photo was embedded into a mock driver's license while the other photo was derived from a digital photo. Photos were taken an average of one-and-a-half years apart. Results showed similar performance for both professional groups and student participants, indicating that experience in the field might not influence PMPaccuracy. White, Kemp, Jenkins, and Burton (2014) tested passport officers to determine the relationship between job experience and their abilities to make same or different identity judgments in person–photo pairs and photo–photo pairs. The person-to-photo test yielded a false-positive rate of 14% for fraudulent photos and a false-negative rate of 6% for valid photos. In the photo–photo pairs, accuracy rates were 71% for true positives and 90% for true negatives. These results were similar to findings from student populations, suggesting that expertise might not be predictive of PMP accuracy. By contrast, Towler et al. (2017) compared PMP performance between students and facial examiners and found that examiners performed more accurately than students with both upright and upside-down stimuli. Ali et al. (2015) found that forensic facial examiners (police officers) typically used a feature-based approach when identifying suspects. This means that each part of the face is compared separately, and a conclusion is reached by observing similarity and differences. A feature-based approach is in direct contrast with the holistic approach typically used by civilians.

Another group, known as Superrecognizers (SR), further complicates the differences between police and civilians in terms of PMP performance. A superrecognizer is a person who scores high on tests assessing "face perception, simultaneous face matching, and familiar and unfamiliar recognition, while performing about the same as controls on object recognition" (Durova, Dimou, Litos, Daras, & Davis, 2017, p. 1). Superrecognizers have shown improved accuracy as compared to civilians in PMP and facial identification (Bobak, Hancock, & Bate, 2016). Superrecognizers seem to perform similarly to police in PMP tasks, and some are employed with the London police department specifically for identification decisions (Keefe, 2016). Even though accuracy of decisions may be similar between police and civilians, the way the two groups make identifications is different. Forensic facial examiners typically use a "feature-based" approach to identify a suspect, while civilians typically use a holistic face approach (Ali et al., 2015). When forensic facial examiners identify suspects, each part of the face is compared separately, and conclusions are based on the different facial features and their relative importance. In fact, guidelines set forth by the Netherlands Forensic Institute suggest that face comparison by examiners should be based on "morphological anthropological facial features" (Ali et al., 2015), such as the shape of the mouth, eyes, nose, ears, and eyebrows; relative distance among different relevant facial features; contours of the cheek- and chin-lines; and lines, moles, wrinkles, and scars on the face.

The laboratory research on PMP informs us about psychological processes underlying PMP and factors affecting PMP accuracy. Some laboratory research reviewed above attempts to approximate the real-world conditions in which PMP is

practiced. There are also field studies of PMPaccuracy that give a high priority to approximating working conditions. For example, Kemp et al. (1997) conducted one of the earliest field studies by manipulating credit card identification photos to determine if customer use of credit cards with affixed photos would reduce fraud. The study was conducted in a supermarket, with authentic credit cards, employed cashiers, and real transactions with confederates posing as customers. The photos on the credit cards were full-face portraits with neutral expressions. Each cashier processed 44 transactions in less than 90 min and viewed a random selection of the four types of cards with approximately half of the cards being valid. Results showed a pattern to avoid rejecting credit cards with only 30% of credit cards being rejected, indicating low sensitivity rates across mismatched conditions.

White et al. (2014) compared passport officers' PMP accuracy in person–photo pairs and photo–photo pairs. Passport officers were tested at their desks using laptops to display the photos. For each trial, the officer viewed either the target's ID photo or a foil chosen to be most similar to the target. Passport officers viewed each photo for 10 s and then determined if the photo was a match or a mismatch to the person standing in front of them. In the photo–photo pairs, officers viewed a target image on the left side of their monitor and simultaneously viewed either a two-year-old photo or an official ID photo on the right side of the monitor. Passport officers exposed to the person–photo pairs wrongly accepted 14% of fraudulent photos (false positives) and wrongly rejected 6% of the valid photos (false negatives). Matching accuracy for passport officers exposed to the photo–photo matched pairs was much lower, with officers wrongly rejecting about 30% of valid photos (false negatives) across conditions. Accuracy for photo–photo mismatches, however, was higher than person–photo pairs, with officers wrongly accepting only 10% of fraudulent photos (false positives) across conditions. PMP accuracy rates for passport officers were similar to those found in student samples, indicating that experience making PMP decisions may not improve accuracy. Additionally, these results highlight the difficulty associated with person–photo pair testing, a common task for airport security and border agents. While few in number, the existing field studies offer invaluable insights into job site-specific factors that can affect accuracy, such as the type of comparison material (picture vs. person; White et al., 2014) and appearance change over time (Kemp et al., 1997).

In summary, research shows that PMP can be an extremely difficult task with significant cognitive demands and risk. PMP accuracy is challenged by the use of unfamiliar faces (which is how it is normally used in practice), low base-rate of mismatches, compromised quality of the photos used in the matching process, the use of dated photos, and time pressure on the individual tasked with PMP. In an effort to combat issues of dated photos, some researchers have suggested using multiple IDs with photos taken at different time periods (Bindemann & Sandford, 2011), while others and some governments have advocated moving toward using biometrics such as height, fingerprints, and eye scans to verify identity (Benabdelkader, Cutler, & Davis, 2002a, 2002b). Consistent with the general finding that training in face recognition has not been effective at enhancing performance (e.g., Woodhead, Baddeley, & Simmonds, 1979), PMP training shows, at best,

mixed effects on PMP performance. With respect to expertise, research indicates that field professionals have similar performance in PMP tasks compared to untrained civilians.

Person-Matching from Videos (PMV)

The process of PMV resembles PMP paradigms but for the obvious distinction that videos are used rather than photos. One of the primary distinctions between the use of PMV and PMP is context. Whereas PMP is most commonly used to prevent crimes, as in airport and border security checks and ID checks to prevent the illegal purchase of controlled substances, PMV is often used during investigations to solve crimes caught on surveillance video. PMP and PMV identifications differ in significant ways. First, PMP paradigms rely on lay participants or experts attempting to identify faces from matching static images. In contrast, PMV studies examine video identifications that include additional target cues such as varying distances, gait, clothing, and body shape (Hahn, O'Toole, & Phillips, 2016).

The first commercially available closed-circuit television (CCTV) system was released by an American company in 1949 (Draper, 2018). In the 1980s, video technology became relatively inexpensive, and small businesses and citizens began installing their own surveillance systems (Dailey, 2013). Since then, implementation and availability of CCTV and surveillance systems have grown, with an estimated 245 million professionally installed video surveillance cameras globally in 2014 (Jenkins, 2015). This translated to approximately 125 surveillance cameras per 1000 people in the United States (Statista, 2015). In the United States alone, an estimated 30 million surveillance cameras are recording 4 billion hours of footage per week (Vlahos, 2009). As of 2016, about 20% of US homes used security cameras (Honovich, 2016). We do not have more recent estimates, but the growing use of surveillance video and rise in citizen journalists with cell phones that record video leads us to believe that Vlahos's (2009) 10-year-old estimate grossly underestimates the number of surveillance videos used to investigate and solve crimes today. Similar to any type of technology, surveillance formats have evolved over the decade, for example, from analog to digital formats. Now, perpetrators can be captured on video using a variety of video recording technology, such as mounted surveillance cameras in public places, body-warn cameras worn by police officers responding to incidents, dashboard cameras in law-enforcement and citizen-owned vehicles, and cell phone video captured by the general public (so-called citizen journalists). In fact, videos from citizen journalists and victims of crimes have been used to identify and arrest perpetrators, such as in a road rage case in Raynham, Massachusetts (Quiroga, 2016) and a murder in Colorado Springs, Colorado (Miller, 2019). For ease of exposition, we will not attempt to distinguish between the uses of the various technologies and refer generally to surveillance video and PMV.

Following a reported crime, police investigators gather information including the presence of any surveillance videos. Police may include in their search for videos

body-worn camera footage from responding officers and cell phone videos captured by witnesses. Surveillance video provides investigators with information about the alleged crime and the identity of the perpetrators (Bruce et al., 2001). Additionally, surveillance videos have the potential for removing the need to rely on witness memory to establish and identify suspects (Bruce et al., 2001; Lee et al., 2009). Surveillance video and images have been used to identify suspects in high-profile cases including those involved in the 2005 London bombings, the 2013 Boston Marathon bombing, and the 2011 London riots following the death of Mark Duggan (Shaw, 2019). Identifying people from surveillance videos, whether by professionals or lay people, requires using person-matching or PMV.

While the idea of capturing a suspect on video may seem, at first glance, iron-clad evidence against a suspect, the reality of PMV is more complex than it appears. The visual representation of people in PMV varies tremendously as a function of such factors as PMV quality, ambient lighting, distance between the perpetrator and camera, viewing angle, exposure duration, and what the perpetrator is wearing (e.g., hoodies covering the hair, hairline and part of the face; sunglasses; and even masks). Put simply, the task is not simple. Errors in PMV have significant costs. False positives (that is, mistakenly identifying innocent persons as perpetrators) lead to wrongful detainment, prosecution, and even imprisonment. When an innocent person is prosecuted for a crime, by definition, the guilty person is also free to commit more crimes. Similarly, false negatives, or the failure to identify the perpetrator, in a PMV attempt leaves the perpetrator free to commit more crimes. The growing use of surveillance video for investigating and adjudicating crimes suggests the need to examine PMV accuracy and the factors that affect it.

Most of the research conducted using surveillance for identification purposes has examined surveillance videos or photos taken from surveillance videos at the time of the incident. PMV research uses laboratory research like PMP research, which has similar strengths and limitations. Also like PMP research, the outcome variables are overall accuracy rates and occasionally derivative measures such as true and false positives and negatives. Laboratory studies typically follow the same general methodology as PMP research when testing identification accuracy from surveillance videos. A clip or a video showing the target is taken from a surveillance video stream. Participants view the original video of the target followed by the presentation of a test stimulus and are asked to identify the target. The test stimulus can consist of target-present or -absent additional surveillance video (e.g., Lucas, Kumaratilake, & Henneberg, 2014), a photo array (e.g., Lie, Seetzen, Burton, & Chaudhuri, 2003), or live lineup. Using a photo array or some type of photo lineup procedure is the most common way to asses PMVaccuracy. We were unable to find field research on PMV performance.

Each person seems to have a "distinctive, idiosyncratic way of walking," referred to as gait (Benabdelkader et al., 2002a, p. 1, 2002b, p. 1). Gait could be an important factor in body identification because it is an "emergent behavioral biometric" (Benabdelkader et al., 2002a), is non-invasive, and can be measured at a distance. Research examining gait as a primary identification tool has revealed accuracy rates at or below chance performance (Cutting & Kozlowski, 1977; Stevenage, Nixon, &

Vince, 1999). Davies and Thasen (2000) exposed participants to a 25-min surveillance video and then performed an identification test. The video contained whole-body shots of the person with no facial image close-ups. Accuracy was only 30% when making identifications with access to a still-frame image of the target. Other research, by comparison, has shown that gait—as represented through biological motion point-light displays (Johansson, 1973)—can be used to identify particular actions (Dittrich, 1993), such as the walker's sex (Barclay, Cutting, & Kozlowski, 1978), and can be used to identify a familiar person (Cutting & Kozlowski, 1977; Stevenage et al., 1999). Despite inconclusive evidence, gait identification by police or experts remains admissible identification evidence and was used as the primary identification in the landmark case in Noerager, Denmark, in 2004 (Birch et al., 2013) in which two surveillance cameras recorded a bank robbery. Videos of the perpetrator and the suspect walking were analyzed and judged to reveal positive matches between the two. During the trial, gait testimony from the analysts was used as evidence to convict the suspect (Larsen, Simonsen, & Lynnerup, 2007).

Even though laypeople are not very good at identifying people based on body type, results from gait analysts show more promise. Birch et al. (2013) analyzed the abilities of seven participants, each with a minimum of 5 years of experience in observational gait analysis in several different fields such as podiatry, physiotherapy, and biomechanics, as well as some participants having experience making forensic gait analysis decisions. Participants were shown targets walking in two different planes. Experts were able to correctly identify the suspect as the target about 71% of the time. When targets and suspects were shown walking in the same angle, analysts were 79% accurate. When targets and suspects were shown in different angles, analysts were 69% accurate. Among the factors examined in this research, in addition to viewing angle, are number of actors in the frame, video quality, distance from the perpetrator depicted on video, and expertise.

For example, the quality of surveillance video can vary widely, depending on such factors as the quality and age of the equipment. Keval and Sasse (2008) asked untrained participants to identify a face across four different video quality bit rates (32, 52, 72, and 92 kilobits per second, or Kbps). Video bit rates are similar to image resolution, in that they describe the compression and quality of the video, with more Kbps indicating higher levels of quality. They found that PMVaccuracy decreased by 18% when the video quality decreased from 92 to 32 Kbps. The researchers recommended a video quality of at least 52 Kbps for PMV purposes. More recent research examined the bit rate needed to maintain usefulness to different types of professionals (Tsifouti, Triantaphillidou, Bilissi, & Larabi, 2013). Police officers, surveillance officers, and officers trained specifically in analyzing CCTV footage from buses viewed key scenes from London bus footage at varying levels of compression and rated the usefulness of the footage for identification. Police officers had the highest criteria, accepting less compression than bus analysts and surveillance officers. These findings suggest that video quality influences PMV and that the criteria for what is believed to be sufficient video quality and resolution for PMV vary across different classes of professionals.

In summary, research on PMV, though less mature than research on PMP, paints a somewhat more encouraging picture for person-matching performance. Moderate error rates are still found in PMV, but research suggests that the use of gait as an identification cue can improve accuracy rates. Gait is a helpful identification cue because people tend to have idiosyncratic ways of walking, providing diagnostic cues for recognition. As one would expect, surveillance video quality is an important factor.

Future Research Directions and Practical Applications

Although PMP and PMV have been in practice for decades, research on these topics is relatively nascent, with PMP receiving more research attention than PMV. PMP and PMV have much in common with respect to the underlying psychological processes and the factors that influence performance. Note that in our review of the extant research, overall accuracy rates, the impact of image quality, and the roles of expertise were commonly studied factors. The similarities between PMV and PMP lead us to some common research directions. The differences between PMV and PMP also lead to distinct research questions, as we discuss next. With respect to similarities, we need a deeper understanding of the psychological processes underlying PMP and PMV and the factors that affect performance on the two tasks. Both areas of research would benefit from a more nuanced understanding of performance metrics, such as signal detection methods, with separate analyses on sensitivity, decision criteria, and area under the curve. As reviewed above, some of the research (e.g., Alenezi et al., 2015; Alenezi & Bindemann, 2013; Bruce et al., 2001; Fysh & Bindemann, 2017; Megreya et al., 2013) provides such nuanced analyses, whereas others (e.g., Bindemann et al., 2010; Bindemann & Sandford, 2011; Bruce et al., 1999) focus on global accuracy rates. Additional measures such as confidence in PMP and PMV judgments would also be informative (e.g., Bruce et al., 2001; Kemp et al., 1997). Analyses of overall accuracy rates alone sometimes mask interesting and important effects. Both research areas would benefit from more realistic field studies as well as research aimed at the use of training methods to improve accuracy (e.g., Alenezi & Bindemann, 2013; Paterson et al., 2017; Towler et al., 2017; White et al., 2014).

There are important differences between PMP and PMV, however. Besides the obvious difference in the media used in the research (photos versus video), the two tasks differ in how they are used, and that difference has implications for research directions. As explained earlier, PMP is typically used to prevent crime, and many professionals engaged in PMP make a high volume of judgments in a short period of time. In contrast, PMV is typically used to solve crimes that have already occurred. Once in the possession of surveillance video, officers are not under the levels of cognitive load and time pressure in making PMV judgments as are officers who make PMP judgments. Officers can easily seek second opinions on PMV judgments. Thus, cognitive load variables, such as time pressure, distractions, and

emotions, are more fertile research grounds for PMP judgments than for PMV judgments.

PMV judgments can be made by a wider variety of parties than PMP. For example, police, lawyers, judges, and juries may view surveillance footage and have to make judgments about whether a suspect or trial defendant is the person caught on surveillance video. Thus, research should be conducted to examine how factfinders make PMV judgments and how they value those judgments.

PMV sources, as mentioned above, are quite variable. They can include fixed, mounted surveillance cameras, body-worn cameras, dashboard cameras, and citizen-operated cell phone cameras. Each type of camera produces different types of video, and the variable of image quality alone might not capture these differences. Thus, PMV research would benefit from an examination of the different cameras that produce video footage for PMV judgments.

PMP and PMV have some typical and unique implications for practice as well. Federal and state authorities are increasingly utilizing face-matching procedures when attempting to confirm the identity of a suspect using either a still photo taken from surveillance video or by showing the surveillance video to witnesses (layperson and police) who may have been in the area or exposed to the witness at an earlier time. As a result, the ubiquity of digital images impacts, to some extent, the way crimes are investigated, and ultimately how suspects are identified and prosecuted. In the research discussed above, we identified factors that increase and decrease PMP and PMVaccuracy and attempts to improve PMP and PMV performance. That research has direct implications for the practice of PMP and PMV as well as how PMP and PMV judgments can be evaluated.

Another promising direction for research is the investigation of how jurors evaluate PMP and PMV evidence. There is a growing understanding of how jurors evaluate eyewitness evidence (Benton, Ross, Bradshaw, Thomas, & Bradshaw, 2005; Brigham & Bothwell, 1983; Cutler, Penrod, & Dexter, 1990; Kovera, Park, & Penrod, 1991; McCloskey & Egeth, 1983; Semmler, Brewer, & Douglass, 2012), but no knowledge of which we are aware about how they evaluate real-time identifications in PMP and PMVcontexts. This becomes increasingly important, as these types of identifications are becoming commonplace in court as identification evidence. Jurors might be asked to make real-time identification decisions when presented with digital evidence of the perpetrator during a trial and asked to compare the person in the photo or video with the defendant sitting in the courtroom. Thus, jurors might not only be tasked with evaluating PMP and PMV evidence offered by eyewitnesses but might be making such judgments themselves. Trial simulation methods therefore provide yet another venue in which PMP and PMV performance can be studied.

PMP and PMV also have applied implications with respect to experttestimony. Two of the authors have considerable experience in offering expert testimony in cases involving eyewitness identification. With increasing frequency, both encounter cases in which identifications are made from pictures or videos rather than on memory for a perpetrator. PMP and PMV share some likeness to eyewitness identification, in that an eyewitness identifies a suspect as a perpetrator in all of these

instances. Yet, PMP and PMV differ from traditional eyewitness tests in terms of memory processes and identification procedures. Traditional eyewitness paradigms involve all three memory processes of encoding, storage, and retrieval. In contrast, judgments and identifications from photos and CCTV do not involve retrieval from previously stored memory traces but a real-time face-matching judgment. It behooves eyewitness experts, therefore, to broaden their expertise and be positioned to educate factfinders about PMV and PMPaccuracy.

Conclusion

PMP and PMV provide fruitful avenues for new research as well as new directions for the practice of psychology. Regardless of the demonstrable levels of performance and factors found to affect PMP and PMVaccuracy, both PMP and PMV practices are widely in use today, and the widespread use will likely continue. Accordingly, there is a great need for research, building upon the research reviewed here. New research that improves understanding of PMP and PMV has the potential to protect citizens by preventing and adjudicating crime and minimizing the risk of miscarriages of justice. Researchers are also in the position to educate police, lawyers, and factfinders about PMP and PMV. It is our hope that this chapter will inspire researchers to contribute to the growing bodies of research on PMP and PMV.

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Incentivized to Testify: Informant Witnesses

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Introduction

This chapter explores a growing area of psychology and law: informant witnesses (see Roth, 2016). Informant witnesses (i.e., witnesses who offer testimony against another person in anticipation of some benefit) are a well-engrained feature of the American criminal justice system (*Hoffa v. United States*, 1996; *United States v. Ford*, 1878). However, false testimony from informant witnesses is also a leading factor in wrongful convictions (Garrett, 2011). An informant witness might be a witness who has participated in a crime and is willing to testify regarding the role of a co-conspirator or accomplice (i.e., an accomplice witness), or a jailhouse informant who provides testimony about knowledge of a crime based on information obtained while incarcerated with a defendant. Although precise statistics on informant use are not available, in the U.S. federal system, approximately 10–12% of defendants have their prison sentences reduced each year in exchange for cooperation with the government (Roth, 2016; U.S. Sentencing Commission 2017 Sourcebook), indicating that at least this percentage of defendants either did or were prepared to offer testimony against others that prosecutors deemed useful. Many individual states do not keep similar statistics, but informant use is also widespread

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in state prosecutions (Roth, 2016; Virginia Sentencing Commission, 2018 Annual Report). Despite its pervasiveness and contribution to wrongful convictions, the use of informants is largely unregulated.

This chapter provides an overview of informant witnesses in the American judicial system. We begin by addressing a brief history of informants, including infamous informants who have publicized how they used the system to their benefit. We discuss the current laws guiding informant use and what the psychological literature can tell us about this testimony, including what is generally included in informant testimony, what motivates informants, and why informant testimony is so persuasive. Lastly, we address the research evaluating proposed safeguards and topics requiring further study.

Brief History

The earliest record of informant use dates back to the fourth century BCE. The ancient Greek penal system punished treason with death unless the person was willing to reveal other traitors, in which case they could receive the lesser sentence of banishment. The Athenian government was able to expose treasonous plots by using informants in this way (see, e.g., Chapter 18 of Thucydides's *History of the Peloponnesian War*). A similar structured system was the medieval approver system (circa 1275), in which any person accused of a felony or treason could provide information on any other person (Bloom, 2002). Just as the Greek penal system allowed for banishment, the medieval approver system would allow informants—already convicted of a felony, which was punishable by death—to be exiled if their testimony was accepted. Given that the informants, in both systems, were sentenced to death, informing could only provide a benefit.

The first known American case to use a jailhouse informant took place in Manchester, Vermont. In 1812, a man by the name of Russell Colvin disappeared and was consequently presumed dead. The blame ultimately fell upon his two brothers-in-law, Jesse and Stephen Boorn. During his time in jail, Jesse had the misfortune of sharing a cell with Silas Merrill, a convicted and well-known forger. Almost immediately, Merrill began working with the authorities against Jesse. Merrill reported that Jesse confessed to him, alleging that he, his father, and brother worked together to murder Colvin. After testifying against the brothers, Merrill was almost immediately released from jail. Both Jesse and Stephen Boorn were charged with murder and received the death penalty. However, Russell Colvin turned up alive about a month before Stephen's expected execution date, saving them both from untimely and unjust deaths. Although this is considered the first case utilizing jailhouse informants in modern American history, it most certainly was not the last. There have been many cases with similar narratives to the Boorn brothers': someone wrongly accused of a serious crime with the fundamental evidence used against him being the testimony of a jailhouse informant. The following section outlines how commonplace this sequence of events has continued to be.

The use of jailhouse informants has not waned with time. In fact, it is still a major factor in wrongful convictions. According to the Innocence Project, the leading contributing factors in wrongful convictions are eyewitness misidentification, faulty forensic evidence, false confessions, and the use of informants (Innocence Project, 2019). Furthermore, in an examination of 250 DNA exoneration cases, Garrett (2011) found that in 28 of those cases, a jailhouse informant had provided testimony at trial. When the investigation was narrowed down to only those involving jailhouse informants, 18 of those 28 cases involved both murder and rape, while another six involved murder. Additionally, the Center for Wrongful Convictions discovered that informants were involved in 45.9% of 111 capital cases it studied, making false informant testimony the leading known contributor to wrongful convictions in capital cases in the United States since the reinstatement of the death penalty (Warden, 2004). Gross, Jacoby, Matheson, & Montgomery (2005) also reported that of the 340 cases they studied, dating from 1989 to 2003, 97 included some sort of perjury. These fabricated reports, many of which came from informants, were contributing causes to wrongful convictions in 56% of murder cases and 25% of rape cases. And in one of the most extensive reports to date, specifically concerning the use of jailhouse informant testimony, the Los Angeles County Grand Jury (1990) found that informants were employed in 233 murder and felony cases in the Los Angeles area alone over a time period of approximately 10 years. This report was one of the first to expose a culture of utilizing and rewarding inmates for providing incriminating information about other prisoners' guilt, despite however untruthful this information may be. Lastly, according to the National Registry of Exonerations, jailhouse informants have contributed to over 119 known wrongful convictions, and the testimony was included in cases with the worst crimes, with 102 out of 119 being murder cases (Gross & Jackson, 2015).

Although informants have been in use for a long time, there is a crucial need for further understanding of how to better regulate informant testimony and prevent future wrongful convictions.

Infamous Informants

A number of informants have highlighted the dangers they can pose to a case. For example, one of the most well-known jailhouse informants to date is Leslie Vernon White. White first gained notoriety from appearing in an interview with *60 Minutes*, during which he revealed the different methods he used to discover information pertaining to local crimes. During the interview, White posed as a Los Angeles police officer and called the LA Coroner's office, asking for information surrounding a murder he had read about in the newspaper. Under this guise, White was able to obtain all the information he needed to know about the murder to be deemed credible in a court of law. He was not only able to demonstrate that he knew details of the crime that only the true culprit would know but made it very difficult for the defense to impeach him. In fact, the only thing that the defense could question him about was how he had obtained the information, which would be difficult to prove

that he had heard anywhere but from the suspect. White's television demonstration was so egregious that it was one of the factors that launched the LA County Grand Jury Report. White was very clear in his interview that he was lying, and he did it to get out of jail. This illustrates that apart from issues regarding how informants learn information regarding the facts of the case, another problem with the use of informants is that often times they are provided with incentives, or motivation, from the prosecution to lie under oath.

Another well-known informant from California[1] is Edward Fink. Fink, a career informant, colluded with the police for over a decade and received benefits for doing so. For example, in *People v. Thompson* (1988), a case Fink was employed in, prosecutorial misconduct was a key factor in Thomas Thompson's death sentence. Thompson and his roommate, David Leitch, were both arrested and tried separately for the rape and murder of Ginger Fleischli. Fink testified in Thompson's trial, alleging that Thompson admitted to him that he had murdered Fleischli alone and before Leitch was able to return home. Based primarily on Fink's and another informant's testimony, Thompson received the death sentence. Fink, on the other hand, was released from jail shortly after testifying (Minsker, 2009). Months later, during Leitch's trial, the prosecution came up with a different story altogether. With the aid of three different informants, the prosecutor claimed that Leitch and Fleischli had been dating and Leitch decided to murder her due to her interference with a past relationship of his. In this version of the story, both Leitch and Thompson were said to have been involved in the murder. The prosecutor very well may have manipulated the evidence presented in both trials for more favorable outcomes (Minsker, 2009), which may have contributed to Thompson's execution (*People v. Thompson,* 1988).

Lastly, a recent scandal in Orange County, California, has also highlighted dangers of the improper use of informant witnesses. It has been alleged, by a public defender, that prosecutors and sheriff's deputies illegally used jailhouse informants by placing the prolific informants into cells close to certain defendants in an effort to extract confessions (Queally, 2019). This scheme blatantly violates the defendant's right to have counsel present during any questioning by the state, which would include the informants in this case as they were recruited by the government and were, therefore, state agents.

The Law

For the reasons explained below, informant witnesses are highly useful to prosecutors and law enforcement agents. To secure a criminal conviction, the government must prove a defendant's guilt beyond a reasonable doubt (In re Winship, 397 U.S. 358, 1970). For more serious offenses, the defendant is entitled to insist that

[1] This is not to imply that all jailhouse informants are from California. However, as recent news reports indicate, California employs a large number of informants (https://abc7.com/unlikely-alliance-born-in-search-for-answers-over-oc-snitch-scandal/4560287/; last visited 5/20/2019).

the government meets this burden of proof to the satisfaction of a jury of his or her peers (*Duncan v. Louisiana*, 391 U.S. 145 1968).

In some instances, the sources of evidence available to the government are limited. In the case of murder, rape, or other violent crime, there may be few witnesses. The defendant may be the person in the best position to offer testimony about what happened. But, while a defendant in a criminal case has the right to testify in his or her own defense, a defendant has no obligation to testify against themselves. The Supreme Court of the United States has long held that the Fifth Amendment's protection against compelled self-incrimination prevents individuals from being required to offer testimony that could be used against themselves in criminal cases. As a consequence, prosecutors cannot compel defendants to take the stand at their own trials. Nor can they compel individuals to speak with them before trial (*Miranda v. Arizona,* 1966). The Supreme Court also has held that the Sixth Amendment's right to counsel places limits on law enforcement agents' ability to engage in questioning after charges have been filed without a defendant's attorney present (*Spano v. New York*, 1959). Thus, when the government seeks to introduce into evidence inculpatory statements made by criminal defendants to law enforcement agents, courts frequently scrutinize the circumstances in which those statements were procured to ensure that they were consistent with the defendant's constitutional rights. If they were not, then the statements may be excluded from the jury's consideration (*Miranda v. Arizona*, 1966).

When a defendant has made an inculpatory statement to a person who is not a law enforcement agent, no such rights attach (*Hoffa v. United States*, 1996). Accordingly, courts regularly admit into evidence testimony about a defendant's confession by such witnesses, without any prior scrutiny (Roth, 2016). Prosecutors and law enforcement agents may intentionally evade constitutional restrictions on their own conduct, for example, by willfully placing an informant in circumstances designed to elicit a confession in violation of a defendant's right to counsel (*Massiah v. United States*, 1964). But when a witness elicits or overhears a defendant's statement without any such encouragement by law enforcement agents, these statements are ordinarily deemed admissible and no pretrial hearing is required.

Although the rules of evidence generally prohibit as hearsay out of court statements offered to prove the truth of the matter asserted therein, there is a long-established exception for statements made by a party that are offered against that party (Fed. R. Evid. 801(d)(2)(A), 1984). This exception provides the basis for admitting into evidence a defendant's prior out of court statements, whether made to law enforcement agents or others, when offered by the prosecution. The exception demonstrates the value for prosecutors of testimony by jailhouse informants or accomplice witnesses to whom a defendant has made a confession. Accomplice witnesses also frequently testify about statements made by other members of a conspiracy involving a defendant, under another well-established hearsay exception for statements made by a party's co-conspirator in furtherance of the conspiracy (*Bourjaily v. United States*, 1987; Fed. R. Evid. 801(d)(2)(E), 1984). These statements can extend beyond a defendant's own inculpatory statements, to include statements by other participants in the crime about its planning and execution.

In theory, informant witnesses could be compelled to offer this evidence favorable to the prosecution through the issuance of subpoenas. However, these witnesses themselves frequently enjoy Fifth Amendment protections against such compelled testimony, because their testimony might well put them in legal jeopardy. This is a particular concern for accomplice witnesses, whose testimony is so valuable precisely because it offers an insider's account of the crime, including the witness's own role in it. Jailhouse informants, who typically testify about a defendant's confession overheard while in jail awaiting trial, also frequently have Fifth Amendment concerns. To induce informant witnesses to testify despite such concerns, prosecutors effectively have two options: first, they could obtain a court order of immunity ensuring that the witness's testimony cannot be used against the witness; or second, they could enter into an agreement with the witness whereby the prosecution makes certain promises to the witness in exchange for the witness's testimony. Prosecutors frequently prefer the second option, which gives them greater control over the terms of their arrangement with the witness, including requiring the witness to meet with prosecutors in advance of trial. Pursuant to such agreements, prosecutors typically promise to drop or reduce some of the charges against the informant witness or recommend leniency to the judge who sentences the informant (Roth, 2016). Other benefits might include favorable prison accommodations or privileges, forbearance against involved family members, or relocation of the witness's family. In some cases, the promise of benefits is not explicit, but implied (Covey, 2014). Even where an informant witness does not have Fifth Amendment concerns, such witnesses might not step forward with information absent some expectation of a benefit in return. As a consequence, this evidence may not come to prosecutors' attention. Notably, defendants do not have any similar ability to offer benefits to witnesses to induce them to testify in a defendant's favor. Courts have rejected efforts by defense attorneys to compel prosecutors to offer immunity when witnesses assert a valid Fifth Amendment privilege (*United States v. Quinn*, 2013). Defense attorneys also lack the legal authority to plea bargain or recommend sentencing leniency for a witness.

Although it may be distasteful to bargain with criminals for their testimony, the law has long tolerated such arrangements so that even more culpable wrongdoers can be brought to justice (Richman, 1996). For example, informant witnesses have helped secure the convictions of notorious criminals like organized crime leader John Gotti, who was responsible for numerous murders, extortion, and obstruction of justice, among other crimes (*United States v. Locasio and Gotti*, 1993). Informant witnesses also have been used against the perpetrators of terrorism (*United States v. Bin Laden* et al., 2005) and massive white-collar frauds like those that brought down Enron (*United States v. Skilling*, 2009) and Worldcom (*United States v. Ebbers*, 2006). Prosecutors also regularly use informant witnesses in less high-profile cases. In 1998, one federal court of appeals decision challenged this long-standing practice by holding that the exchange of sentencing leniency for testimony constituted illegal bribery (*United States v. Singleton,* 1998). However, this decision was promptly overruled (*United States v. Singleton*, 1999). No court since has similarly held that prosecutors' offering witnesses inducements in the form of leniency is unlawful.

Rather than prohibiting informant testimony altogether, jurisdictions have imposed incremental restrictions on its use. For example, some states require that informant testimony alone is not sufficient to support a conviction and must be corroborated by other evidence. However, such restrictions are not universal (e.g., federal law does not require such corroboration) and even where they do exist, the requisite corroboration often is supplied by other unreliable evidence or evidence establishing only that a crime was committed. In fact, it is only necessary that the evidence establish that a crime was committed, not that the defendant on trial was the person who committed that particular crime, although some jurisdictions are starting to change their policies on this latter point (Tex. Art. 38.075, 2017).

While informant witnesses can be immensely valuable, they also are cause for concern. As noted previously, informant witnesses were a factor in many cases later determined to have resulted in wrongful convictions (Garrett, 2011; Warden, 2004). Because of the transactional nature of their testimony, informant witnesses receive incentives that may cause them to shade their testimony in favor of the prosecution, whether deliberately or unconsciously (Natapoff, 2009). Many informants' prior criminal history and antisocial behavior also may indicate a facility for deception and disregard for legal authority, including the oath to tell the truth (Cassidy, 2004). Courts traditionally have assumed that jurors appreciate these inherent features of informant witnesses and trust that jurors will assess informant witness testimony with skepticism. As a consequence, although judges frequently instruct jurors that they should scrutinize testimony by informant witnesses carefully in light of their incentives (Jeffries & Gleeson, 1995), courts typically do not screen informant witness testimony before it is presented to the jury. Courts also generally have not permitted expert testimony about the unreliability of informant witnesses (*United States v. Noze*, 2017).

The relatively lax judicial approach to regulating informant witness testimony stands in contrast with other categories of evidence that have been identified in numerous studies as most frequently associated with wrongful convictions. For example, upon defense request, trial courts routinely screen eyewitness identifications to ensure that they are sufficiently reliable before they may be presented to a jury (*Manson v. Brathwaite*, 1977). Similarly, trial courts screen expert testimony about forensic evidence (e.g., DNA matches or autopsy results) (see Fed. R. Evid. 702, 1975), to ensure that the expert is competent and applied reliable methods, before the jury can hear such evidence. Trial courts also preview confessions to ensure that they were made voluntarily before admitting them into evidence (*Miranda v. Arizona*, 1966). With respect to each of these three other categories of evidence, the law recognizes that cross-examination and jury instructions are not sufficient safeguards. Instead, trial courts perform a gatekeeping function to ensure that insufficiently reliable evidence does not improperly enter into the jury's deliberations. Yet with respect to informant testimony, courts and legislatures have been reluctant to impose such front-end review. On the back end, appellate courts have been reluctant to reverse jury verdicts based on informant testimony, generally deferring to jury determinations of witness credibility (*Kansas v. Ventris*, 2008). Defendants contesting their convictions based on prosecutors' failures to honor

their obligations to turn over to the defense evidence that bears on an informant witness's credibility, which is critical to effective cross-examination, also face an uphill battle, as standards of review consider the totality of the evidence (*Brady v. Maryland*, 1963; *Giglio v. United States*, 1972).

Faced with mounting evidence of false informant testimony, some of it systemic, some jurisdictions have started to impose more restrictions on the use of such testimony. For example, in 2014, Florida amended prosecutors' discovery obligations to require prompt disclosure to the defense of all evidence provided by informant witnesses and all benefits provided to such witnesses (Fla. R. Crim. P. 3.220 2014). In 2017, Texas amended its law to require prosecutors to keep thorough records of all jailhouse informants they use, including benefits they receive and their criminal records, and disclose that information to defense counsel (Tx. Crim. Pro. Art. 39.14, 2017). These developments followed the example set by several other states, such as Oklahoma, Nebraska, and Illinois (Covey, 2014). For example, in 2018, Illinois passed the most expansive law in the country to require reliability hearings for jailhouse informants, which went into effect in 2019 (725 ILCS 5/115-21 2019). Similar laws have been introduced in other state legislatures. Thus far, the focus of such reform efforts, modest as they are, has been jailhouse informants, who have been the subject of most scandals and critical scholarship (Covey, 2014; *People v. Dekraai*, 2016). Accomplice witnesses have received less scrutiny.

Whether these and other possible reforms to the use of informant witness testimony will succeed in reducing wrongful convictions remains to be seen. As set forth in the next section, the existing psychological literature suggests that jurors find informant witness testimony highly persuasive, and that its persuasive value is not significantly diminished by cross-examination or jury instructions—the two mechanisms available meant to sensitize jurors to view such testimony with skepticism. The limitations of these findings, and the possibility of other interventions, are discussed in the final section of this chapter.

Psychological Research

Psychological research related to the use of informant witnesses who are jailhouse informants will be discussed next, as very little research has investigated accomplice witnesses. In this section, we discuss the identifying traits of typical jailhouse informants as well as characteristics of their testimony, as revealed by the LA Grand Jury Report and content analyses of DNA exoneration cases, and the persuasive qualities of jailhouse informants will be introduced. Finally, the section will conclude with an examination of the theoretical reasons as to why informant witnesses are so persuasive regardless of their reliability. In particular, these reasons include the difficulties in detecting deceptive messages, the fundamental attribution error, and prosecutorial vouching or confirmation bias.

Characteristics of the Prototypical Jailhouse Informant and Testimony

As described earlier, in part, due to Leslie Vernon White's infamous interview on *60 Minutes,* an investigation was launched into the use and mechanisms of informant witnesses (Los Angeles Grand Jury, 1990). As a result, the Los Angeles Grand Jury Report exposed a culture of law enforcement and district attorneys rewarding jailhouse informants in exchange for their testimony against defendants. This comprehensive report reflected interviews with 120 witnesses and reviewed thousands of documents including court transcripts, internal memos, and district attorney files. The witnesses also included 19 jailhouse informants who were in and out of custody and six self-professed informants. The Grand Jury found that the jailhouse informant testimonies about their personal experiences and their perceptions and observations of other informants reflected the informant population at large. Furthermore, the jailhouse informants' testimonies were comprised of evidence of them perjuring themselves or fabricating information. Importantly, the Grand Jury indicated that there were so many cases of perjury that there were too many to count. In terms of the prototypical jailhouse informant, the Grand Jury painted this figure of an informant: someone who was incarcerated and facing a lengthy prison sentence, tended to reoffend, was highly motivated to curry favor with the authorities, was not committed to the truth, was interested in serving the informant's own interests, had previously testified for the prosecution,[2] and desired a reward or benefit in exchange for the testimony or cooperation.

Researchers have conducted content analyses of the DNA exoneration cases in search of patterns consistent across the informants' testimonies. They found support for a number of the conclusions of the LA Grand Jury Report (1990); Garrett, 2011; Neuschatz et al., in press). First, Neuschatz et al. (in press) showed that many informants possessed the characteristics described in the report. For instance, most of the informants (68.75%) were imprisoned for nonviolent crimes at the time they testified at the defendant's trial. This included crimes that did not rely upon a weapon (e.g., burglary, theft, 50%), crimes of deceit (e.g., perjury, fraud, 12.50%), or both (6.25%). Second, most informants had testified on behalf of the prosecution before and had extensive criminal histories (75% had prior involvement with the criminal justice system). Despite their history of testifying for the prosecution, most of the informants were not questioned about that history (68.95%). However, of the nine prosecution jailhouse informants who were questioned about their testimony history, seven (77.78%) stated they had previously testified (Neuschatz et al., in press). The aforementioned findings from the content analysis coincide with the conclusions of the LA Grand Jury Report—jailhouse informants are criminals with histories of both criminal activity and testifying on behalf of the prosecution.

[2]The fact that the typical jailhouse informant, according to the report, was someone who had worked for the prosecution before points out that some informants work with prosecutors repeatedly. We will return to this point in the discussion of remedies and recommendations.

In the psychological literature, a secondary confession is an essential element of the jailhouse informant's testimony. The secondary confession is often a critical piece of evidence—and often times the only evidence connecting the defendant to the crime. While a primary confession is a direct admission of guilt by the suspect to committing a crime, a secondary confession is an admission of guilt stated by someone other than the suspect but is claimed to come directly from the suspect (Neuschatz et al., 2008). Therefore, jailhouse informant testimony typically includes secondary confession evidence, purportedly the defendant's confession to the crime while the two were incarcerated together. In fact, in a content analysis of DNA exoneration cases from the Innocence Project that involved 53 jailhouse informants, of those informants who testified for the prosecution (33 informants), nearly 94% included an alleged secondary confession (Neuschatz et al., in press).

One circumstance that is true of almost every informant is that they work with the prosecution in exchange for some benefit or with the expectation of some type of reward at a later time (LA Grand Jury Report, 1990; Neuschatz et al., in press). The LA Grand Jury Report (1990) revealed that jailhouse informants expect benefits from the government in return for supplying evidence—irrespective of its truth—that was favorable to the prosecution (LA Grand Jury Report, 1990). However, Neuschatz and colleagues (in press) found that most informants claimed to be compelled to testify by a moral imperative. Indeed, 77.79% of prosecution jailhouse informants provided a dispositional motivation for testifying, such as wanting to do the right thing or testifying out of the goodness of their heart. Furthermore, the majority of prosecution jailhouse informants (71.88%) denied that they were receiving anything for their testimony. In sum, informants often testify on behalf of the prosecution with the expectation of some incentive, although they typically deny this as the motivation for testifying.

Content analyses of the DNA exoneration cases also revealed a number of additional trends in the testimony not directly addressed in the LA Grand Jury Report. For example, there was an absence of consistency in jailhouse informant statements. Neuschatz and colleagues found that most informants (64.29%) were inconsistent in their reports. Furthermore, there were inconsistencies between their testimony and the case facts (55.56%), such as incorrectly stating the proper murder weapon; between their testimony and what they had previously related to the police or prosecutor (50%); and between their current testimony and their previous testimonies (e.g., pretrial hearings; 50%; these values add to over 100% because half of the informants' testimony contained more than one type of inconsistency). These findings are intuitive considering these testimonies were evidently false since they are from cases that later resulted in DNA exonerations. It is important to underscore that even though informant testimony is riddled with inconsistencies, it is also composed of factual details.

For example, another pattern identified in jailhouse informant testimony was that they often contained specific details concerning the crime that only the true perpetrator could have known (Garret, 2011; Neuschatz et al., in press). Despite the fact that these are exoneration cases and, therefore, the testimony from the informants was demonstrably false, they still incorporated specific, accurate details of the crime

that bolstered the perceived veracity of their claims. Specifically, prosecution jailhouse informants incorporated an average of 4.5 crime details in their testimony. On average, 66.95% of the details disclosed by the prosecution informants were verifiably accurate (of the 28 jailhouse informants whose details could be identified as accurate). Four prosecution jailhouse informants (14.29% of 28 available) testified to one or more details that were confidential and not released to the public. Jailhouse informants can procure these privileged details in a myriad of ways: through family or friends, the television, Internet, police officers, or informant networks where documents are bought and sold (Covey, 2014; LA Grand Jury Report, 1990; Natapoff, 2009). Unsurprisingly, most jailhouse informants denied having any previous knowledge of the crime (85%; Neuschatz et al., in press). The result from this process is that the informants are able to acquire confidential information that is factually accurate, but they fabricate how it was obtained, providing testimony that is extremely persuasive to jurors (Garret, 2011; Neuschatz et al., in press).

In summary, there are some typical characteristics that seem to define most jailhouse informants. Typically, jailhouse informants are repeat criminals who were incarcerated at the time they came forward to the authorities (LA Grand Jury Report, 1990; Neuschatz et al., in press). They present secondary confession evidence wherein they proclaim that a suspect confessed to the commission of a crime to them during their concurrent prison stay (Neuschatz et al., 2008, in press). Jailhouse informants manufacture compelling testimony that includes secondary confession evidence by weaving in specific details of the crime (that could be retrieved in a variety of ways other than from the defendant), although their testimonies often contain inconsistencies (Covey, 2014; Garret, 2011; Natapoff, 2009; Neuschatz et al., in press). Despite their expectation or understanding of a system that rewards informants for their testimony, jailhouse informants commonly attribute their motivation to testify to dispositional reasons (such as they are trying to do the right thing; Neuschatz et al., in press). In fact, they even sometimes volunteer that testifying goes against their own self-interests, endangering their own safety in the process. The typical jailhouse informant tries to curry favor with prosecutors in hopes of securing some sort of deal—even if it means committing perjury that results in a miscarriage of justice.

Motivation to Testify

As it has been established that jailhouse informants are primarily concerned with their own self-interests, it is essential to understand what motivates them to testify. An informant witness who testifies for the prosecution regarding a defendant's culpability is often provided with a reward that creates an incentive to provide such testimony. Incentives usually come in the form of a reduced prison sentence or dropped charges (Garrett, 2011), but can also include incentives of a smaller degree, such as money, cigarettes, or privileges while in prison (Innocence Project; Neuschatz et al., 2008). These incentives can be a powerful motivation for infor-

mants to fabricate information (Swanner, Beike, & Cole, 2010). U.S. Circuit Judge Stephen S. Trott (1996) warned that criminals will say and do anything to get out of jail—"Sometimes these snitches tell the truth, but more often they invent testimony and stray details out of the air…"

Certainly, getting out of jail would be an enticing reason to fabricate testimony, but even small incentives can induce people to lie. A study examined the effect of providing an incentive on a person's willingness to lie (Bruggeman & Hart, 1996). Bruggeman and Hart asked students to memorize the position of 10 circles on a piece of paper, then close their eyes and place the number label (1–10) on their respective circles. After completing five trials, participants recorded the number of circles that they correctly placed the corresponding numbers on. To incentivize the student participants, they were informed that they would receive extra points toward their finals if they performed well on the task. They were also told that the average performance on the test was a 27, which greatly exceeded actual average performance (10.67), as an additional motivator. They found about 75% of participants—all of whom were high school students—lied about their performance (total number of circles they successfully labeled) in hopes of gaining a small amount of academic credit. These results suggest that people will lie for even a minimal incentive. It is important to note that these are high school students lying for academic credit, not people who have been incarcerated for breaking the law and could be even more motivated to lie in order to secure their freedom.

The fear of being caught may also be a factor in the decision whether to lie. A more recent study examined the impact of incentives and threat of exposure on cheating behavior (Kajackaite & Gneezy, 2017). In this study, the authors had participants play one of two games—a basic cheating game or a basic mind game. In the basic cheating game, participants rolled a die in private and were instructed to report the number. If they reported a 5, they would receive an incentive ($1, $5, $20, or $50 depending on the condition) but would receive nothing if they reported any other number. The mind game was similar except that they were instructed to think of a number before rolling the die. Following, they reported whether the number rolled corresponded to the number they thought of. If participants reported "Yes," they would receive the incentive ($1, $5, $20, or $50 depending on the condition), but they would receive no incentive if they indicated "No."

Although there was significant lying in all conditions, participants lied more often in the mind game than participants in the cheating game. As it is impossible to verify in the mind game condition what number the participants were thinking of prior to rolling the die, the probability of getting caught for lying is nonexistent. Participants did not lie as often in the conditions that induced more fear of being exposed for lying which was in the cheating game with the highest incentive (Kajackaite & Gneezy, 2017). It seems participants considered the odds of rolling the number 5 for the highest incentive to be low, and thus considered the odds of being accused of lying to be higher. In addition, there was an increase in lying in the mind game condition as incentive increased—32% of participants reported "Yes" for the $1 incentive, 47% for the $5 incentive, 41% for the $20 incentive, and 49% for the $50 incentive. By contrast, lying did not vary with incentive size for partici-

pants in the cheating game. The authors suggested that the decision to lie follows a simple cost–benefit analysis—participants lie more when the incentive is worth more than the cost of lying. In other words, when the probability of being exposed for lying is low (i.e., mind game condition) and the incentive is high (i.e., $50), participants were more likely to lie.

Not only can incentives provide a motivation to lie, but they can also provide a motivation to fabricate a secondary confession (Swanner, Beike, & Cole, 2010). In the study by Swanner et al., participants were assigned the role of either "reader" or "typist" for the task of entering numbers into a computer. The reader was told to read a string of numbers, while the typist was tasked with entering the data into a computer program. Both the reader and the typist were cautioned that hitting the "TAB" key would cause the program to crash. After 60 s, the computer was programmed to crash, regardless of the engagement of the "TAB" key. Some of the readers were provided with false evidence that the typist had confessed to hitting the "TAB" key, and others were provided with an incentive (not having to come back for the second session and still receiving full class credit) to present evidence against the typist.

Nearly 80% of the readers were willing to sign a statement indicating that the typist had admitted to hitting the "TAB" key, even though only 52% of the typists had actually admitted to hitting the forbidden key. When readers were provided with false evidence that the typist had admitted to hitting the "TAB" key, nearly 100% of readers were willing to state that the typist had confessed. Thus, giving a reader a minimal incentive to lie (experimental credit) sufficed to motivate the reader to falsely inform against the typist. Since the role of the reader is analogous to the role of a jailhouse informant in a criminal case, this result suggests that giving jailhouse informants an incentive to lie (such as a reduction in a jail sentence or protection from retribution by other criminals) could sufficiently motivate them to provide false testimony.

Empirical research shows that people are willing to lie for minimal benefits and are substantially motivated to fabricate testimony that secures an incentive (Bruggeman & Hart, 1996; Swanner, Beike, & Cole, 2010). These results are especially alarming when applying them to the context of a jailhouse informant. There is virtually no cost to the informant for lying, as they are almost never prosecuted for their false testimony (at least none that we know of) and the benefit of a reduced sentence is great. Not only are jailhouse informants not in danger of being accused of perjury, but many times it is difficult if not impossible to corroborate their accounts because the testimony is the retelling of a conversation and does not entail physical evidence (Covey, 2014; Kajackaite & Gneezy, 2017). The current state of the legal system nurtures an environment where the incentive may outweigh the cost of lying—jailhouse informants can fabricate evidence without repercussions.

It is worth noting that conclusions from The LA Grand Jury Report (1990) are consistent with the psychological literature on this point. More specifically, the report was concerned that incentives provide motivation to fabricate testimony. The report emphasized the fact that informants are deprived of their freedom, and thus, any form of incentive holds a greater worth than to those who are free. The literature

highlights that even small incentives can motivate individuals to lie; therefore, it is not unreasonable to assume that the larger incentives presented to jailhouse informants are motivation to produce evidence, whether true or fabricated.

Persuasiveness of Jailhouse Informants

One reason jailhouse informants are often used by prosecutors is that they are highly persuasive to juries. In fact, jurors are easily persuaded by informant testimony even in the face of evidence that suggests the testimony is unreliable (Neuschatz et al., 2008). In the first psychological study examining informant witnesses, Neuschatz and colleagues had participants read a trial transcript that included one of three informant witnesses (a jailhouse informant, an accomplice witness, or a community member). Additionally, the presence of an incentive was manipulated so that some participants would be aware that the witnesses were receiving some sort of compensation in exchange for their testimony (a sentence reduction for the accomplice and jailhouse informant or a monetary reward for the community member). This was varied so that participants would be made aware of a motivation for the witness's testimony. Participants were just as likely to convict the defendant when it was stated that an incentive was present as when it was not. This indicated that despite knowledge that the witnesses were gaining something in exchange for testifying, participants trusted the information provided by the witness (Neuschatz et al., 2008, Experiment 1).

In a follow-up study, Neuschatz et al. (2008, Experiment 2) repeated the same procedure but included an explicit no-incentive condition and open-ended question to assess why participants thought the informant would come forward. First, the authors added the explicit no-incentive condition to compare how this would affect verdicts compared to not addressing the presence of an incentive and explicitly stating there was an incentive. Despite this addition, participants voted guilty nearly as often as participants who were not given any evidence of an incentive. Furthermore, the open-ended questions were included to assess why participants believed the witness came forward. These questions provided insight into the participants' perceptions of the witness as the majority of participants (73%) believed the cooperating witness came forward due to *internal* reasons, such as that the witness was performing a good deed or was testifying because he felt bad for the victim's family (Neuschatz et al., 2008). These answers contrasted with the evidence that the witnesses came forward due to the incentive, an *external* reason.

The authors posited that the verdict and open-ended results may be explained by the fundamental attribution error (FAE; Neuschatz et al., 2008: Ross, 1977). The FAE occurs when someone misattributes the reasons for another person's actions to the personality or dispositional factors of that person instead of the situation surrounding the action, termed situational factors (Ross, 1977). This study demonstrates that participants were unable to evaluate incentive as a motivation for potentially unreliable testimony and accepted the testimony as the truth, increasing

guilty verdicts (Neuschatz et al., 2008). However, other research has found opposing effects of incentive (Maeder & Pica, 2014; Maeder & Yamamoto, 2017). To test the impact of incentive and incentive size, Maeder and Pica (2014) used a variation of the Neuschatz et al. (2008) trial. The jailhouse informant received either no incentive or a sentence reduction of 6 months, 1 year, or 2 years. They found that the presence of the incentive did affect the verdict rates by decreasing the number of guilty verdicts when disclosed; however, incentive size had no effect. One effect that was consistent in both Neuschatz et al. (2008) and Maeder and Pica (2014) was that the presence of an informant significantly increased guilty verdict rates when compared to their no jailhouse informant controls. This indicates that, regardless of the incentive information, the addition of informant testimony will significantly increase guilty verdict rates.

Secondary confessions from jailhouse informants are also compelling evidence even when compared to other forms of evidence (Wetmore, Neuschatz, & Gronlund, 2014). Wetmore and collaborators had participants read a trial summary, consisting of three central pieces of evidence: an eyewitness, a character witness who testified about the defendant's reputation, and a jailhouse informant who claimed the defendant confided in him. Overall, when participants voted guilty, they rated the secondary confession evidence as the most influential piece of evidence. This is consistent with the primary confession literature (Kassin & Neumann, 1997), indicating that secondary confession evidence can be just as powerful as primary confessions.

In a follow-up experiment, Wetmore et al. (2014, Experiment 3) directly compared primary and secondary confessions. Participants were asked to read four separate trial summaries, all containing different crimes (murder, assault, rape, or theft) and a different central piece of evidence (primary confession, secondary confession, an eyewitness, or a no-evidence control). Similar to their Experiment 1, the authors found that participants were more likely to vote guilty when a confession was present. For the murder, rape, and theft cases, there was no significant difference in verdict rates between primary and secondary confessions, indicating that participants perceived the two confession types as equally indicative of guilt. This is especially worrisome, as secondary confessions are not given by police or the defendant himself, but by a secondary source (Wetmore, Neuschatz, & Gronlund, 2014).

In fact, secondary confessions are so persuasive that they have been found to affect the decision-making of eyewitnesses (Mote, Neuschatz, Bornstein, Wetmore, & Key, 2018). This finding is also consistent with the primary confession literature (Hasel & Kassin, 2009), where the majority of participants acting as eyewitnesses changed their identification decisions after hearing that the defendant confessed and also reported higher confidence when their original identification was seemingly confirmed. Mote et al. (2018) tested whether the knowledge of a secondary confession from an informant witness would lead to similar results. After making an original identification decision, participants were instructed to read a police report based on an actual armed robbery investigation. In the last section of the report, participants were randomly assigned to a feedback condition. Participants read that a man confessed to the crime (primary confession), that he denied any involvement with

the crime, or that he heard someone else confess to the crime while in the holding area of the police station (secondary confession). These confessions were also manipulated in such a way that they either confirmed or disconfirmed the participant's original identification decision. When participants were presented with disconfirming feedback from a secondary confession, they were willing to change their initial identification 80% of the time (Mote et al., 2018). This was an even higher percentage than those participants who heard disconfirming feedback that a primary confession had occurred (62%). Additionally, when participants heard this feedback concerning a secondary confession, their confidence changed significantly. That is, when the feedback confirmed their identification, participants' reported confidence increased, and conversely, upon hearing disconfirming feedback, participants' confidence decreased. This effect was found for both primary and secondary confessions, thereby replicating and extending previous research (Erickson et al., 2016; Hasel & Kassin, 2009) and demonstrating the similarly dangerous effects that false confessions, both primary and secondary, pose. In summary, jailhouse informant testimony not only has a powerful impact on prospective jurors' perceptions of guilt, but it also has a corruptive power on other forms of evidence.

Theoretical Explanations

Part of the reason why jailhouse informant testimony can have such detrimental effects in the courtroom is that informants often are capable liars. And unfortunately, people are not very perceptive to when they are being deceived. In this next section, the theoretical explanations underlying this phenomenon will be discussed. This includes the common misconceptions about detecting lies and why most people are not very adept at recognizing deceit. Finally, cognitive heuristics, or mental shortcuts, will be addressed that may contribute to failures in deception detection.

Despite the commonly held belief that there are telltale signs of deception, such as gaze aversion or fidgeting, detecting deception is very difficult (Vrij, Granhag, & Porter, 2010). This is because there are no accurate or consistent verbal or nonverbal cues to lie detection. Universally, people rely on cues that are not indicative of deception (Vrij et al., 2010). In a worldwide survey, residents of 58 different countries were asked how they knew they were being lied to, and the number one response (65% of respondents) was gaze aversion (The Global Deception Research Team, 2006). In descending order, the next most common responses were that liars tended to be nervous, incoherent in their speech, body movements, and facial expressions; and that liars are typically inconsistent with their statements. In total, these responses were included in approximately 37% of 11,157 participant responses (The Global Deception Research Team, 2006). Unfortunately, not one of these cues reliably indicates deception (Bond & DePaulo, 2006). Most of the respondents relied more on nonverbal cues (e.g., gaze aversion or fidgeting) than verbal cues (e.g., shaky voice). Vrij, Granhag, and Porter (2010) point out that this is problematic, as verbal cues tend to be better measures of accuracy than nonverbal cues.

Not only do people tend to use unreliable cues when trying to detect deception, but also the task is made harder when the liar is convincing, which is most certainly the case with jailhouse informants. Informants engage in tactics that make them appear truthful, such as embedding the lies in an otherwise truthful account and indicating that they are putting themselves in danger by coming forward (see Neuschatz et al., in press). These tactics diminish the possibility of detecting deception (see Vrij et al., 2010).

Vrij et al. (2010) assessed the difficulties in detecting deception. In their review, they identified several issues that can be encountered when evaluating veracity. For instance, lies are not usually blatant or obvious. Often times, lies are entangled with true facts, making them hard to detect. Content analyses from DNA exoneration cases have found that informants often include accurate details in their testimony (Garrett, 2011; Neuschatz et al., in press). Leslie Vernon White, an informant discussed earlier, demonstrated this technique in his television interview (LA Grand Jury, 1990). He reported to authorities that he had obtained a confession, of which the details reported about the crime were true, such as how and where the victim had died. The only inaccurate detail reported was how he had acquired the information. This technique not only made it difficult for the defense to impeach him, but for the jury to accurately assess the veracity of his statements. Criminals tend to utilize this strategy often (Hartwig, Granhag, & Strömwall, 2007; Neuschatz et al., in press). Neuschatz and colleagues found that 67% of the details reported by each informant were consistent with verifiable facts of the crime.

The persuasive qualities of jailhouse informant testimony can not only be attributed to the difficulty of detecting lies but can also be attributed to an overreliance on heuristics—general decision rules (Burgoon, Blair, & Strom, 2008). Although heuristics can be helpful, in situations of limited time and attentional resources, especially when dealing with complex environments and demands, they can also lead to systematic errors in decision-making (Burgoon et al., 2008). This has been substantiated in previous secondary confession literature, as mock-juror participants have been found to commit the fundamental attribution error (Maeder & Pica, 2014; Neuschatz et al., 2008, 2012). In particular, Neuschatz and collaborators (2008: Experiment 2) asked participants to answer an open-ended question concerning why they believed the jailhouse informant decided to come forward and testify. Similar to Experiment 1, Neuschatz et al. (2008) found that participants ignored any situational factors in preference of attributing the informant's testimony to dispositional factors. Participants' affinity to commit the FAE may also be strengthened by pretrial beliefs and cognitive biases, such as implicit prosecutorial vouching.

Prosecutorial vouching occurs when people believe that any witnesses brought forth by the prosecution have been properly vetted and meet the judge's standards of credibility (Roth, 2016). When jurors rely on prosecutorial vouching, they tend to exhibit a pro-prosecution bias. Many jurors hold the belief that a prosecuting attorney would not allow witnesses to testify if they were not credible, honest sources of information. Of course, informants are most often utilized by the prosecution (LA Grand Jury, 1990; Neuschatz et al., in press), which brings about another reason as to why jailhouse informants are so readily believed. Despite the LA Grand

Jury Report's (1990) conclusion that jailhouse informants are concerned with serving their own interests, they often testify that cooperating with the prosecution jeopardizes their self-interests. Some informants even go so far as to claim that they were initially hesitant to contact the authorities due to fear of being branded a snitch. In fact, 37.93% of informants claimed that their concern for their personal safety was a deterrent to testifying (Neuschatz et al., in press). These findings are alarming given that research suggests that people believe statements that are against one's self-interest (Kassin, 2015).

It is possible that implicit prosecutorial vouching could annul the detection of deceptive behavior. While jailhouse informant testimony often includes factual information, it also often contains inconsistencies (Garrett, 2011; Neuschatz et al., in press). Neuschatz and collaborators, upon identifying the prolific number of inconsistencies in jailhouse informant testimony, suggest that these inconsistencies are not salient indicia of deceptive behavior. Despite the presence of inconsistencies in jailhouse informant testimony, jurors still vote guilty. This is unexpected, as evidence shows that most people believe that inconsistencies are a primary indicator of dishonesty (The Global Deception Research Team, 2006). In the context of eyewitness identifications and primary confessions, jurors are more sensitive to inconsistences in eyewitness and confession statements, finding the testimonies less reliable (Berman & Cutler, 1996; Berman, Narby, & Cutler, 1995; Henderson & Levett, 2016). However, within the context of secondary confessions, it is plausible that jurors who exhibit implicit prosecutorial vouching attribute inconsistencies to nondeceptive reasons such as nerves or forgetfulness. Thus, pretrial biases can further dilute jurors' abilities in assessing the veracity of unreliable testimony.

One possible explanation for the influence of implicit prosecutorial vouching is that it serves as a foundation for confirmation biases in the legal system. Confirmation bias occurs when one has the tendency to seek or interpret information in a way that confirms his or her existing beliefs while ignoring any disconfirming information (Darley & Gross, 1983; Nickerson, 1998). If jurors have a pro-prosecution bias and evaluate subsequent evidence in a manner that coincides with that pretrial bias, they are not only falling prey to implicit prosecutorial vouching wherein they default to trusting a prosecutor's witness but are also falling prey to confirmation bias. Regarding the previous paragraph, as informants provide information that fits within the story that the prosecution is building, some jurors may see the inconsistences of their testimony as trivial given the specific details of the crime match those of the case. Additionally, a juror who interprets inconsistencies in an informant's testimony as a display of nerves may do so because the juror believes the prosecution would not present a liar before the court. Fundamentally, this is an example of confirmation bias. Thus, jailhouse informant testimony may be persuasive to jurors because it conforms to their preconceived notions about the prosecution and the prosecution's case against the defendant as well as the defendant's culpability. Furthermore, any evidence that could disconfirm their preexisting prosecutorial biases (e.g., inconsistencies in an informant's testimony) is either discounted or is interpreted in a manner that confirms their beliefs (e.g., the inconsistencies are due to nondeceptive reasons like nerves or forgetfulness).

The probing heuristic offers another theoretical explanation for the persuasiveness of informant testimony. The propensity to find someone more credible or trustworthy after they have already been questioned is known as the probing heuristic (Levine & McCornack, 1996a, 1996b, 2001). The prosecution, generally, provides a line of questioning which is then followed by the defense's cross-examination of the witness. As the informant provides more information, the more truthful the testimony appears. Levine and McCornack (2001) found that probing does not increase deception detection but does significantly increase the perceptions of honesty of the one being questioned.

Additionally, other cognitive biases such as the availability heuristic seem to contribute to the fact that informant testimony is continually held in high regard by juries. Vrij, Granhag, and Porter (2010) identify the availability heuristic as a common heuristic used when evaluating credibility. The availability heuristic relates to the "availability" of truthful and deceitful behavior (O'Sullivan, Ekman, & Friesen, 1988). Since people encounter more honest behavior than deceptive behavior in their daily lives, judgments of honesty are more available to them (Levine & McCornack, 2001). Therefore, jurors who fall prey to the availability heuristic will infer honesty from an informant's testimony, irrespective of its veracity. If both the confirmation bias and availability heuristic are relied upon, they may only serve to exacerbate pretrial biases like implicit prosecutorial vouching.

With all of these factors in mind, it may be the case that in order to mitigate the negative effects of jailhouse informant testimony and the danger that it poses to the criminal justice system, several steps need to be taken first. These steps would have to include trying to diminish the harmful role of cognitive biases and pretrial beliefs, as well as encourage better deception detection.

Proposed Safeguards

Courts traditionally have assumed that jurors appreciate the inherent unreliability of informant testimony and that existing trial mechanisms—namely cross-examination and jury instructions—enable jurors to be sensitive to the nature of such testimony. The reforms that have generally been suggested fit within these two trial mechanisms (Covey, 2014; Natapoff, 2009; Roth, 2016; The Justice Project, 2007). More recently, reformers also have suggested using experts to educate juries about the unreliability of informants. As discussed below, psychological studies suggest that the first two of these mechanisms do not work as courts have assumed with regard to informant testimony. Effective safeguards promote sensitivity rather than skepticism of the testimony being offered (Bornstein & Greene, 2017; Cutler, Dexter, & Penrod, 1989). Safeguards that promote sensitivity improve juror knowledge about the factors that are critical to the evaluation of that testimony or evidence, thereby increasing the likelihood of improved decision-making. Safeguards that promote skepticism tend to make jurors more skeptical of all forms of that evidence and increase the likelihood that the juror would acquit rather than discriminate good

versus bad evidence. We first examine the recommendations that attempt to utilize cross-examination as a method of increasing sensitivity in jurors, followed by jury instructions, and then using the testimony of an expert witness to educate jurors.

As mentioned previously, Florida, Texas, Oklahoma, Nebraska, and Illinois all have laws in place, which require the prosecution to turn over all information pertaining to the informant in a timely manner (Covey, 2014; Fla. R. Crim. P. 3.220, 2014; The Justice Project, 2007; Tx. Crim. Pro. Art. 39.14, 2017). Under this guideline, prosecutors are, or would be, required to disclose all relevant information concerning the informant's credibility to the defense. The expectation is that, with this information, the preeminent safeguard of cross-examination becomes more effective. A number of studies have evaluated the efficacy of the disclosure recommendation (Maeder & Pica, 2014; Neuschatz et al., 2008, 2012). As mentioned earlier, the use of cross-examination to present incentive information has had mixed effects. In one set of studies, the disclosure of an incentive did not affect verdict decisions (Neuschatz et al. 2008); however, more recent studies have indicated that jurors may be sensitive to the presence of an incentive (Maeder & Pica, 2014; Maeder & Yamamoto, 2017) yet still remain insensitive to incentive size (Maeder & Pica, 2014). Additionally, researchers have manipulated the number of times an informant testifies in order to test the disclosure recommendation. Neuschatz et al. (2012) informed participants that an informant had testified against a defendant in similar cases 0, 5, or 20 times before and had earned an incentive each time. Surprisingly, testimony history did not impact verdict rates. Whether the informant had never previously testified, or had testified 5 or 20 times, the participants voted guilty (74%, 69.34%, and 67.35%, respectively). Interestingly, when participants were informed that the witness had previously testified, they rated him as more interested in serving self-interests. This indicated participants recognized that the informant was serving his own interests, but were unable to discount his testimony, and potentially influenced their verdicts. Given the mixed results of incentive information and the lack of sensitivity to testimony history, the usefulness of the disclosure law and its susceptibility to cross-examination appear to be limited.

The Justice Project (2007) has recommended that juror instructions could be improved to be more informant specific. Standard juror instructions inform jurors that they are to use the evidence to determine whether a defendant is guilty or not guilty and that the prosecution's duty is to provide evidence of guilt beyond a reasonable doubt. The proposal for more specific instructions is logical, and in fact, multiple states have already adopted such instructions, including Connecticut, Oklahoma, Illinois, California, and Montana. However, the question remains whether these instructions are effective. To evaluate this, Wetmore, Neuschatz, Fessinger, Bornstein, and Golding (2020) used three different forms of instructions: Standard, Informant Specific Connecticut Instructions (Connecticut), and Enhanced Informant Specific Connecticut Instructions (Enhanced). Both the Connecticut and Enhanced instructions provided formal definitions of what jailhouse informants are as well as the different factors (e.g., specificity of testimony, could have only learned the information from the defendant, etc.) that affect the credibility of informants. The key difference between the two nonstandard versions is that the enhanced

instructions also provided examples of a reliable and an unreliable informant. In the study, Wetmore et al. also manipulated the reliability of the informant, changing the informant's testimony to align with the instructions if they were reliable. For instance, a reliable witness would not be receiving an incentive for testifying, so the reliable informant indicates that they will still be serving the same amount of time in jail, whereas the unreliable informant indicates that he is receiving a 5-year reduction of their sentence. Results showed that regardless of the instruction type provided or the reliability of the informant, participants were more likely to convict when the informant was present compared to a no-informant control condition (Wetmore et al., 2020). Although participants apparently did not rely on the instructions to help them determine the verdict, they did use the guidelines to evaluate the informant's testimony. More specifically, when participants were presented with the unreliable informant, they rate him as significantly less honest, less trustworthy, less interested in justice, and more self-serving when compared to the groups who read about the reliable informant. This suggests that while informant-specific instructions helped educate the jurors in assessing the jailhouse informant's testimony, this assessment was overlooked during their verdict decision.

Another proposed safeguard is the use of an expert witness to inform the jury of the potential dangers of informant testimony. In 2016, the conviction of George Michael Leniart was reversed, in part, because his defense was denied the opportunity to present proffered expert testimony (Bert, 2016). It is not uncommon to deny the use of an expert witness in a case where an informant is used (*United States v. Noze*, 2017), and this occurs because the courts assert that the average juror is aware that they should be cautious of informant testimony. In order to test this assertion, Neuschatz et al. (2012: Experiment 2) designed an experiment that utilized an ex-jailhouse informant as an "expert" on the topic of snitching. The jailhouse informant expert presented by the defense served to educate the jury about the different methods employed by informants to fabricate secondary confessions. Contrary to expectations, there was no effect of the expert testimony on verdict decisions—participants were neither more nor less likely to vote guilty after hearing the expert's testimony. Maeder and Pica (2014) also presented testimony from an expert, in this case a traditional social science research expert, to combat the informant testimony. They also found no significant difference in verdict decisions based on the presentation of the expert testimony. When an expert provides first-hand knowledge of how and why an informant would fabricate evidence (Neuschatz et al., 2012: Experiment 2), or when an authority provides evidence that incentives are a motivating factor for informants, participants do not use this information in evaluating the case at hand. This is somewhat surprising given that expert witness testimony has been more successful in sensitizing jurors in other domains, such as eyewitness identifications (Lieppe, 1995). These results suggest that jailhouse informant testimony is so persuasive that it erodes the efficacy of an expert educating the jury.

The few studies mentioned here suggest that the proposed safeguards (such as enhanced pretrial disclosures, expert testimony, and jury instructions) are often insufficient protection against the persuasiveness of secondary confessions. It is still important to understand why these reforms are unsatisfactory and whether it is sim-

ply because deception is difficult to detect or if cognitive biases are influencing decision-making. It is plausible that both factors are at play.

Topics Requiring Further Study

There are numerous areas involving informant witnesses that would benefit from additional study. First, there is a need for further research on the efficacy of different modes of cross-examination. The legal system has long assumed that cross-examination is the most effective engine for exposing deceptive and inaccurate testimony. For that reason, courts are likely to continue to rely on cross-examination before introducing other mechanisms. The studies discussed above suggest that cross-examination may have limited utility in exposing false informant testimony. However, those studies focused only on cross-examination designed to bring out informant witness incentives and history of testifying for the prosecution, both forms of witness bias. Studies designed to test the effect of other reasons to be skeptical of informant witness testimony, such as prior inconsistent statements, would be particularly worthwhile. Witnesses who have given different versions of events at different times have long been assumed to be less credible than those who have repeatedly given a consistent account. For that reason, courts routinely permit lawyers to cross-examine witnesses about their prior inconsistent statements, and in some cases to introduce those prior inconsistent statements into evidence, to suggest to juries that witnesses are not reliable. Prosecutors also are required to disclose to defense counsel the prior inconsistent statements of their witnesses when they are aware of them. As states move to require greater tracking and disclosure of information in prosecutors' possession regarding informant witnesses, it will be important to understand the effect of cross-examination on prior inconsistent statements on juror assessments of informant witness credibility. If jurors find such inconsistencies significant in evaluating these witnesses, then courts can be encouraged to be particularly vigilant in ensuring that inconsistent statements are recorded and turned over.

Second, further study of jury instructions about informant witnesses would be worthwhile. Like cross-examination, the legal system has long relied on jury instructions, and as a consequence, courts are more likely to utilize them than newer mechanisms. The studies discussed previously suggest that jury instructions about informant witness unreliability did not affect verdicts. However, those studies focused on the content of jury instructions, and specifically instructions about informant witness reliability broadly. It would be useful to test jury instructions designed to educate jurors about cognitive biases that, as discussed earlier, may cause jurors to assign weight to informant testimony despite its unreliability. For example, jurors could be educated through jury instructions about confirmation bias and pro-prosecution bias and how they can interact with informant testimony. In addition, it would be useful to study the efficacy of instructions depending on when in the sequence of a trial they are delivered to the jury. Traditionally, courts deliver jury

instructions, including those about informant witness unreliability, at the conclusion of the case, along with all of the court's other instructions on the law. But such instructions may be more effective when given immediately before or after the informant witness testifies, or when given earlier and then repeated at the conclusion of the trial. So, too, instructions about cognitive bias may be more effective at the outset of a trial than at the end. Thus, studies of jury instructions on different subjects relating to informant witnesses, and the timing of their delivery, would be helpful to courts in determining the most productive interventions. This research would be informative, as other fields (e.g., eyewitness identification) have found an ineffectiveness of traditional instructions on sensitizing jurors to the fallibility of eyewitness evidence (Cutler et al., 1989; Greene, 1988). There is evidence to suggest that revised instructions may be more effective in sensitizing jurors. However, it appears that they also lead to skepticism (jurors who heard the revised instruction were less likely to vote guilty regardless of the strength of evidence; Greene, 1988).

Third, study on the impact of reliability hearings is needed. As noted, some jurisdictions have moved to require pretrial reliability hearings on informant witnesses, at least in some circumstances. Whether these new requirements will result in the introduction of less, or more reliable, informant witness testimony remains to be seen. In the interim, it should be possible to study what factors courts consider in deciding whether to admit informant testimony. For instance, eyewitness research has found that judges are somewhat sensitive to lineup fairness when granting a motion to suppress an identification (Stinson, Devenport, Cutler, & Kravitz, 1997). However, the authors underscore that the motion-to-suppress safeguard relies on detailed documentation of the identification procedure as utilized in the study (i.e., record of instructions used, lineup composition, and any admonition). In the same manner, the effectiveness of pretrial reliability hearings may be dependent on such documentation. Research investigating the factors that courts will need to consider in their decision to admit informant testimony could also advocate for a thorough record of informant use. Additionally, this information will prove useful to other jurisdictions considering adopting reliability hearings, as well as to other courts for whom such information could be incorporated into new jury instructions. It also may be possible to determine whether, as a consequence of the new reliability hearings, prosecutors appear to be more discerning about their use of informants, as measured, for example, by the number of times any one informant is used and the care with which incentives are memorialized. It may well be that the greatest impact of a reliability hearing requirement is that, anticipating such a hearing, prosecutors are more careful in their selection and development of informant witnesses.

Fourth, further study of accomplice witnesses is needed. The vast majority of the literature discussed above focuses on jailhouse informants. Although many of the same cognitive biases and psychological phenomena are likely implicated by the two types of informant witnesses, accomplice witnesses are sufficiently distinct that they warrant individual study. For example, accomplice witnesses typically implicate themselves in crimes through their testimony, to a greater extent than do jailhouse informants. They might also differ in their reasons for testifying. For these reasons, jurors may accord their testimony even greater weight. Studies designed to tease out

how jurors perceive accomplice witness testimony, and how it influences their verdicts, should be designed to complement ongoing study of jailhouse informants.

Conclusion

Informant witnesses undoubtedly have contributed to wrongful convictions, especially the use of jailhouse informants. And although bartered testimony may not be the most desirable evidence, it may be the only evidence available in some cases, and therefore, the law continues to tolerate such arrangements. It is unlikely that the law will change until research can reliably find safeguards that will promote sensitivity in jurors, making them better decision makers. Research must continue investigating the mechanisms currently in place (i.e., cross-examination and judicial instructions) as they could provide the fastest protections to innocent defendants and to establish that newer practices being put into place (i.e., pretrial reliability hearings) are working as intended.

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The Accuracy of Adults' Long-Term Memory for Child Sexual Abuse

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As more and more adults comeforward to allege the past experience of child sexual abuse, society is grappling with how to respond to these "historic" cases (Connolly, Chong, Coburn, & Lutgens, 2015; Howe & Knott, 2015; Wells, Morrison, & Conway, 2014). The dilemmas are reflected in civil suits and criminal prosecutions against Catholic priests, civil suits against the Michael Jackson estate, and criminal cases against such noted individuals as child psychiatrist William Ayer, Penn State University coach Jerry Sandusky, and U.S. House of Representatives Speaker Dennis Hastert. Historic child sexual abuse cases raise important questions for the legal system, psychology, and society. These questions include whether adults accurately remember childhood experiences of sexual abuse given the passage of years if not decades, and whether children who initially denied that sexual experiences occurred are then able to accurately come forward as adults. Previously, few published studies had analyzed the accuracy of adults' memories for verified abuse-related childhood events that include documented genital contact (Goldfarb, Goodman, Larson, Eisen, & Qin, 2019). Thus, questions about how accurately adults remember such experiences went largely unanswered. Also unstudied was the language adults use to describe childhood experiences.

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In this chapter, we review legal arguments, theoretical ideas, and empirical studies both in support of and against people's abilities to remember and testify about abusive events that occurred years prior. We argue that, although there are reasons to question the ability to accurately remember events after the passage of years, degradation of memory alone is insufficient to support an argument for a strict application of the statute of limitations. Indeed, both children and adults are able to accurately remember (and thus testify about) events that occurred years prior, although they might experience some degradation in memory and increased suggestibility, especially for details. We also argue that utilization of adult (vs. child-like) language to describe decades-old trauma might not be a predictor of the accuracy of such events. False allegations do, of course, occur and avoiding wrongful convictions resulting from such statements must be one of the issues at the forefront of legal reform. We contend, however, that evaluation of the individual testimony and case facts, rather than a general "timeliness bar," is the best way to assess the veracity of historic child sexual abuse claims.

Specifically, this chapter provides an overview of research conducted thus far (including our own longitudinal project) regarding adults' ability to remember and describe stressful and traumatizing childhood events years, even decades, after the events occurred. First, we review research on children's hesitancy to disclose sexual abuse, which can lead to disclosure only after adulthood is reached ("delayed disclosure"), potentially prompting a historic child sexual abuse legal case; we also review the legal system's preference for timely legal actions. Second, using case examples, we consider the legal system's past and more current reactions to delayed disclosures. Third, we discuss psychological research on adults' long-term memory for autobiographical events, in relation to non-traumatic experiences and in relation to traumatic but non-sexual incidents. Fourth, the topic of children's long-term memory for emotional or traumatizing autobiographical events is of clear relevance, and thus is tackled. Fifth, we consider the role that trauma, in particular maltreatment, plays in a person's ability to be an accurate historian of one's life experiences. Sixth, we discuss our study on adults' ability to accurately recall genital touch documented in childhood, including the language used to describe such experiences. Seventh, we describe research on two important individual difference predictors of long-term memory, specifically the roles of attachment orientations and psychopathology symptoms. Eighth, we address the issue of false memory for historic child sexual abuse. Finally, we end by mentioning several relevant topics in need of empirical study that have crucial implications for psychological theory and the legal system in "historic abuse" cases.

It should be noted that our review is not inclusive of all relevant research. For instance, we are not concerned here with "repressed memory" cases, in which victims claim that their memory for an event was "inaccessible for conscious inspection due to an active process called repression" (Otgaar et al., 2019), per se. Instead, we focus here on cases in which the victims' failure to disclose decades prior (when the events first occurred) was not due to a blockage in the ability to remember the event but, instead, a conscious or pressured choice not to bring the case to the attention of the authorities. Indeed, although these victims might state that they chose not

to remember the event, these are cases where memories of the event may have been accessible had the victims wished or tried to think about them.

Children's Hesitancy to Disclose Child Sexual Abuse and the Statute of Limitations

Numerous forces underlie children's frequent delays in disclosure of sexual trauma or touch (Goodman et al., 2003; McElvaney, 2015). For example, young victims might be afraid of the lack of support or even the eruption of violence they could face in response to disclosure (Paine & Hansen, 2002; Staller & Nelson-Gardell, 2005; Tashjian, Goldfarb, Goodman, Quas, & Edelstein, 2016). Case studies provide stark examples of children's reluctance to discuss prior maltreatment or abuse. In one example, investigators had forensic evidence verifying that eight children had been sexually assaulted by a stranger (Leander, Christianson, & Granhag, 2007). Even after law enforcement interviewed them, only approximately 7% of the children's comments referred to sexual acts. Thus, children are often (if not consistently) reluctant to disclose or discuss sexual abuse. In a review paper, London, Bruck, Ceci, and Shuman (2005) concluded that only around 33% of sexually abused children initially disclose the assaults.

One should not assume that a failure to disclose is the same as a failure to remember the event. There are a number of reasons that children hesitate to disclose child sexual abuse. Children might worry that parents will abandon, not believe, or retaliate against them if abuse is disclosed, a fear which can keep children from coming forward (Summit, 1983). Children could feel loyalty to the perpetrator, self-blame, or embarrassment (e.g., Bidrose & Goodman, 2000; Quas, Goodman, & Jones, 2003). In a study of 218 alleged child sexual abuse victims, Goodman-Brown, Edelstein, Goodman, Jones, and Gordon (2003) found that several key variables were associated with delayed disclosure of abuse in their prosecution sample: (1) older age; (2) experience of intra- versus extra-familial sexual abuse; (3) perception that they were responsible for the abuse; and (4) fear of retribution from a parent or family member. Although younger children often disclosed sooner than their older counterparts, suggesting that younger children are less aware of the consequences of disclosure, the age findings on delayed disclosure are mixed (e.g., Hershkowitz, Horowitz, & Lamb, 2005; Leach, Powell, Sharman, & Anglim, 2017; Lippert, Cross, Jones, & Walsh, 2009; London et al., 2005). In any case, across a wide age range, children less frequently disclose when they are experiencing physical and emotional abuse at home, potentially out of fear that the abuse will only be compounded upon disclosure (Tashjian et al., 2016).

At odds with this reluctance to report is the law's preference for a timely resolution of legal matters. Indeed, the statute of limitations, establishing the maximum amount of time within which a case might be brought, was formulated in part out of fears that evidence quality, including the accuracy of memory, degrades with time.

As stated by the United States Supreme Court, statutes of limitations "protect defendants and the courts from having to deal with cases in which the search for truth could be seriously impaired by the loss of evidence, whether by death or disappearance of witnesses, *fading memories*, disappearance of documents, or otherwise" (U.S. v. Kubrick, 1979 [emphasis added]).

Yet partially out of awareness that children often hesitate to timely divulge sexual abuse, in recent years many states enacted statutes either tolling (holding in abeyance) or retroactively applying extended statutes of limitations for cases of child sexual abuse (see California Code of Civil Procedure section 340.1(r), 1991). By tolling the statute of limitations in these (and other such) cases, the courts are now admitting testimony about events that occurred years prior. Courts and researchers have fairly raised concerns about such testimony (Connolly & Read, 2007; Conway, 2013; Howe, 2013; Loftus, 1996). Memories fade over time for both children and adults (Hirst et al., 2015; La Rooy, Pipe, & Murray, 2007). Despite this degradation in memory for some events, there is also growing research supporting people's ability to remember traumatizing childhood experiences years after their occurrence (Bauer et al., 2016; Fivush, McDermott Sales, Goldberg, Bahrick, & Parker, 2004; Peterson, 2015; Van Abbema & Bauer, 2005). For example, child sexual abuse survivors can accurately recall the alleged event at least 13 years later and often much longer (e.g., Goldfarb et al., 2019; Goodman et al., 2003).

In addition to questions regarding the general ability to testify accurately about trauma that occurred decades before, researchers and practitioners have also become increasingly focused on the predictors of such accuracy. This issue is perhaps best framed by the recent testimony of Dr. Christine Blasey Ford in front of the United States Senate's Judiciary Committee. In discussing the alleged sexual assault by (now) Justice Brett Kavanaugh when she was a teenager, questions arose about the details that Dr. Ford could and could not remember and the language she used to discuss her alleged trauma. This focus mirrors some of the debate surrounding historic child sexual assault (at least for some states): Not whether victims can testify but how triers of fact (e.g., courts and jurors) determine if they are accurately testifying, including what language they utilize when describing sexual trauma that actually took place.

The Legal System's Reaction to Long-Term Memory for Events

Examples help set the stage for understanding the legal system's past and present reactions to historic child sexual abuse cases. The examples reflect the legal system's former hesitancy to admit adults' testimony about experiences of child sexual assault, as well as the law's current trend to toll statutes of limitation, permitting cases to move forward.

As one example, take the case of Horace Mann School in New York City. For decades, a handful of the teachers there sexually abused a number of students entrusted to their care. Due, perhaps, in part to adults coming forward regarding childhood victimization in other well-publicized cases, such as the 2012 Sandusky trials, former Horace Mann students came forward (in a 2012 *New York Times* article) and detailed the criminal conduct by their prior teachers (Flanagan, 2016). Decades after the abuse occurred, numerous students who were enrolled during the 1960s to the 1990s reported that teachers would engage in inappropriate sexual conduct with the students (Glaberson, 2012).

Although the victims had their voices heard by the major media outlets, they never received their day in court. Despite many students reporting similar conduct and some teachers even admitting improper conduct (some going so far as to say that that was just what happened in the school at that time), many victims' claims were barred by the statute of limitations (Glaberson, 2012). In 2012, when the Horace Mann stories first made the national news, New York had one of the strictest applications of the statute of limitations for sexual abuse cases; claims were only tolled until the putative victim reached 23 years of age. This deadline had passed for many alleged victims who often did not feel comfortable revealing their victimization until years after it had occurred.

Prior to 2019, attempts to extend New York's statute of limitations were unsuccessful. However, in January of 2019, partially due to rising awareness of how frequently child victims delay prosecution of sexual assaults, the state legislature passed the Child Victims Act extending the statute of limitations for sex crimes against children; victims now have until they turn 55 to bring civil suits and until they turn 28 for criminal prosecutions. Additionally, it gave victims a "look-back period." Starting on August 14th of 2019, victims had a one-year limited period in which they could sue for prior abuse, irrespective of when the abuse occurred. In February of 2019, the Governor of New York signed the act into law (US News and World Report, 2019).

Another example concerns the California prosecution of Dr. William Ayres, a noted child psychiatrist in the Bay Area, who allegedly violated the trust of the young patients he saw in his practice (Kinney, 2016). For 40 years, starting around 1960, Dr. Ayres was alleged to have molested a number of boys, claiming that he was examining the patients' genitals as part of psychiatric evaluation and counseling. In 2012, the same year that the Horace Mann scandal broke, a San Mateo County Superior court judge held that Dr. Ayres was competent to stand trial and ordered the prosecution to proceed. Although many of the doctor's victims' cases were barred by the statute of limitations, California's more liberal deadline for instituting legal actions permitted criminal sanctions that were not then available to the Horace Mann victims.

California has gradually been extending the deadline to prosecute child sexual abuse cases over the past few decades. In 2014, then Governor Jerry Brown signed legislation extending the deadline to file charges to the victims' 40th birthday (from their 26th birthday; California SB 926, 2014). Two years later, in 2016, the State of

California enacted legislation abolishing the statute of limitations for sexual assault cases, with some limitations, for both child and adult victims (California SB 813, 2016; Ulloa, 2016). As some of the cases remained timely in this matter, in the end, Dr. Ayres was sentenced to eight years in prison (Kinney, 2016). He died three years into his sentence at the age of 84.

Initially, California and New York highlighted two different approaches to defining the statute of limitations for child sexual abuse cases. Their approaches have since come closer together in joining a growing number of states (and countries) that have expanded or completely abolished the statute of limitations; consequently, adults' testimony regarding events that occurred in childhood is being increasingly heard by these courts (Connolly, Coburn, & Chong, 2017; Connolly & Read, 2007). In other states, there is less movement to expand the statute of limitations. Indeed, some of these states are still concerned with the issue the Supreme Court raised 40 years ago in the *Kendrick* matter; the effect of the degradation in quality of eyewitness testimony. Which state and approach is most "just" depends in part on the research regarding the accuracy of adults' memories for abusive or traumatizing events that occurred in childhood.

Research on Adults' Long-Term Memory for Autobiographical Events

Researchers have conducted studies on children's and adults' ability to remember events and the potential influence of trauma on memory; prior reviews describe this body of work (Goldfarb, Goodman, Larson, Gonzalez, & Eisen, 2017; Goodman et al., 2016; Goodman, Goldfarb, Chong, & Goodman-Shaver, 2014, Goodman, Ogle, McWilliams, Narr, & Paz-Alonso, 2014; Howe & Knott, 2015). As our focus here is on adults' ability to remember a traumatic experience decades after the target event occurred, we review the literature relevant *tolong-term memoryfor events experienced in childhood*. In particular, we focus on whether memories can persist over the years and what predicts the ability of these memories to endure and not to completely fade away with time.

Perhaps the classic study on adults' ability to retain information over long periods of time is Ebbinghaus' (1913) work on the forgetting curve. Ebbinghaus taught himself lists of nonsense words and then tested his retention of the "words" after a delay (his index of forgetting). The rate of forgetting in this study generally followed an exponential decline with large levels of memory degradation in the beginning that eventually leveled out and subsided. Other researchers replicated these studies and found similar patterns of results, even when the topic of recall changed, such as number lists or details of a campus. Rubin and Wenzel (1996) reviewed these studies and discussed the shape of the retention function or forgetting curve (see also Murre & Dros, 2015; Roediger & DeSoto, 2014; Wixted, 2004).

The rate of decline for the retention function has also been considered over intervening decades. Bahrick (1984) tested participants' memory for Spanish words that they had learned as high school or college students anywhere from a year to 50 years prior. This permitted Bahrick to examine the rate of forgetting as the time between encoding and recall increased. Forgetting was steepest in the first 3–6 years, stabilized for the next 30 years, and then showed some declines over the next 20 years. Similar findings were reported on adults' memory for other high school concepts (e.g., mathematics; Bahrick & Hall, 1991). Bahrick posited that certain memories moved into long-term storage and that these memories were maintained over decades, what he termed the "permastore."

However, not all information showed this movement into permastore (Bahrick, 1983; Squire, 1989). There was some evidence that the rate of forgetting was influenced by the amount of time one spent learning the materials. In other words, Spanish and mathematics were better retained over the decades when the students spent more (vs. less) time on learning the relevant subject. That said, and in what might be an utter surprise to anyone who has attempted to recall what they learned in calculus, once material crossed that boundary into the permastore, it was retained for years (Bahrick & Hall, 1991). The boundary might also reflect, however, how well the individuals understand the information or curiosity of the subject matter rather than just the time spent learning the material.

This research was foundational in sparking interest in the degradation of memory over long time periods. From a legal perspective, however, rare is the case in which an eyewitness is called to accurately remember a long set of nonsense words, perform math calculations, or ask for something in a foreign language. Thus, from an applied perspective, our ability to recall lists of words or numbers could be limited in its extrapolation to actual witness memory as the target information is typically removed from a sense of self and deprived of an autobiographical context or personal significance. Thus, studies that consider long-term memory beyond list recall or other such laboratory tasks, including whether individuals can remember people who were previously familiar individuals in their lives, are of particular import to the legal system.

Bahrick, Bahrick, and Wittlinger (1975) utilized another naturally occurring phenomenon from high school, seeing classmates and teaching staff's faces every day. Here, in a cross-sectional study, 392 participants (who had graduated from high school between 2 weeks and 57 years prior) tried to identify pictures from randomly selected yearbook photos. For approximately the first 15 years after graduation, participants correctly identified around 90% of the photos. This rate declined in the intervening time period until approximately 60% of photos were remembered around 50 years later. This study provided further evidence supporting the eventual relative stability of memory for particular types of information, especially information that is familiar, personal, or central to individuals. One can only wonder whether this effect would be even stronger today when social media, such as Facebook, permit people to continually reinstate both past and present memories for faces of prior friends and acquaintances.

Although eyewitness identification (such as identifying a perpetrator or a victim in a photograph) plays an important role in the legal system, identification is only one of the many types of memory that are tapped in forensically relevant cases. Many times, crimes are committed by individuals with whom the victim either has a close relationship (a loved one or caregiver) or someone who commits ongoing abuse (such as an individual in a position of authority) and identification is not an issue, especially as typically studied in psychology laboratories. Further, victims who are asked to recall prior traumas are bringing forth highly emotional events and, as others and we have argued, memories for these events are often particularly strong (Christianson, 1992; Goldfarb et al., 2017; Goodman et al., 2016). Thus, we next consider not witnesses' ability to remember someone's (e.g., a stranger's) face but individuals' ability to remember an emotional event that happened to them, thus better mimicking the victim's perspective in a legal prosecution.

Adults' Long-Term Memory of Emotional or Traumatizing Autobiographical Events

To empirically analyze memory for traumatizing events and information, researchers take advantage of the unfortunate tragedies that occur in people's ordinary lives. Assessing accuracy with precision, however, requires that there is a record of the event at issue. Some events are of such significance and consequentiality that nearly every person within a particular geographic area will have some memory for when they first learned of the news (e.g., the attacks on September 11th, President Kennedy's assassination), and there are recorded details of the occurrence. These events are also of theoretical and applied significance, as they are often important or consequential and contain a strong emotional component (e.g., shock, surprise, sadness), as well as rehearsal of the memory. A large and impressive body of research has formed around individuals' ability to recall these events, termed "flashbulb memories" (Brown & Kulik, 1977). Overall, the research reveals that individuals are fairly good at recalling that the event itself occurred but less accurate in remembering the details surrounding the event (Conway, 2013), to a level that might be surprising given how salient these memories often feel to the collective conscience.

A subset of flashbulb memory studies analyzes the accuracy of such memories decades later. In one such study, Berntsen and Thomsen (2005) examined 72- to 89-year-old Danish individuals' ability to remember both the German invasion and the liberation approximately 60 years after they occurred. As with prior flashbulb memory studies, participants showed degradation in their memory for the event. That being said, they also retained certain details six decades after the occurrence. Individuals generally recalled the event better than chance, where chance was derived from the percentage of younger participants who were not old enough to remember the event ("controls") but correctly "guessed" or correctly knew the

information. Elderly participants often revealed high levels of accuracy regarding the details of the events (including 86% of the participants accurately recalling whether the invasion occurred on a Sunday or a weekday vs. 26.2% of the controls).

In flashbulb memory studies, asymptotic results similar to those found by Bahrick (1984) have been reported for memories of the September 11th attacks, where forgetting increased in the first 3 years but was generally stable when tested 10 years later (Hirst et al., 2015). Thus, although there is the expected level of memory degradation, particularly for details about the event, with intervening years, stability of certain facets of the memories occurs such that those portions of the event are retained even decades later.

There are limitations in extrapolating from flashbulb memories to experiences of victimization. Flashbulb memories, as traditionally studied, do not necessarily involve an individual recalling a trauma that occurred directly or within close proximity to the self (but see Rubin & Kozin, 1984, and Sharot, Martorella, Delgado, & Phelps, 2007). Instead, individuals recall hearing about or learning about an event of national (or even international) consequence and significance. That is not to downplay the emotional gravitas people collectively feel when other human beings suffer a tragedy or when our national security is threatened, but these events inherently involve memory for learning about something rather than experiencing something.

Indeed, both children and adults have better recall for events that they personally experienced than ones that they did not (e.g., Neisser et al., 1996; Tobey & Goodman, 1992). In Berntsen and Thomsen's (2005) study, individuals were more likely to remember details that were salient to their own learning about the incident (e.g., what the weather was like that day, whether it was a weekend or a workday) as opposed to details about the event (e.g., historical details). Further, individuals who were passengers on a near-death plane crash in 2001 could accurately recall more details 5 years later for that personally experienced event than they could for the September 11th attacks (McKinnon et al., 2015). There are theoretical and empirical reasons to believe that directly experiencing an event could lead to stronger retention than secondarily experiencing it (such as learning about it via the media).

Flashbulb memories, compared to memory for directly experienced events, could also have a different application in the courtroom context, as recall of learning about a negative event that occurred to someone else often falls under the hearsay exclusionary rule (Fed. Rules of Evid., Rule 801, n.d.). If the testimony did not conform to any exceptions to the rule (e.g., an excited utterance), it would thus be inadmissible (Clark v Ohio, 2015; Crawford v. Washington, 2004; Idaho v. Wright, 1990). Victim evidence, however, is direct testimony about something experienced by an individual and, as such, less likely to be subject to exclusion under the hearsay rule.

One way that researchers ethically study people's ability to remember emotional or traumatizing events decades later is by interviewing or surveying victims of crimes or persecution and attempting to assess the accuracy and qualities of their memories (e.g., Tromp, Koss, Figueredo, & Tharan, 1995). One such unthinkable event that has been considered in the memory literature is Holocaust survivors'

memory for their experiences in concentration camps. In one study, five survivors were asked to freely recall and then answer specific questions regarding a particular concentration camp experience (Schelach & Nachson, 2001). After comparing these reports to documentation from the camps, the researchers found that the survivors could accurately recall their stay at the camps over 50 years later, but that the participants' recall for emotional events, such as Allied bombings or deaths, was better than for neutral events, such as the layout of the camp or the daily routine (with a mean score of approximately 71% correct for emotional events and 52% correct for neutral events).

Emotionality is not, however, a perfect barrier against memory degradation and sometimes does not predict later recall. In another study comparing the testimony of concentration camp survivors taken shortly after the war ended to that taken 40 years later, researchers found that omission errors can and did occur (Wagenaar & Groeneweg, 1990). In their later recall, participants had forgotten about instances of victimization and the identity of their victimizers. Thus, these studies reveal that details of even the most horrific events do fade with time. But, they also provide support that many individuals who have experienced traumatizing events can accurately recall important components of their traumatic experiences over half a lifetime later.

Indeed, the distinctiveness of these events (in the context of everyday life) could lead to their durability in long-term memory (Howe, 2011). Diary studies reveal that mundane events are more easily forgotten than those that are unique or distinct (Linton, 1975). The same is true for events that are important to the individual and to one's sense of self or survival. However, even after controlling for distinctiveness, one study found that the two participants were able to remember some detail for a vast majority of life events that occurred approximately 20 years before (around 80%; Catal & Fitzgerald, 2004; see also Burt, Kemp, & Conway, 2001).

However, in a survey study of former rape victims' subjective reports of their memories (not an objective measure of their accuracy), Koss, Tromp, and Tharan (1995) found that the victims did not believe that their own rape memories were remembered well (Tromp et al., 1995). In fact, rape memories (compared to other unpleasant memories) were reported as less well-remembered, less clear and vivid, and less visually detailed; these memories were talked and thought about less, and were less likely to occur in a meaningful order. There are several possible interpretations of these findings, including that some of the conditions under which rape can occur (e.g., in darkness) and greater avoidance of memory of rape compared to many other unpleasant events could affect the self-rated quality of rape memories. It is also of note that when the actual objective accuracy of sexual assault memories was examined, victims who reported holes in their memory, that is, lost but then recovered memory of the assaults, actually had more accurate memories than other victims (Ghetti et al., 2006). Thus, subjective descriptions that tap phenomenology of memory could conflict with objective measures that index actual memory accuracy.

Children's Long-Term Memory for Emotional or Traumatizing Autobiographical Events

For events experienced in childhood, the accuracy of memories over the long-term is generally dependent on the age at which the children encoded the event (e.g., Quas et al., 1999; Sehulster, 1996). Age typically predicts children's memory accuracy with older, compared to younger, children generally showing decreased suggestibility, more complex and detailed responding, and better reporting of central details (Eisen, Goodman, Qin, Davis, & Crayton, 2007; Goodman, Bottoms, Rudy, Davis, & Schwartz-Kenny, 2001; McWilliams, Harris, & Goodman, 2014). That said, some children and adults can, years later, recall emotional events that occurred when they were as young as 2 years of age (Fivush, 2002; McWilliams, Narr, Goodman, Mendoza, & Ruiz, 2013; Peterson, 2011; Usher & Neisser, 1993). Further, not all studies find developmental differences for negative emotional information (Chae et al., 2018; Cordon, Melinder, Goodman, & Edelstein, 2013). The question thus becomes whether memory for these events can then persist into adulthood.

The research thus far supports the retention of highly negative, emotional memories for many children (at least by 2 or 3 years of age), even years later (Bauer & Larkina, 2014; Fivush et al., 2004; Peterson, 2015; Quas et al., 1999). One consideration about these studies, however, is that often (but not always), the children were interviewed close in time to the event and then again over the years. The act of testing could itself help keep the memories alive.

In research by Peterson and Whalen (2001) and Peterson (2015), adolescents and elementary school-aged children recalled a medical emergency that occurred approximately 5–10 years prior (when the participants were between 2 and 5 years of age). Participants showed excellent memory for the injury that they sustained (necessitating emergency room medical treatment) over a decade later. There was, however, degradation in their memories for details of the hospital experience itself, which was possibly not as unexpected, frightening, novel, or life-threatening as the injury. Even participants who had been only 2-years-old at the time of their injury recalled a considerable amount of detail, although less than their older counterparts, thereby violating the predictions of infantile amnesia that children so young would have no memory for the events later (Peterson, 2015).

Not all details were equally remembered over time. High stress levels at the time of the event had minimal effect on memory for the injury, which arguably would be more comparable to the memory of childhood sexual assault. High stress levels did, however, mediate children's recall for central components of the hospital event. The more stressed the child, the more likely he or she was to have more complete recall of hospital central details (Peterson, 2015; Peterson & Whalen, 2001). Similar results emerge in Fivush et al.'s (2004) study in which children, 3–4 years old when Hurricane Andrew occurred, were able to remember it approximately 6 years later. Children in that study had richer memory for details regarding the aftermath of the

hurricane than they did for the hurricane itself and more for the hurricane than the preparations before the hurricane arrived.

These findings, that children can remember an event but often not the associated details years later, highlight an important question in studying memory for forensically relevant memories: individuals might be able to remember that an event occurred but are they able to remember sufficient charging information? In other words, with time, as the details of the event might fade, does enough remain such that a prosecution may fairly proceed?

What is also surprising about some of these studies is that children who were quite young at the time of encoding were able to accurately recall their experiences years later, if not in full, at least in part. Partial memories and memory fragments could be forensically important if they contain legally relevant information. Prior research generally reveals that older children and adults can recall few, if any, events that occurred prior to 3–4 years of age (Bauer, 2015; Quas et al., 1999), again with a few participants able to recall events from around 2.8 years of age (McWilliams et al., 2013; Usher & Neisser, 1993). However, in the Fivush et al. (2004) study, children were as young as 3 and 4 when they experienced the storm and still were able to recall the event 6 years later.

Bauer (2015) suggests that infantile amnesia mimics the forgetting curve that we previously discussed. That is, with time, forgetting initially occurs with a steep and fast decline but this curve stabilizes (or flatlines) such that individuals retain a small (but perhaps important) subset of their early memories. And, as the research by others reviewed above suggests, these memories encoded in childhood might persist for a decade later or more (Fivush et al., 2004; Peterson, 2015).

Further, to the extent that children have aged by the time of recall, they could also benefit from developmental changes, such as improved language and narrative abilities, metamemory strategies, and source monitoring abilities (Goodman, Ogle, et al., 2014) that can aid in improving their memory accuracy. One would thus predict that delays in recall could, on some measures, improve children's memory performance. There is support for such an idea in that Peterson (2015) found that participants who were in their adolescence at the time of recall provided more correct details a decade after the original event than they did previously. Fivush et al. (2004) also found that children's memory for Hurricane Andrew was more complete years later when the children were 9- to 10-years-old than initially when the children were preschoolers. This type of finding could be used to justify the legal system's rule that competence of child witnesses is determined at the time of testimony rather than at the time of the event, even if the child was quite young (and deemed by the court as incompetent to testify) at the time of the criminal act. That said, participants who were closer to 5 at the time of the event were able to recall more details than those who were 3 (Peterson, 2015).

One potential rationale for young children remembering information years later is that they have had subsequent discussions (formal and informal) regarding the target information. Interviews are thought to have both beneficial and detrimental effects on memory. Although discussions with others regarding the event in question allow for rehearsal, it also introduces opportunity for suggestive comments or

misleading questions to taint memory (Fivush & Saunders, 2015). Research thus far, however, calls into question whether intervening interviews help or hurt later memory accuracy (Goodman, Goldfarb, Quas, & Lyon, 2017; Quas et al., 2007). The number of interviews between encoding and recall does not always predict overall memory performance (Peterson, 2015). Strength of the original memory trace could be an important factor, as repeated misleading questioning can improve children's and adults' memory performance if the original memory is strong (Goodman & Quas, 2008; Peterson, Parsons, & Dean, 2004; Putnam, Sungkhasettee, & Roediger III, 2017). Future work, however, should consider what questions were asked at these interviews, which points were raised, and whether memory for those specific points improves. As forensic interviews are likely to focus on key details of the case, an important question is if these interviews help improve memory (or also increase suggestibility) for those key issues.

Adults' Memory for Childhood Maltreatment

As memories sometimes can and do persist beyond the boundaries of childhood, the question then becomes: Which of the memories are retained? Which memories show the resilience that allows them to be remembered over the long haul? In addition to the childhood traumas discussed above (e.g., substantial injury, natural disasters), another category of traumatic memories that might be particularly resistant to forgetting over time is memory for childhood maltreatment. There are, however, a number of ethical and empirical limitations inherent in the study of abuse and neglect, including lack of random assignment, difficulty in obtaining confirmatory information, and the confounding effects of trauma. Despite these limitations, a handful of studies thus far have examined adults' ability to accurately remember documented abuse-related events decades later, as described next.

Seminal research on adults' memory for child sexual assault was conducted by Linda Williams (1994). In her study, women with documented childhood sexual abuse histories were interviewed about whether they had previously experienced maltreatment. Despite prior documentation of the sexual abuse having occurred, a substantial proportion of the women (approximately 38%) did not disclose this trauma in the interview. Other studies similarly find that adults often fail to report sexual abuse. Widom and Morris (1997) interviewed a similar sample of men and women as Williams (1994) and found that around 37% of participants with a substantiated history of abuse did not report having experienced any such trauma. In the Williams (1994) study, there were a number of predictors of disclosure as an adult of the experience of child sexual abuse. First, individuals who were older (as compared to younger) at the time of the sexual abuse were more likely to disclose. Second, the relationship to the perpetrator predicted disclosure, with those who did not know the perpetrator being more likely to disclose than those who did.

Not all studies find such a high rate of adults' failure to disclose or remember child sexual abuse. In one such study, researchers analyzed whether adults could

accurately remember child sexual abuse up to 21 years after the alleged assault. Over the course of a phone interview, participants were asked about their prior trauma histories, including child sexual abuse. A substantial proportion of the adults recalled the event that was the focus of the earlier prosecution that had taken place a decade earlier (around 81%; Goodman et al., 2003).

Adult disclosure rates could be influenced by the sample studied, such as whether the individuals interviewed were from a sample of participants whose allegations were all part of criminal prosecutions. This is a concern because cases are likely to be prosecuted if the children had disclosed, and it is also possible that the prosecution itself affected memory (Freyd, 2003). In any case, in the Goodman et al. project, as details of the alleged assault were documented in childhood, the researchers could also analyze predictors of accuracy of recall. Participants who experienced more severe abuse and those who stated that the sexual abuse was the most traumatic event in their lives were more likely to accurately recall the abuse decades later (Alexander et al., 2005; Goodman, Quas, Goldfarb, Gonzalves, & Gonzalez, 2018; Quas et al., 2010).

In a longitudinal study of adolescents' recollections of family violence (not concerning child sexual abuse but still relevant) by Greenhoot, McCloskey, and Glisky (2005), 20% of the adolescents failed to remember or report the child abuse or punishment documented 6 years prior. Although few participants exposed to escalated violence reported it, this could represent their continued fearfulness or discomfort with disclosure. Of interest, having a stronger negative attitude toward the abuser was a predictor of disclosure/remembering.

In addition to questioning adults about child maltreatment experiences, studies have also examined children's and adults' memories for abuse-related events, including for genital touch as part of a forensic medical examination. In recent research conducted by Goldfarb et al. (2019), adults were questioned about being previously involved in a child maltreatment investigation that took place in the 1990s. As children, 3- to 17-years-old, the participants had resided briefly in a forensic medical unit (Eisen et al., 2007; Eisen, Qin, Goodman, & Davis, 2002). During their stay at the unit, almost all of the children experienced a forensic medical examination that included swabbing of the genital and anal areas to check for venereal disease and other signs of assault. Twenty years later, these same individuals, as adults, were interviewed as to their memory for their stay at the hospital unit, including the genital examination.

Approximately half of the adult sample was able to recall the prior genital touch (Goldfarb et al., 2019). Of those who recalled it, individuals who had experienced child sexual abuse were more likely to report the genital examination touch decades later. This finding parallels other research showing that maltreated children exhibit increased memory for abuse-related materials (Otgaar, Howe, & Muris, 2017). Within a large sample of children with maltreatment histories, Eisen et al. (2007) interviewed 3- to 16-year olds about an anogenital exam and clinical assessment that they experienced. In this sample, those with sexual or physical abuse histories, often even the youngest participants, made relatively fewer omission errors for abuse-related questions in comparison to their counterparts without such histories.

Thus, adults can remember maltreatment or traumatizing events decades later, and for some adults, there is correlational support that having previously experienced trauma improves one's ability to remember the stressful childhood event.

Given this literature, a fair argument can be made that degradation of memory quality alone is an insufficient reason to bar historic child sexual abuse cases from being legally heard. Many adults appear able to accurately recall such events. In many instances in which these cases are moving forward or such evidence is being admitted in hearings or proceedings, the question appears to have shifted from whether such evidence should be admitted to what predicts the veracity of the evidence once it is permitted. In other words, what are the determinants of the accuracy of these memories? Utilizing the data from one of our longitudinal studies, we consider one often presumed indicator of accuracy, specifically, the language used to describe the event at issue.

How Adults Describe Childhood Sexual Abuse: The Language Used

Important theoretical and applied questions have been raised about how developmental growth, between encoding and recall, changes the ways in which individuals describe early life-incidents, especially those of a traumatic nature (Goodman et al., 2018; Howe & Knott, 2015). As applied to historic child sexual abuse cases, the core of this debate revolves around the following question: When adults disclose childhood trauma, what language do they use? As the memories were encoded in childhood, one might expect individuals to employ more child-like concepts or frameworks. Indeed, some researchers have noted that utilization of more sophisticated language (e.g., adult sexual terms) to discuss events encoded in childhood could indicate that the adult memories are false (Howe & Knott, 2015)

For example, in a recent criminal historic child sexual abuse case, a defense expert described what he considered to be a factor indicating that the victim likely had irrevocably distorted memories. Specifically, the expert noted that adults and adolescents who testify as victims of earlier childhood sexual abuse frequently recall information that young children simply do not encode. He posited that when adults and adolescents recall childhood events in an adult-like or highly detailed fashion, this is likely diagnostic of a memory distortion rather than a genuine report.

However, there is another point of view on this matter, supported by empirical research: Adult language might not signal change to the memory itself but, instead, could reflect victims' ability to describe their memories in adult terms. This might also reflect improvements in vocabulary, narrative skill, knowledge base, and use of "conversational rules," often called Gricean (1975) maxims. These four maxims, as applied to adult conversations, are the following: *Quantity*, one tries to be as informative as one possibly can, and provide as much information as is needed, but not more; *Quality*, one tries to be truthful and does not provide information that is false;

Relation/Relevance, one tries to be relevant and pertinent to the topic of discussion ("on point," as attorneys might say); and *Manner*, being clear and orderly, and avoiding ambiguous, vague, and obscure expressions. Note, however, that the maxim of *manner* includes lack of vagueness, which can be difficult to achieve when talking about sexual experiences, such as criminal sexual activity experienced by children.

A simple thought experiment is relevant to the point of using adult language to recall information encoded in childhood. Many adults can likely think back to the house they lived in as a young child of say 3, 4, or 5 years of age, which is especially relevant to this example if one moved shortly thereafter and has not been back. Although one would have encoded the layout of the house as a child, in describing it now as an adult, the person would likely use adult language and understanding to do so, including for the salient or special parts of the house, which might remain detailed and accurate in one's memory. If the adult had the opportunity to go back to the house, the adult could verify the veridical versus non-accurate components of the memory compared to the reality.

As applied to historic cases of child sexual abuse, more convincing than a thought experiment are actual data on adults' language to describe past genital touch. Our unique dataset allows us to consider the language adults actually use when discussing a legally relevant verified event that transpired in childhood. Specifically, when adults describe genital touch that occurred during a forensic anogenital examination in childhood, does the language reflect more adult- or child-like concepts, phrasing, or syntax?

In our research, we asked adults to answer free-recall and open-ended questions regarding a medical examination involving genital touch (e.g., "Where did the doctor touch you?"), and their answers were transcribed. We then reviewed responses that were de-identified of all information other than the ages of the participants at encoding in the mid-1990s (Time 1) and their gender. We compared, on the one hand, what the individuals had said about the anogenital touch when asked within a few days of the experience while they were still children to, on the other hand, the adults' language about the anogenital medical examination when questioned 20 years later. We could therefore examine, at least anecdotally, if the participants' use of adult-like language reflected error or phrasing that was not available, or at least not used, in childhood.

Variability and Nonspecific Language

Overall, our transcripts reflected considerable diversity in the description of genital touch; the nature of this language varied at both time points. Many of the participants used ambiguous or nonspecific language in childhood and adulthood, violating the Gricean maxim of *Manner*, likely because genital touch is a taboo, embarrassing act that is not typically the topic of polite adult conversation and that even children try to avoid talking about in detail (Leander et al., 2007). For instance,

a male who was 5-years-old at Time 1 was asked shortly after the forensic examination, "Where did the doctor touch you?" and he responded, "On my arm." When asked more directly "Did the doctor put anything inside you when she checked you?," he responded "No" leaving out all mention of the genital swabbing and touch. Of importance, his response, approximately 20 years later, makes it clear that he had in fact encoded the genital part of the examination, because as an adult being questioned by us about the event, he stated: "They check your private part…I remember like they checked us—like they checked our private parts…they was lifting our private parts up and like checking around it with gloves and stuff. I don't know what they were doing that for, but they did that, like they had gloves and stuff on…"

Even participants who were 3-years-old at Time 1 and who often failed to disclose the anogenital part of the examination when questioned initially, were able 20 years later to provide the core information. For example, one adult (a non-disclosing 3-years-old at Time 1) stated, "Um well, you know, they were examining me for molestation, so they were putting things inside of me… I remember feeling lots of pain and things going inside me… and just a lot of people hovering in that area." (There were four people in the room: the doctor, two nurses, and a research assistant.)

Some adults utilized child-like language at both Time 1 and Time 2. For instance, at Time 1, an 8-year-old girl who was asked what happened at the medical examination described first a few body parts that had been examined, specifically "my stomach, my legs…," and then she went on to say "everywhere else," avoiding as a child direct mention of genital touch. Twenty years later, she was also vague, describing it as "…I just know that they were examining me down there." One 11-year-old participant described at Time 1 that the female doctor "… checked my privates. She asked me if someone felt your privacy or had been in my privacy." As an adult, the same participant also described the procedure in somewhat oblique terms. Specifically, she stated, "Like they was asking me a lot of questions like they was, they actually examined my body … And so they focused on, examined us to make sure that we weren't getting hurt, like our body parts, legs, you know. Stuff like that. And making sure no one touched us and stuff." And some children who had avoided disclosing genital touch at Time 1 then, as adults at Time 2, used words that might be considered child-like. The adult male mentioned previously who was only 5-years-old at Time 1, referred to the wooden sticks used in the examination arguably in childhood terms, saying, "They had popsicle sticks, lifting our penises up and stuff, and looking around." (That said, it is not clear what to call a tongue depressor used in that fashion.)

Adult Terms and Understanding

A number of female participants at Time 2 called the swabbing with a Q-tip a "pap smear," showing an adult-level of knowledge about the nature of the medical procedure that was conducted in childhood, albeit reflecting a common misunderstanding

that the term "pap smear" applies to all pelvic exams (Blake, Weber, & Fletcher, 2004). One participant, who was 12 at the time of the examination, described it at Time 1 as "he got a Q-tip and touched me on my bottom." Approximately 20 years later, that same participant used more clinical terms to describe the event and also placed it in the larger forensic context. Specifically, she stated that "…because of my age and because of um what I had [went] through they had to do you know…uhh…the pap smear, all of that different stuff to make sure how I was doing physically."

Many individuals showed meta-cognitive awareness that they had reframed the memory into a more adult-like understanding of the event. When one participant was 11, she stated, as did others, that "[the doctor] touched me down there, my vagina, when she was examining me with the Q-tips." As an adult, she noted that she had gained further clarity on the event. "All I remember was that they gave me a pap smear. And now I know it's a pap smear because you know as an adult …."

Some of the participants, even older than 3 years of age at Time 1, did not describe the genital touch at all during the childhood memory interview. It was not until adulthood that they recounted the event both in context and in language. One individual, who did not say anything when asked as a 9-year-old about the forensic genital touch, clearly articulated the event as an adult. She explained, "I remember they had like a Q-tip, cotton swab … And I remember they swiped it down there." She then elaborated on the purpose of the examination: "And also I remember, um, they also would—they would also check us to—to see if we've been molested or whatnot."

Surprisingly, some children were more direct or utilized more adult-like language in childhood than they did as adults. One 10-year-old stated at Time 1 that they were "checking my penis out and she told me to bend over and she checked out my behind." As an adult, that same individual stated that "[i]t's not your normal physical exam, it like, it was more—more personal dealing with my private parts." Another 15-year-old described at Time 1 the doctors as examining his "penis" and "behind" but said as an adult that they "did a full body exam I believe. Um, checking us to see if we [were] molested or touched or anything."

Does Adult Language Mean the Memory Is False?

Thus, from our preliminary review of the statements made by the participants at both Time 1 and Time 2, the maturity of the language varied widely among participants, arguing against the notion that use of adult language or adult concepts about a childhood experience indicates falsehood. Some participants utilized increasingly complex or adult-like terms or language at Time 2 than they did at Time 1, some utilized similarly simple or vague language in childhood and adulthood, and others became increasingly indirect with time. It could be that differences in the utilization of this language relate to individual predictors, such as verbal fluency or comfort level in discussing intimate or traumatizing topics.

In the end, our preliminary review of the data reveals that, when discussing a sensitive event involving genital touch that occurred during childhood, the developmental complexity of the language varies widely. This makes us doubt whether the maturity level of the language utilized is strongly indicative of whether the events in question actually occurred. Future research could elaborate on predictors of the language utilized. Of key interest in the future concerns the best way to elicit accurate recall of genital touch or other embarrassing or taboo topics with a level of specificity and detail sufficient for legal action.

However, there appear to be important individual differences at play in how accurately adults remember early traumatic events. We next turn to individual difference predictors of long-term memory for child sexual abuse. Specifically, we consider two predictors that relate to adults' memories for trauma-related childhood experiences: attachment and psychopathology.

Attachment and Memory

A growing body of research examines the association between adult attachment and long-term memory for attachment-related events, including child sexual abuse. Many child sexual abuse cases, including historic ones, qualify as attachment-related because close relationships are often involved (e.g., between the victim and perpetrator or between the child and the disclosure recipient). A core part of attachment theory deals with individual differences in the processing of experiences that involve safety, distress, and intimate relationships, especially in regard to negative life events (Bowlby, 1969). These individual differences in processing can be expected to affect memory.

Much of the relevant adult attachment research has utilized the Experiences in Close Relationships (ECR) questionnaire, a self-report measure of adult attachment (Hazan & Shaver, 1987). The ECR contains two main scales: anxiety and avoidance. Anxiety refers to hyperactivation of the attachment system, such that the individual is needy, clingy, hypervigilant, and often worried about close relationships. Avoidance refers to attempts to deactivate the attachment system, seeking to avoid being needy or vulnerable in intimate relationships, not communicating about attachment-related negative events, and not help-seeking (Mikulincer & Shaver, 2017). In terms of long-term memory for stressful and traumatic childhood events, the avoidance dimension has proven the most useful to understanding memory accuracy to date (e.g., Alexander, Quas, & Goodman, 2002; Edelstein et al., 2005).

Adult avoidant attachment is related to long-term memory for emotional events that occurred in childhood. Avoidant adults are less likely to remember emotional events from childhood, especially if the events were negative (Mikulincer & Orbach, 1995). According to attachment theory, avoidant adults likely evince a greater degree of defensiveness and anxiety when recalling childhood memories compared to anxious and secure adults who have greater mental access to this information. Avoidance of negative memory could be a deactivating strategy, in which the

avoidant individual limits attention to material that could activate the attachment system, a process known as defensive exclusion (Bowlby, 1980; Edelstein, 2006). In the face of remembering childhood sexual abuse, avoidant individuals might have restricted reports of these memories because of defensive processes that limit encoding, storage, and/or retrieval of the maltreatment.

Edelstein et al. (2005) investigated whether attachment-related individual differences are associated with adult long-term memoryaccuracy of child sexual abuse experiences that resulted in criminal court prosecutions. As attachment theory would predict, memory accuracy was characterized by an interaction between child sexual abuse severity and attachmentavoidance. Specifically, non-avoidant (i.e., more attachment secure) adults demonstrated greater memory accuracy about central details for severe cases of sexual abuse. In contrast, avoidant adults who had experienced severe child sexual abuse demonstrated relatively poor recall of central details about their childhood abuse experience (Edelstein et al., 2005). The poor recall could reflect defensive exclusion, resulting in loss of detailed memory, or at least a less complete memory report, through avoidance of a negative memory that would activate their attachment system (e.g., make them feel vulnerable and needy) and/or not wanting to talk about the severe abuse (including with researchers) or not wanting to think about it. Thus, although victims can and do show accuracy in recalling traumatizing events, including child maltreatment, decades later, there is evidence that the detail of memory or report might be partially related to attachment security.

Currently, few studies exist examining the relation between adult attachment security and long-term memory for child maltreatment. What has been empirically established is that differences in how emotional information is later recalled appear in adulthood.

Psychopathology, Trauma, and Memory

Another potential influence on the accuracy of long-term memory is psychopathology. It is well documented that exposure to childhood traumas, including maltreatment, increases the risk of adult mental health problems (e.g., Finkelhor, 1984; Widom, Dumont, & Czaja, 2007). Psychopathology also plays a role in individuals' abilities to remember traumatizing events years later (Goldfarb et al., 2019). For the purpose of this chapter, we briefly review two dimensions of psychopathology symptoms that relate to the aftermath of child sexual abuse and also to individuals' ability to recall traumatizing events decades later: post-traumatic stress and depression. After briefly defining each type of psychopathology, we discuss research on the role these two psychopathology symptoms appear to play in long-term memory for a forensically relevant event. We should state at the start, however, that we do not review here studies on individuals with psychosis or thought disorders that are documented to involve confabulation.

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), post-traumatic stress disorder (PTSD) results from exposure to a traumatic event that then is persistently re-experienced through flashbacks, nightmares, or intrusive thoughts. Hypervigilance and/or avoidance of trauma-related feelings, experiences, and reminders (i.e., triggers) also characterize PTSD symptomatology. Individuals with PTSD experience negative thoughts and/or feelings (e.g., self-blame, feeling isolated) and increased arousal (e.g., heightened startle reaction, irritability). Around a third of all people who have experienced maltreatment are diagnosed with PTSD during their lifetime (Browne & Finkelhor, 1986), and many others with adverse childhoods exhibit PTSD symptomatology (Berntsen et al., 2012; Finkelhor, Turner, Hamby, & Ormrod, 2011; Finkelhor, Omron, & Turner, 2009; Perry & Azad, 1999; Silva et al., 2000; Vranceanu, Hobfoll, & Johnson, 2007; Widom et al., 2007).

There are concerns that PTSD symptoms could have a detrimental effect on memory for negatively related events. However, in one of the few studies analyzing the relation between psychopathology, maltreatment, and long-term memory for child sexual abuse, PTSD symptoms predicted the accuracy of long-term memory for the sexual assaults. Utilizing real-world prosecution cases, Alexander et al. (2005) examined predictors of victims' memory accuracy and errors 12–21 years after the documented child sexual abuse had ended. Severity of PTSD symptoms in adulthood was positively associated with memory accuracy. Moreover, participants who reported the child sexual abuse as their most traumatic life event exhibited memory accuracy regardless of their level of PTSD symptoms. These findings could point to the reinforcement of memories by re-experiencing the traumathrough intrusive thoughts, reminders, or discussing it with close others (e.g., therapists, partners). Moreover, this evidence shows that memory for emotional events often endures and that trauma-related information is generally retained well, perhaps especially among victims with PTSD (Paunovic, Lundh, & Öst, 2002).

Childhood maltreatment also increases the chances of symptoms of depression (Jaffee et al., 2002; Kaplow & Widom, 2007; Toth, Manly, & Cicchetti, 1992; Widom et al., 2007). In fact, depression is often co-morbid with PTSD. Depression (in general) is associated with negative affectivity, loss of interest, changes in sleep, feelings of hopelessness, and/or lack of pleasure in activities once formerly enjoyed (American Psychiatric Association, 2013).

Studies of long-term memory for traumatizing childhood events reveal that increased psychopathology might at times be associated with increments in the ability to recall such events. In our longitudinal study analyzing adults' abilities to remember a genital examination that occurred decades prior as part of a forensic medical check-up, participants who had increased depressive symptoms were more accurate in their memory for the event (Goldfarb et al., 2019). It could be that the participants with increased depressive symptoms frequently rehearsed the event (Kuyken & Howell, 2006), thereby increasing reinstatement of what happened. Past studies have shown that depression severity is associated with intrusive thoughts of past traumatic events, including child sexual abuse (Kuyken & Brewin, 1994), and this might lead to greater accuracy.

Thus, studies so far reveal that certain psychopathology symptoms could have a buffering effect on memory (Goodman et al., 2018). These findings are quite the opposite of what one would expect from studies of memory for neutral materials. Although considerable past research has largely focused on PTSD or depression and memory deficits (e.g., PTSD and memory for semantically related word lists and over general memory and depression; Bremner, Shobe, & Kihlstron, 2000; van Vreeswijk & de Wilde, 2004; Williams, 2006), more recent findings allude to the differential impact that mental health symptoms might have on traumatic memory specifically (Goldfarb et al., 2019).

False Memory for Child Sexual Abuse

This chapter would not be complete without a discussion of false memory for child sexual assault. False reports of child sexual abuse do occur, and false memory might be behind some of them (Bottoms, Shaver, & Goodman, 1996). Although laboratory studies abound in which researchers implant false memories, the events fall short of child sexual abuse on a number of dimensions that affect memory (e.g., personal significance, taboo and secretive nature of the act, shame and embarrassment, and repetition), as it is typically considered unethical to try to implant a false memory of falling victim to a traumatic childhood criminal act, at least using what researchers usually consider to be the paradigm for implanting a false memory.

Anecdotally, we can be confident that reports of child sexual abuse by insects from Mars, cults of non-human satanic worshippers, and space aliens are false. Thus it is of interest that some retractors of claims of satanic ritual abuse explain that they had a false memory, or at least a false belief, brought on by egregious clinical techniques (e.g., hypnosis and sodium pentothal use) or religious practices (e.g., churches promoting the idea that Satan is behind all wrongdoing including rampant child sexual abuse). In our own research on Satanic ritual abuse, we detected such patterns in the reports we received (Bottoms et al., 1996).

Demonstrating false memory of child sexual abuse in the laboratory context presents challenges. Arguably, the closest to attempting that was in a study conducted by Kathy Pezdek and colleagues: They were able to implant in adults a "false memory" of being lost in a mall as a child but in using the same implantation techniques, found there were zero false memories for a childhood enema (Pezdek, Finger, & Hodge, 1997). When switching to another index of false memory, the Life Events Scale (LES; 1 = definitely did not happen to me prior to age 10, 8 = definitely did happen to me prior to age 10), and providing greater contextual and knowledge information, Pezdek, Blandon-Gitlin, Lam, Hart, and Schooler (2006) still found that the majority of adults provided exactly the same 8-point rating for the enema across time points (before and after the false information was presented). Even in the most falsely suggestive manipulation in the study, the mean change was only 1 point on the 8-point scale. Pezdek and colleagues concluded that beliefs about the occurrence of salient or taboo childhood events are fairly stable, not highly malleable.

Others have written about the methodological and statistical problems with false memory research that uses the implantation or LES methodology (Brewin & Andrews, 2017; Koss et al., 1995), especially as applied to memory for personally significant, traumatic, and/or highly negative childhood events. In addition to those problems, these researchers claim that the ecological validity of most of these laboratory studies can be questioned. As the present review suggests, generalizations from laboratory studies using word lists, stories, videos, and the like, might not be fully applicable to historic cases of child sexual abuse. That being said, false allegations and wrongful convictions do occur. Every such wrongful conviction is a stain on the legal system that can and must be addressed through further research and reform.

Conclusion, Future Directions, and Proposed Legal Reforms

The literature thus far suggests that adults often can and do remember emotional or traumatizing events from childhood, including child sexual abuse, years and decades after they occurred. Time appears to predict degradation of many memories, but there are certain types of memories, including traumatic ones, that show substantial resilience to this effect. This is not to say that memory is perfect or like a video recording. It is not. This is not to say infantile amnesia does not exist for older children and adults. Apparently, it does. And it is not to say that false reports or false memories never occur. They do. But it is to say that, at present, there is support for the argument that degradation in memory alone should not stand as a barrier to extending or terminating the statute of limitations for crimes of violence perpetrated against children. That said, there are, however, a number of areas where additional research is needed before firm conclusions are drawn. Of note, most of the research to date on adults who suffered childhood trauma has focused on individuals who have experienced child sexual abuse. There is pragmatic sense to this approach, as child sexual abuse is more frequently prosecuted in the criminal courts than other forms of maltreatment (Cross & Whitcomb, 2017; Goodman, Quas, Bulkley, & Shapiro, 1999). However, without sufficient research on other crimes that children experience or witness, it is unclear whether these memory phenomena are unique to child sexual abuse or more generalizable to other forensically relevant acts, such as domestic violence and physical abuse (Greenhoot et al., 2005) or having witnessed a murder (McWilliams et al., 2013). In such cases, the child is a witness rather than a direct victim, and there could be less shame (but possibly more horror) associated with the event. Moreover, memory after even longer delays than the retention intervals studied here should be examined.

We look forward to further research on the language used by adults in describing childhood traumatic events. The language used in our longitudinal study makes clear that events experienced (encoded) in early childhood, at least down to 3 years of age, can be described in adult terms 20 years after the childhood experience. Some of our participants not only provided more detail in adulthood than they did

in childhood, but also the language used was more complex and adult-like. Others did not reveal any change and stayed vague in their language across both time points. It appears that the developmental complexity of language does not, in and of itself, predict accuracy or inaccuracy of memory for the underlying event. That said, identification of clear developmental patterns and unique predictors of the language used awaits further research.

Further research is also necessary to understand the role that individual differences play in the accurate retention of memory from childhood into adulthood. Research to date indicates that attachment security predicts long-term memory completeness for emotional events. The evidence thus far suggests that avoidantly attached adults might report or remember less information than more securely attached adults about severe childhood sexual assaults. If the issue, as we suspect, is discomfort in reporting rather than absence of memory, greater rapport building or other supports during interviews might be needed especially for such individuals (Milojevich & Quas, 2017). Future research will help us better understand how attachment-related information is processed, stored, and recounted, and if there exist differential pathways to long-term memory based on attachment orientations in combination with factors such as the severity, unpredictability, and valence of the attachment-related event.

There is also reason to believe that some types of psychopathology symptoms (e.g., depression, PTSD) might bolster retention of core childhood events. Whether trauma-related psychopathology symptoms, short of psychosis at least, facilitate the moving of childhood trauma memories into the permastore is a possibility particularly worthy of greater research. Although substantial research on psychopathology exists showing deficits in memory for such neutral material as word lists (Bremner et al., 2000), less research has examined the relation between trauma-related psychopathology and adults' long-term memoryaccuracy for documented childhood trauma. Additional work could first determine the replicability of our findings and, if replicable, elucidate underlying mechanisms.

The legal implications of this literature on decisions regarding the statute of limitations are substantial. The studies we reviewed here argue against restrictive statutes of limitations. This is also the conclusion reached by the Attorney General of Pennsylvania after a grand jury investigation into child sexual abuse by Catholic priests. The 23-member grand jury reported that over more than six decades, 301 priests in six dioceses abused more than 1000 children whose identities it found in church records. The grand jury concluded, "priests were raping little boys and girls, and the men of God who were responsible for them not only did nothing; they hid it all. For decades." Furthermore, the grand jury stated, "First, we ask the Pennsylvania legislature to stop shielding child sexual predators behind the criminal statute of limitations." Referring to alleged victims who testified before the grand jury, who were in their 50s to 80s, "We saw these victims; they are marked for life…Many of them wind up addicted, or impaired, or dead before their time … These victims ran out of time to sue before they even knew they had a case; the church was still successfully hiding its complicity" (PA Grand Jury Report Interim, 2019, pp. 7–8; see also Johnson, 2018).

We contend that determinations of the veracity of child sexual abuse allegations in historic cases are best addressed through the evaluation of individual testimony and case facts. Our suggestion is opposed to a general barring of such claims based on a timeline that fails to respect the fact of delayed disclosure into adulthood of the experience of child sexual abuse. Willingness to come forward and disclose abusive childhood incidents remains an important barrier to litigation of these cases. Although false reports must also be guarded against with fearless effort, the cost of assuming falsehood is also great. More than ever, we must address not only statutes of limitations but also the need for community, family, and government supports for people who bravely and truthfully choose to disclose sexual victimization experienced as children.

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Interpreted Police Interviews: A Review of Contemporary Research

Jane Goodman-Delahunty, Natalie Martschuk, Sandra B. Hale, and Susan E. Brandon

Criminal justice proceedings are high-stakes settings in which native English speakers have difficulty negotiating the legal process, let alone persons with no or limited English proficiency. Increasingly, law enforcement interviewers are required to rely on interpreters (Mulayim & Lai, 2017; Shaffer & Evans, 2018). However, the mere presence of an interpreter does not guarantee accurate interpreting. If the interpretation is inaccurate, evidence can be misconstrued, affecting assessments of witness veracity and credibility. This can compromise the right of the parties to a fair trial and lead to wrongful convictions or acquittals, costly appeals, and retrials. The scale of the problem has been recognized by members of the judiciary, who for many years have complained that the poor quality of interpreters is detrimental to the court's ability to perform its duties (Hale, 2011). In response to calls for improvement, the European Parliament, the Council of Europe (1950), and comparable bodies in other jurisdictions mandated that interpreters be fully competent for the task assigned (Hertog, 2015). The assigned tasks include interpreting in the investigative phases of the criminal justice process, including suspect and witness interrogations and intelligence interviews. In different jurisdictions, the terminology applied to law enforcement interviews varies. In Australia and the United Kingdom (UK), the

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term "interview" is preferred; in the United States of America (USA) and Canada, "interrogation" is the more common term.

In Australia, Police Standing Orders require police forces to hire professional interpreters for all interviews with non-English speakers (Ozolins, 2009). In the USA, regulation of interpreting practices in law enforcement settings varies by state. In Europe and the UK, Directive 2010/64/EU established the right to quality interpretation and translation in all stages of criminal proceedings, "…from the time that they are made aware by the competent authorities of a Member State…to the resolution of any appeal" (ImPLI Project, 2012, p. 5). Noncompliance "…can lead to the invalidation of investigations and pre-trial proceedings, while poor quality interpreting may lead to a violation of the principle of fairness (European Convention on Human Rights) or to challenges in court that may lead judges to declare the pre-trial proceedings inadmissible" (ImPLI Project, 2012, p. 7). In the UK, the interpreter must attend the police interview of a non-English-speaking suspect in person (Home Office, 2017). Despite rapid globalization of interpreting standards, often most rigorous for court interpreters (Hlavac, 2013), legal interpreting in non-court settings, such as police interviews, often falls outside of the scope of these regulations.

Community interpreting refers to interpreting conducted in domestic settings (Hale, 2007a), such as police stations, courts, hospitals, and other public services. Legal interpreting is a subfield that encompasses interpreting in diverse law enforcement settings, such as asylum and immigration proceedings, courtrooms, tribunals, police, prison, and military settings (Hertog, 2015). A review of the literature on legal interpreting (Monteoliva-Garcia, 2018) documented a total of 464 legal interpreting publications (books, conference proceedings, journal articles, book chapters, monographs, and doctoral theses) in the ten-year period spanning 2008–2017, of which more than 300 were journal articles. Legal interpreting research using a variety of qualitative and quantitative methods has largely focused on courtroom settings. By comparison, studies of interpreted police interviews lagged. The authors identified "police interpreting" in law enforcement interviews as an area of emerging interest (Monteoliva-Garcia, 2018).

Evidence-based policing is rapidly becoming the global standard in contemporary policing practice (Knutsson & Tompson, 2017; Lum & Koper, 2017; Mitchell, 2019), exemplified by "the use of best research evidence on 'what works' as a guide to police decisions" (Sherman, 2013, p. 383). The development of a body of specialized knowledge on effective communication skills to gather intelligence and oral evidence from suspects, sources, and witnesses is a prime example (Meissner, Surmon-Bohr, Oleszkiewizc, & Alison, 2017). Despite a high and increasing proportion of interpreted investigative interviews, research on this topic is in its infancy.

One recent review of research on interpreted investigative interviews with suspects, victims, witnesses, and human intelligence sources concluded that "Emerging research findings appear to indicate that there is little agreement or understanding between (and within) groups of investigators and interpreters about what is effective in practice" (Evans, Shaffer, & Walsh, 2020, p. 141). As a result, practitioners and policy-makers might receive diametrically opposing advice from different legal psychologists, and there is no resource to consult to account for the discrepancies.

Examples of disparities in research outcomes included the effective placement of an interpreter in an interview, the effect of an interpreter on interviewer–interviewee rapport, and the extent of information loss in interpreted versus monolingual interviews (Evans et al., 2020). Additionally, some studies across multiple languages and countries including the UK, Russia, Republic of South Korea, and the USA (Ewens, Vrij, Leal, et al., 2016a, 2016b; Ewens, Vrij, Mann, & Leal, 2016; Vrij & Leal, 2020) concluded that ad hoc bilingual speakers perform just as well as interpreters, while other studies found significant differences in the performance of these two groups, with interpreters performing significantly better than ad hoc bilinguals (Berk-Seligson, 2009; Lai & Mulayim, 2014; Mellinger & Hanson, 2019; Mulayim & Lai, 2017; Pöchhacker, 2004), in particular in Australia, where there are highly trained and qualified interpreters (Hale, Goodman-Delahunty, & Martschuk, 2018; Liu & Hale, 2018). Such a stark difference might be due to differences in the definition of an "interpreter," with some researchers referring simply to the fact that the interpreters are paid, others referring to professional interpreting training, and others referring to certified interpreting practitioners. Accordingly, this is a timely opportunity to explore factors that could account for disparities observed in research outcomes, to make recommendations about measurement approaches that are most viable, and to identify issues in interpreted investigative interviews warranting further research.

Overview of the Chapter

The central goal of this review of the literature is to advance growth in practice and policy by fostering development of a robust and coherent scientific evidence base on interpreted investigative interviews. The aims of this chapter are to synthesize and integrate informative findings on psycho-legal issues central to contemporary police interview practice and to identify gaps and issues unaddressed in prior studies.

This chapter is divided into four parts. First, by way of background, we identify an overarching model of multimodal communication that specifies three core components of the interpreting task in an investigative interview and interviewing strategies commonly applied by investigative interviewers. We also outline the training and qualifications of interpreters proficient in legal interpreting, the two main interpreting modes in which they are trained, and the interpreter's role. Second, we describe the major types of field studies and laboratory experiments applied in research on interpreted police interviews, and strengths and weaknesses of these approaches. In part three, we critically evaluate research on six key topics that affect interpreted investigative interviews conducted with persons who are not proficient in English, and identify gaps in the research. In the Conclusion, we consider steps to develop a more robust evidence base to guide policy and practice in interpreted police interviews and discuss implications of the findings for other contexts, namely lawyer–client interviews, and training for interpreters and interviewing professionals.

Multimodal Communication in Interpreted Police Interviews

In this section, we introduce an interactive communication model and key components of the interpreting task in a police interview. Next, we describe common interviewing strategies used by police practitioners, which go beyond the propositional content of the questions. We conclude by discussing the two main modes of interpreting in which interpreters are trained (i.e., consecutive and simultaneous), the role of interpreters in police interviews, certification procedures for interpreters, and specialized training in legal interpreting. Together, these topics provide a backdrop to understand research conducted to date on interpreted police interviews.

The Interaction Process Model of Communication in Police Interviews

Communication in police interviews consists of an interaction between the interviewer and the suspect or witness, as posited in the cognitive-behavioral Interaction Process Model (Moston, Stephenson, & Williamson, 1992; Madon, More, & Ritchfield, 2019). When a police interview is attended by an interpreter, the interaction becomes tripartite (Nakane, 2014; Houston, Russano, & Ricks, 2017). "In a monolingual police interview the police officer and/or the other participants are able to engage in direct negotiation of participation and meaning themselves, but in interpreter-mediated police interviews the two primary interactants have to depend on the interpreter" (Gallai, 2013, p. 69). The dynamics of an investigative interview inevitably change, as the traditional "oppositional dyad" of interviewer-suspect is transformed by the presence of an interpreter "into a triadic mixture of opposition, cooperation and shifting alignments" (Russell, 2004, p. 116). The impact of the presence of an interpreter on the interaction dynamics and the power relationships is still being investigated (Nakane, 2014).

As in other types of oral interactions, communication in an investigative interview is multimodal (Conley, O'Barr, & Riner, 2019) and typically combines three information sources: (a) linguistic or verbal (i.e., words); (b) paraverbal or vocal (e.g., tone of voice, intonation); and (c) nonverbal or visual (e.g., gestures, facial expressions, body language). The way in which an utterance is expressed portrays meaning and elicits judgment from others. Put simply, oral communication entails more than propositional information alone; it also conveys attitudes and emotions. Some police practitioners report greater reliance on paraverbal communication and nonverbal gestures in order to build rapport with interviewees in interpreted interviews (Goodman-Delahunty & Howes, 2017).

Pioneering research by experimental social psychologist Mehrabian (1972, 1981) explored the effects of incongruity between the three sources of communica-

tion (Mehrabian & Wiener, 1967), especially when emotion was important (such as to determine liking by the speaker of the addressee), to assess which was the most influential (Mehrabian & Ferris, 1967). In these experiments, where one-word responses were compared with nonverbal and paraverbal communication, via style, expression, tone, pitch, facial expression, and physical gestures, the nonverbal and paraverbal communication accounted for as much as 93% of the meaning inferred by the participants. This seminal research illustrated (a) the importance of factors in addition to words to convey meaning or interpret meaning, such as the vocal elements conveyed by the pragmatic force of the speech, as well as visual elements conveyed by the facial expressions, movements, and gestures of the speaker; and (b) that in the absence of visual cues and signs, such as when communicating by telephone, the potential for confusion and error increased. Attention to one particular source (verbal, visual, or vocal) might be more informative when the others are less so, as these information sources are complementary. The extent to which interpreters in police interviews replicate all three sources of information has not been thoroughly researched.

Usually, taking all three sources (verbal, visual, and vocal) into account when communicating face-to-face increases communication effectiveness and accuracy. For example, nonverbal and paraverbal behaviors that indicate whose turn it is to speak include eye-contact, gaze withdrawal, interruptions, backchannel responding, linguistic hedges, pauses, and gestures (Mason, 2012). Among the nonverbal turn-taking behaviors, gaze is particularly important for signaling attention and regulating participation in conversation (Mason, 2012). Conversely, reliance on a single source, such as auditory communication only, as occurs in telephonic communications, decreases accuracy and effectiveness in monolingual interactions. For example, face-to-face monolingual requests secured 34 times as much compliance as the same request via e-mail (Roghanizad & Bohns, 2017), a difference attributable to the presence of nonverbal cues in the face-to-face condition. Recently, in legal settings, in line with the multimodal model of communication, linguists have taken nonverbal communication (e.g., gesture) and spatial and visual relations among the participants, into account (Conley et al., 2019). Accordingly, research attention to all three sources of information communicated in interpreted investigative interviews is vital (for a discussion of the complexities of the interpreting task, see Hale, 2007b, 2010).

Interpreters need to fully understand both the source language message and the questioning strategies used by law enforcement personnel before they can attempt to accurately interpret into the target language. For example, a police investigator might want to allow for silence as a tactic to encourage a suspect to talk. Interrupting that silence would be counter-productive. The need for interpreters to be briefed ahead of time about such strategies was highlighted by Russano, Narchet, and Kleinman (2014). Some common types of questioning strategies used in police interviews are described next.

Interpreting Police Interviewing Strategies

Skilled police interviewers apply a range of strategies to elicit information and detect deception. Several reviews of contemporary investigative interviewing strategies are available to acquaint interpreters with these strategies (e.g., Gunderson & ten Brinke, 2019; Hope & Gabbert, 2019; Kebell & Davies, 2006; Madon et al., 2019; Meissner et al., 2017). Chief among these are rapport-building strategies that draw on principles of cognitive and social psychology to secure cooperation and elicit meaningful information (Meissner et al., 2017). Other commonly used questioning strategies are the Cognitive Interview (Memon, Meissner, & Fraser, 2010) to enhance recall, and strategies applied with uncooperative suspects and witnesses, such as Conversation Management (Shepherd & Griffiths, 2013). Notably, several aspects of rapport in police interviews vary by culture, including turn taking, eye contact, back-channel responses, and behavioral and verbal mirroring (Dhami, Goodman-Delahunty, & Desai, 2017; Richardson, McCulloch, Taylor, & Wall, 2019).

In linguistic terms, replication of interviewing strategies comes within discourse-analytical research on the handling by interpreters of verbal, paraverbal, and non-verbal discourse markers (Monteoliva-Garcia, 2018). The extent to which interpreters are aware of common investigative interviewing strategies and replicate them in their interpretation has emerged as an important international research topic (Rombouts, 2004, 2011). For example, interviewers perceived that interpreters' unfamiliarity with best practice strategies used to interview child complainants of sexual abuse impaired the effectiveness of these interviews (Powell, Manger, Dion, & Sharman, 2017).

Like child witness interviews, central features of the Cognitive Interview and of deception detection strategies are rapport-building and open-ended prompts to interviewees to elicit free recall narratives (Memon et al., 2010; Nahari et al., 2019). Elicitation of a free-form narrative from the witness or suspect might require interpreters to deviate from the usual turn-taking exchanges in an interpreted interview when the interpreter uses the consecutive interpreting mode (Heydon & Lai, 2013). In consecutive interpreting, interpreters have a central role in the management of turn-taking (i.e., deciding on who speaks and when). This feature of communication is closely related to the coordination component of rapport (Tickle-Degnen & Rosenthal, 1990). Interpreters who are unaware of interviewer reliance on free-recall narrative strategies and rapport-building strategies and who are less skilled in the management of turn-taking might be more error-prone than their counterparts who have specialized training in legal interpreting (Gallai, 2017; Mulayim, Lai, & Norma, 2014).

Two dominant modes of interpretation are taught and practiced, namely consecutive and simultaneous interpreting (Hale, Martschuk, Ozolins, & Stern, 2017). During their training, interpreters learn to interpret in both modes, but generally specialize in one mode or the other (Hale, Goodman-Delahunty, Martschuk, and Doherty, 2020). The consecutive and simultaneous interpreting modes are described next.

Consecutive and Simultaneous Modes of Interpreting in Legal Settings

Interpreting in legal settings is conducted either in the consecutive mode, with short, dialogic or long, monologic turns between speakers, or concurrently, in the simultaneous mode. In short consecutive interpreting, used for interactions between speakers, the interpreted units of speech last a few seconds, such as a single word, to a few sentences at a time, up to about 50 words (Andres, 2015; Viezzi, 2013). Short consecutive interpreting "is typical of face-to-face encounters where the form of communication is conversation," whereas long consecutive interpreting "is typical of events where communication takes the form of one-to-many utterances of varying length with no mutual interaction between speaker and listeners" (Viezzi, 2013, p. 377). Thus, long, consecutive interpreting is most typically reserved for prepared monologues, in which the speech unit may last 10–15 or 20 min (Viezzi, 2013). For short and long consecutive interpreting, the interpreter works alone and is usually placed next to the witness, hears segments of speech in the source language, takes notes, and delivers the interpretation in the target language, without the aid of technological equipment.

In the simultaneous mode, speech in the source language is heard by the interpreter through headphones, and the interpretation is delivered concurrently, at almost the same time, in the target language, via a microphone (Stern, 2012). The average delay between speech and simultaneous interpreting is three seconds (Seeber, 2011); however, it could vary between different language pairs and the direction of the interpretation.

Customary use of these two distinct modes of interpreting in different contexts appears to have evolved by happenstance rather than design. Unique historical factors spurred the use of simultaneous interpreting in European legal proceedings. In the 1940s, a Rockefeller-IBM funded Department of Interpreting Studies at the University of Geneva exposed students to new technology that enabled them to interpret simultaneously by listening to the speaker via headphones and interpreting into the target language via a microphone. When the Nuremburg trials commenced shortly after the end of World War II, the courts in neighboring Germany hired three graduates of this simultaneous interpreting program as interpreters for the trials (Gaiba, 1998). Thereafter, courts in Europe continued to use this mode of interpreting in legal proceedings and extended its use to international conferences (Pöchhacker, 2011). Today, in European international courts, simultaneous interpreting is the default mode (Stern, 2012). By comparison, in other jurisdictions, such as Australia, the UK, and the USA, consecutive interpreting is the default mode used in legal settings, including police interviews. However, with the aid of new portable headset equipment, recently some interpreters working in domestic courts in the USA have implemented the simultaneous mode (Mikkelson, 2010).

Both consecutive and simultaneous modes of interpreting have advantages and disadvantages. Decisions on which interpreting mode to use in legal settings have been based almost exclusively on tradition and cost rather than an evidence-based

analysis of their respective effectiveness. In police interviews, consecutive interpreting is most typical (Lai & Mulayim, 2014). However, police practitioners who have conducted interviews in the consecutive mode reported that it made the interview less "free flowing" and "more like a structured interview" (Goodman-Delahunty & Howes, 2017). Other disadvantages of the consecutive versus the simultaneous mode emerged in a field experiment on legal interpreting in court: Mock jurors reported that the simultaneous mode was less distracting, and that they understood and remembered case facts more accurately than their counterparts who attended the same trial interpreted consecutively (Hale et al., 2017). The longer duration and accompanying costs of consecutive interpreting are further disadvantages (Hale, Goodman-Delahunty, Martschuk, and Doherty, 2020).

The Role of Interpreters in Police Interviews

Some police interviewers, lawyers, and judges misunderstand the interpreting process and erroneously endorse the view that an interpreter translates verbatim, akin to a disembodied machine (Evans et al., 2020; Fowler, 2013). A description of the interpreting role as "communication facilitation" is more accurate (Laster & Taylor, 1994), as interpreters are trained to attain pragmatic equivalence, not literal verbatim renditions.

Debates about the nature and scope of the role of professional interpreters in legal settings are long-standing (Devaux, 2018; Hale, 2008; Monteoliva-Garcia, 2018). Among academics, some factions contend that interpreters fulfil an advocacy role, others contend that they serve as gatekeepers, and others contend that interpreters are independent professionals (Hale, 2008, analyzed the different roles attributed to interpreters).

Professional interpreters are expected to adhere to their ethical obligation to interpret everything faithfully and to override their personal opinions (Howes, 2018; Mulayim & Lai, 2017). In confrontational interviews, however, interpreters might inadvertently neutralize, euphemize, or tone down the original speech (Felberg & Šarić, 2017; Taibi & El-Madkouri Maataoui, 2016) as a natural human reaction to conflict and a way of aiding communication. However, it is important that interpreters keep in mind that they "are not responsible for what clients say" (Australian Institute for Interpreters and Translators [AUSIT], 2012, p. 9). If for any reason it is not possible to adhere to their ethical requirements, AUSIT advises interpreters to withdraw from the assignment.

In order for interpreters to understand the source message, they need to understand its cultural context. Very often, cross-cultural differences inherent in language, known as pragmalinguistic differences (Thomas, 1983), are reflected in the way concepts are expressed. A skilled interpreter will bridge such gaps at a pragmatic/discourse level of speech by producing what is known as a pragmatic rendition

(Hale, 2007a, 2013a). For example, politeness is expressed differently in different languages. Some languages, such as English, use indirectness to express politeness (e.g., would you like to close the door, please?), whereas others, such as Russian, use directness combined with formal expressions (e.g., please close the door). Trained interpreters are taught to match the level of politeness (or the pragmatic level of language) rather than to match the individual words or structures.

Other cross-cultural differences are related to social conventions, known as sociopragmatic differences (Thomas, 1983), such as issues of proximity, gaze or greetings, or issues that relate to common practices. These cannot be addressed in an accurate pragmatic interpretation and might require an additional intervention from the interpreter to alert parties to a potential cross-cultural misunderstanding. The extent to which interpreters can take on the extra role of cultural broker has been hotly debated among interpreting scholars (Barsky, 1996; Felberg & Skaaden, 2012; Kelly, 2000). The central issue is the extent to which an interpreter should alert participants to potential cross-cultural misunderstandings in legal settings (Hale, 2013a).

There is general consensus that interpreters can point out situations "when a cultural misunderstanding impairs a linguistic exchange" (AUSIT, 2012; Hale, 2013a; ImPLI Project, 2012, p. 44; Judicial Council on Cultural Diversity [JCCD], 2017)—that is, the interpreter is expected to demonstrate intercultural competence and to take action "to prevent misunderstandings by explaining culture-bound reactions of interviewees" (ImPLI Project, 2012, p. 44). However, it could be very difficult for interpreters to ascertain whether an observed reaction is due to a cross-cultural difference or other factors. When in doubt, professional interpreters might be reluctant to offer such clarifications, as blaming culture for any misunderstanding can be a dangerous practice (Felberg & Skaaden, 2012).

Moreover, interpreters vary in their cultural competence. For example, some interpreters might be endogroup members (i.e., most closely affiliated and familiar with the culture of the English-speaking majority), and might lack exposure to and not share the culture of the suspect or witness. Other interpreters are exogroup members (i.e., share the native language and culture of the non-English-speaking minority; Taibi & El-Madkouri Maataoui, 2016), but might not share the culture of the investigative interviewer. Thus, employing an interpreter does not eliminate misinterpretations due to differing cultural norms in verbal and nonverbal behaviors (Evans et al., 2020). To date, little empirical research has been conducted on this topic, and attributions to cross-cultural differences lack substantiation (Felberg & Skaaden, 2012; Hale & Liddicoat, 2015).

Many training programs that prepare interpreters to work in legal settings include information about cultural differences and steps they can undertake to address cultural differences that might result in misunderstandings. Next, we describe the types of certification programs that exist for legal interpreting and specialized training programs for legal interpreting, including interpreting in police interviews.

Certification for Legal Interpreting

Interpreters are credentialed in different ways in different parts of the world. The diversity of practices was illustrated in a systematic comparison of interpreter certification procedures in 21 countries, including the USA, UK, Australia, and many European countries (Hlavac, 2013). In some countries, the term "accreditation" is favored, whereas others prefer the term "certification." Many accreditation/certification and training institutions for interpreters assess five central components of the interpreting task, namely (a) the accuracy of rendition of the propositional content, (b) accuracy of rendition of the manner of delivery, (c) use of correct legal terminology, (d) application of ethical professional protocols, and (e) interactional management skills.

In the USA, interpreters can be certified as court interpreters. The National Center for State Courts oversees the Consortium for Language Access in Courts, which in turn co-ordinates the testing of court interpreters in individual states. Certification is applicable only in some states and in approximately 15 languages (Hlavac, 2013). In the UK, the National Register of Public Service Interpreters sets out a strict Code of Practice for its registered interpreters, to which police are signatories (Fowler, Vaughan, & Wheatcroft, 2016).

In Australia, up until 2017, interpreters were accredited by the National Accreditation Authority for Translators and Interpreters (NAATI) at two levels of accreditation: Paraprofessional or Professional. Interpreters who worked in the legal field were expected to be accredited at the higher level (Professional), although NAATI accreditation was a generalist and not a specialist accreditation. In 2017, in response to a review (Hale et al., 2012), NAATI introduced an improved system of certification with extra layer of specialization. The first level is a Provisional Certification for Interpreters, which has an expiry date by which interpreters are required to upgrade to the general Certification for Interpreters. After fulfilling further training and professional practice, interpreters can then sit for a called Certified Specialist Legal Interpreter. Currently, interpreter certification can only be acquired by sitting for NAATI examinations after having met all relevant requirements, including pretest training (see naati.com.au for certification details). However, available training differs by state and language combination. The highest level of training is master's degrees, followed by bachelor's degrees and vocational training (at colleges of Technical and Further Education). Most university programs offer courses in legal interpreting, in which students receive specialized training in police and court interpreting.

Specialized Training in Legal Interpreting

Specialized legal interpreting is crucial to ensure accurate interpreting (Hale, 2019), yet very few countries prescribe any type of pre-service training for interpreters, including interpreters who work in legal settings. Australia is among the

few countries offering high-level Community Interpreting training, among which a number of courses specialize in legal interpreting. Examples are the course "Interpreting in Legal Settings" offered at the University of New South Wales and "Legal Interpreting" offered at Western Sydney University (Hale & Gonzalez, 2017). Not all practicing interpreters have received such specialized training. Whether specialist certification such as what NAATI proposes will become a prerequisite for all interpreters working in legal settings will depend on the availability of specialist interpreters in different language combinations and on the value that users of interpreting services assign to such high levels of expertise by remunerating interpreters accordingly.

Synopsis on Communication in Interpreted Police Interviews

The Interaction Process Model of interpersonal communication in police interviews incorporates multimodal features, all of which are important in understanding the meaning and intention of the utterance, and in turn effective interpretation (Conley et al., 2019; Madon et al., 2019; Moston et al., 1992). Police interviewers use a range of specialized questioning strategies which combine verbal, paraverbal, and nonverbal features to elicit meaningful information, secure cooperation, and detect deception (Madon et al., 2019; Meissner et al., 2017). Without a proficient interpreter, key strategies, such as rapport-building and free recall narratives, might not be effectively replicated. Interpreters should be familiar with common contemporary investigative interviewing strategies, and police interviewers should be familiar with the strengths and weaknesses of consecutive and simultaneous interpreting modes, the role of a legal interpreter, and interpreter certification and training for legal interpreting. There is a dearth of research with credentialed interpreters who specialize in legal interpreting to develop best practices in interpreter-mediated police interviews. Next, we review research methods applied to explore issues arising in interpreted police interviews.

Research Approaches to Interpreted Police Interviews

A wide variety of qualitative and quantitative empirical research methods have explored issues arising in interpreted police interviews. We distinguish field research, conducted with real-world cases and real practitioners, from laboratory experiments using simulated interviews and student role-players. First, we describe six types of field research and then describe laboratory experiments. Next, we review the strengths and weakness of the research, commenting in particular on factors affecting the internal, external, and ecological validity of the findings.

Field Research on Interpreted Police Interviews

Field research takes a number of different forms. The most useful are direct observations of primary sources of real-world archival data. Archival research uses electronic or audiovisual records of actual interpreted police interviews, or transcripts of those interviews. Obtaining research access to official police records of interpreted interviews is difficult. Occasionally, legal controversies develop in relation to inadequate interpreting, and excerpts of records of interviews are available in published decisions issued by courts of appeal (Hayes & Hale, 2010). Both qualitative and quantitative analyses can be conducted on field data. Examples are provided of six types of field research on interpreted police interviews: (a) case studies; (b) discourse analyses of interview excerpts; (c) surveys of stakeholders; (d) interviews of stakeholders; (e) live simulated police interviews with interpreting practitioners; and (f) live simulated experimental police interviews with interpreting practitioners.

Case Studies of Interpreted Police Interviews

Fieldwork in the form of retrospective analyses of archival case studies can shed light on a range of issues. One instructive example is an in-depth review of all US appellate cases involving police interpreters and Hispanic suspects, spanning a 34-year period (Berk-Seligson, 2009). Single case studies, such as the analyses by Nakane (2009) of four interpreted police interviews in *Katsuno & Ors v. Australia* (2006), tend to focus on the severity or extent of observed interpreting errors due to unfamiliarity of the interpreter with the native language of the interviewee; the inability to coordinate and to manage turn taking effectively; departures from the interpreter role, such as expressing personal opinions and initiating independent questions; or gaps and omissions in interpreting. In South Korea, where the quality of interpreting and qualifications of interpreters in police interviews are unregulated, a case study of inept interpreting in a 4-h suspect interview demonstrated extensive errors in the written record of the interview in a homicide case (Lee, 2017). The findings suggested that these errors culminated in the wrongful conviction of a mother for murdering her four-year-old daughter.

Discourse Analysis of Interpreted Police Interviews Conducted in the Field

To provide an empirical understanding of interpreted police interviews, linguists and interpreting scholars tend to conduct qualitative discourse analyses of excerpts of real-world police interviews conducted by professional interpreters. Discourse analysis is a research method for studying language, comprising verbal, paraverbal

and nonverbal features, in relation to interactions within a social context. Thus, discourse research is not confined to the literal meanings of language, but considers its social functions—that is, meaning depends upon the context of the interaction (Potter & Wetherell, 1987). Micro-level approaches are detailed systematic analyses of interpreted language used in face-to-face talk, focused on techniques and competencies in successful and unsuccessful interpretation (Shaw & Bailey, 2009). Discourse analytic approaches applied to legal interpreting draw on a wide range of disciplines including anthropology, criminology, cultural studies, gender studies, law, linguistics, social psychology, and sociology.

Discourse analysis applied in police interviews (Licoppe & Veyrier, 2017; Nakane, 2014) has provided insights into best practices and errors. For example, videorecordings of actual interpreted interviews of applicants for asylum, in which the interpreter was located either with the interviewee or remotely, were compared (Licoppe, Verdier, & Veyrier, 2018). Further examples include fine-grained discourse analyses of excerpts of dialogues extracted from transcripts of actual interpreted interviews (Krouglov, 1999; Mizuno, Nakamura, & Kawahara, 2013).

Field Surveys of Stakeholders in Interpreted Police Interviews

In this section, we discuss quantitative surveys conducted in the field with three participant groups of stakeholders: interpreters, police practitioners, and interviewees (i.e., suspects and witnesses).

First, written survey instruments administered to interpreters are helpful in understanding diverse perceptions about the interpreting task in general or a specific interpreting task (e.g., Martschuk, Goodman-Delahunty, & Hale, 2020). For instance, Braun and Taylor (2012b) surveyed 166 legal interpreters in European countries to gather information about their experiences with videolink interpreting in different settings, including police interviews.

Second, surveys of investigative interviewing practitioners have been conducted by teams of psychologists in different countries and jurisdictions, some of which have focused on interpreted police interviews (e.g., Shaffer & Evans, 2018 in the USA; Wakefield et al., 2014 in Australia). Although some research teams administered identical surveys in different jurisdictions (e.g., Miller, Redlich, & Kelly, 2018; Redlich, Kelly, & Miller, 2014; Sivasubramaniam & Goodman-Delahunty, 2019), no rigorous jurisdictional comparisons of the outcomes on interpreting have been undertaken.

Third, no survey studies of interviewees in actual interpreted police interviews were located. Some psychologists have attempted to round out perspectives of the stakeholder triad by surveying role-playing witnesses at the conclusion of laboratory experiments about their perceptions of the interviewer and their experience with the interpreter (e.g., Ewens et al., 2017; Houston et al., 2017).

Field Interviews of Stakeholders in Interpreted Police Interviews

This section addresses field interviews conducted with two groups of stakeholders in the triadic interpreted police interviews, namely interpreters and police practitioners. We discuss interviews conducted in the field with practicing interpreters and investigative interviewing practitioners. A third group of stakeholders—that is, suspects and witnesses—could be studied, but we located no published field interviews of suspects or witnesses who participated in interpreted police interviews.

First, some field research has focused on the experiences and perceptions of samples of practicing interpreters working in police interviews. These studies have often used semi-structured questionnaires to canvass interpreters' experiences in different jurisdictions, such as the United Kingdom (Wilson & Walsh, 2019), the United States of America (Russano, Narchet, Kleinman, & Meissner, 2014), and Australia (Howes, 2018). For instance, interpreters have been asked about their role in community settings, such as legal settings (Hale, 2007a, 2008; Lee, 2009); their role and placement in human intelligence interviews (Russano, Narchet, Kleinman, & Meissner, 2014); and experiences of distress and secondary trauma (Howes, 2018; Wilson & Walsh, 2019).

Second, parallel studies have been conducted with samples of investigative interviewing practitioners who work with interpreters, using semistructured questionnaires (e.g., Goodman-Delahunty & Howes, 2017; Goodman-Delahunty & Martschuk, 2016; Russano, Narchet, Kleinman, & Meissner, 2014; Wilson & Walsh, 2019). Some research has targeted discrete practitioner groups who specialize in interviewing particular types of suspects or witnesses, such as children (Powell et al., 2017) or human intelligence sources (Russano, Narchet, Kleinman, & Meissner, 2014).

Live Field Studies of Simulated Police Interviews with Interpreting Practitioners

Research using realistic simulated interpreted police interviews has been conducted in the field with samples of legal interpreters as participants (Böser, 2013; Braun, 2017). Most typically, these studies have been led by interpreting researchers and have applied qualitative methods of analysis, such as discourse analysis. For example from 2008 to 2016, researchers in the UK and Europe conducted a series of programmatic comparative qualitative studies comprising three collaborative projects entitled Assessment of Videoconference Interpreting in the Criminal Justice Service (AVIDICUS 1-3; http://www.videoconference-interpreting.net/). Discourse analysis was the primary method used to assess remote interpreting by real interpreters in live staged simulated interviews, high in ecological validity (Braun, 2017). Several studies by this research group combined discourse analysis and descriptive quantitative methods (Braun, 2013, 2014). Despite a high degree of realism the small samples of participating interpreters in these field studies

prevented random assignment to experimental conditions and the use of quantitative, inferential statistics.

Field Experiments with Interpreting Practitioners

While qualitative field research is valuable in learning about aspects of interpreting practices of concern in the field, in general, those studies are unsuited to testing psychological theories and causal relationships between variations in practices and their effects on interpreting outcomes. Thus, it is useful to complement qualitative field studies by undertaking controlled experimental studies in field settings with interpreting practitioners. For instance, to investigate optimal work conditions for simultaneous interpreters in the European Parliament, an interdisciplinary research team was assembled. Quantitative comparisons were made of in-person versus remote simultaneous interpreting by collecting and coding work samples from interpreters in the field (Roziner & Shlesinger, 2010). This method allows inferences about cause-and-effect relationships between interpreting practices and performance outcomes. In Australia, interdisciplinary teams conducted field experiments with interpreting practitioners in simulated investigative interviews to explore several topics related to interpreter performance, such as the impact of variations in interpreter training, placement and mode of interpreting on rapport between the interviewer and suspect, management of the interaction, and interpreting accuracy (Doherty, Martschuk, Goodman-Delahunty, & Hale, 2020; Hale et al., 2018, Hale, Goodman-Delahunty, & Martschuk, 2020a, 2020b).

Laboratory Experiments with Simulated Interpreted Interviews

Complementary to field studies, experimental laboratory studies using simulated interviews or interview tasks are best suited to test theories by examining cause-effect relationships between interpreting practices and outcomes. Next, we describe the types of laboratory studies of interpreted police interviews that have been conducted.

Most controlled experimental studies of interpreted police interviews, using quantitative methods, have been conducted by a legal psychology research team in the UK (Ewens, Vrij, Leal, et al., 2016a, 2016b; Ewens, Vrij, Mann, & Leal, 2016; Ewens et al., 2017; Vrij et al., 2017; Vrij, Leal, Fisher, et al., 2018; Vrij, Leal, Mann, et al., 2018; Vrij & Leal, 2020). Many of these studies assessed the number of details reported by interviewees in monolingual versus interpreted interviews, that is, the focus was on verbal cues to detect deception. Other experimental simulations conducted in the USA (e.g., Houston et al., 2017; Leins, Zimmerman, & Polander, 2017) explored topics related to interpreter performance, such as variations in the placement of the interpreter, and the influence of the interpreter on rapport between interview participants.

Strengths and Weakness of Quantitative Studies of Interpreted Police Interviews

A strength of both field experiments and laboratory experiments is the random assignment of participants to controlled conditions which permits causal inferences to be drawn about the effects of variations in witness directions, interviewing strategies, or interpreting tasks. However, the generalizability of the research findings can be limited by factors that diminish the internal, external, and ecological validity of the studies. Some illustrative examples are provided next.

Internal Validity in Research on Interpreted Police Interviews

Internal validity refers to the extent to which effects detected in a study were caused by an independent variable in the study, rather than by biasing effects of unmeasured variables. Factors that might limit the internal validity of the interpreting research include aspects of the (a) research design; (b) dependent measures of interpreting performance; and (c) dependent measures of interpreter-mediated interviewer–interviewee rapport.

Research Design Features Research designs applied in experimental studies of interpreted police interviews are often creative, innovative, and intricate, especially when procedures are added to vary the ground truth of interviewee statements—that is, half of the participants are instructed to lie about what they observed in a videotape while the other half accurately describe what they observed. The use of a monolingual interview to establish a baseline for comparisons of interpreted interviews is a particular strength of many laboratory experiments (e.g., Ewens, Vrij, Leal, et al., 2016a, 2016b; Ewens, Vrij, Mann, & Leal, 2016; Ewens et al., 2017; Houston et al., 2017; Vrij et al., 2017; Vrij, Leal, Fisher, et al., 2018; Vrij, Leal, Mann, et al., 2018).

Some tensions exist between design features that strengthen the internal validity of interpreting assessments and those that strengthen the internal validity of deception detection measures. In this section, we discuss three internal validity concerns arising in some research designs that (a) generalize across dissimilar data from unique interviewee–interpreter pairs; (b) ignore potential order effects or practice effects on interpreters who repeat the same task within experimental groups; and (c) ignore the nonindependence of interviews interpreted by the same interpreter.

Generalizations Across Dissimilar Interpreter–Interviewee Pairs In certain studies of interpreted interviews, the unit of interpreted language that is analyzed is unique for each source or participant. For instance, in some studies of verbal cues to deception, every participant interviewee relates a unique self-generated story or account which is interpreted by a small number of interpreters (e.g., Ewens, Vrij, Leal, et al., 2016a; Vrij & Leal, 2020). Thus, every interviewee–interpreter pair is

unique, as is the case in qualitative case studies or discourse analyses of police interview transcripts. No assessment is made within each pair to assess the extent to which individual interpreted accounts are accurate, and the extent to which different interpreters might interpret each particular narrative similarly or differently is unknown. The sole measure of interpreting performance is a dependent measure applied by aggregating across dissimilar pairs within an experimental group or condition, that is, monolingual versus interpreted interviews. These design features are valuable in testing theories about verbal deception, but the procedures are less informative about interpreting. For instance, the researchers in one study dismissed a 15% decrement in the average number of details reported in interpreted versus monolingual interviews as minor and "expected" (Ewens, Vrij, Leal, et al., 2016a). Arguably, since the coding was at a relatively loose level of the verbal interpreted information, the basis to categorize this degree of omission in the proportion of reported details as either trivial or expected is questionable.

Interpreting Order and Practice Effects In some studies, the same interpreters are used repeatedly in multiple interviews. For example, in a study on interpreted reverse chronological accounts, a Cognitive Interview strategy, two interpreters did all the interpreting for 20 interviewees who spoke the same native language (one of three). All interviewees described events observed in the same video (Ewens, Vrij, Leal, et al., 2016b). This design feature was useful in ensuring that all interpreters performed a comparable task. However, exposure to each successive video description by multiple interviewees afforded the interpreters increasing familiarity with its contents. When an interpreter performs the same experimental task with the same content multiple times in succession within the course of a single study, one might expect their performance to be affected by unmeasured aspects associated with task repetition and familiarity—that is, "order" or "practice" effects that might distort results obtained in that experiment. For instance, an interpreter more familiar with the videotape events might have filled in details that were implied but not specified by an interviewee. The researchers reported no steps taken to control for the order effects. Further, the same language groups and interpreters were used in multiple experiments in which their task was invariant—unidirectional interpreting of interviewee accounts of the same 6.6-min video in the same language pairs.

This internal validity threat was acknowledged by researchers in another interpreting laboratory experiment (Houston et al., 2017). Efforts to mitigate these effects included advising interpreters that all interviewees had watched different videos when in fact, they had not. The extent to which interpreters became aware of this ruse is unknown.

Nonindependence of Interpreted Data In laboratory experiments on interpreted police interviews in which the same interpreters are used repeatedly across multiple interviews, statistical procedures should be applied to take into account the nonindependence of the data obtained from each of the interpreters, such as multilevel modelling statistical techniques. However, threats posed to the internal validity of the results by the nonindependence of the interpreted data were overlooked in several

studies (Ewens, Vrij, Leal, et al., 2016a, 2016b, Ewens, Vrij, Mann, & Leal, 2016, Ewens et al., 2017; Houston et al., 2017; Vrij et al., 2017, Vrij, Leal, Fisher, et al., 2018, Vrij, Leal, Mann, et al., 2018). For instance, in Houston et al. (2017), 12 lay interpreters repeated the same task with multiple different interviewees (n = 125), while three professional interpreters were each assigned to substantially more interviews. In these studies, no intra-class correlations were provided describing the consistency or conformity of measures such as the number of reported details or rapport, by multiple interviewees in the same interpreter groups. Intra-class correlations were reported by Vrij and Leal (2020) in only one study in which three interpreters each interpreted approximately 100 interview responses. However, no controls addressed other confounded design features (language, language pairs, and interpreter skill); rather, all interviews in each of three target languages were conducted by a single interpreter despite acknowledged inequivalence in the bilingual competence of the three interpreters, and the same data were the basis of multiple different studies by the research team.

Dependent Measures of Interpreting Performance in Police Interviews Although researchers have observed that differences in measures of interpreting accuracy and effectiveness are likely to lead to differences in research outcomes (Braun, 2013), the extent of methodological differences applied to assess interpreting quality and effectiveness in police interviews has not been examined.

Consideration of dependent measures is important because they establish the validity and reliability of the research outcomes. Validity and reliability are comprised of four related but separate components. The first of these, *construct validity*, is the extent to which the dependent measure captures variability in what it purports to measure, that is, interpreting performance in police interviews. The second, *content validity*, is the extent to which the dependent measure is representative of interpreting in police interviews. The third, *criterion validity*, is the extent to which a dependent measure correlates with performance measures of interpreted police interviews; and the fourth, *face validity*, is the extent to which the content of the dependent measure appears suitable to achieve its aims. Next, we discuss factors affecting the internal validity of dependent measures of (a) interpreting performance; (b) interpreter-mediated interviewer–interviewee rapport; and (c) deception in interpreted interviews.

Dependent Measures of Interpreting Performance in Police Interviews Few researchers have considered using measures of interpreting proficiency applied by professional interpreting accreditation/certification or training institutions. These methods are helpful because they take into account the multimodal and complex nature of the interpreting task (i.e., verbal, paraverbal, and nonverbal communication) and are devised to distinguish between good and bad attributes of interpreting performance.

For example, findings of no differences in the interpreting of ad hoc bilinguals versus experienced (but not accredited) interpreters (Ewens, Vrij, Leal, et al., 2016a), or no differences when interpreters were placed adjacent to an interviewer versus

behind the interviewee (Houston et al., 2017), might be attributable to loose definitions of interpreting fidelity (low construct validity) that include only partial replication of the propositional content in terms of the overall number of details mentioned (low content and criterion validity), and summaries of the content are considered adequate (low face validity). Such approximations would not be considered valid and reliable measures of interpreting performance accuracy by professional interpreters, accreditation/certification bodies, or interpreting schools.

A standard set of marking criteria used in oral interpreting examinations to assess interpreting students in Australia emphasizes the positive features of interpreter performance by applying a *competency-based approach* and uses a discourse pragmatic framework, taking into account the content and style of the utterances and their effect on listeners (Hale, 2010). There are seven criteria, presented and weighted in order of their importance, with detailed descriptors. Dependent on the importance of an interpreting performance criterion, different weights are applied, and they sum to 100% in total (see Table 1). This measure was used in a series of controlled field experiments (Hale et al., 2018; Hale, Goodman-Delahunty, & Martschuk, 2020a, 2020b) to examine the impact of a range of variables on interpreting performance, for example, interpreter training and education, interpreter practical experience, mode of interpreting, remote versus in-person interpreting, rapport maintenance, and interview duration.

An alternative approach is a *point-deduction* or *error analysis system* reliant on a mix of inductive and deductive processes. Each interpreted statement is compared with the English language source and with the target language source to assess accuracy (positive features) and the nature of errors (negative features) on the six key elements (content, style, legal discourse and terminology, management and interaction, interpreting protocols, and paralinguistic rapport markers; Hale et al., 2018). For example, in the UK AVIDICUS Projects, errors in the following four interpreting features were coded by two trained researchers (Braun & Taylor, 2012c) to allow quantitative analyses of interpreter performance: (a) semantic or content-related categories (omissions, unnecessary additions, inaccuracies, and coherence problems); (b) linguistic categories (lexical/terminological problems, idiomaticity, grammar, style/register, coherence, language mixing); (c) paralinguistic categories (articulation problems, hesitations, word-level repetition, false starts, and self-repairs); and (d) interaction-related categories (turn-taking problems, especially overlapping speech). Many of these features are the same as those displayed in Table 1.

In qualitative discourse analyses, often conducted on written transcripts, comparisons of the source and the interpreted communication are laid bare (for examples, see Hale, Goodman-Delahunty, & Martschuk, 2020a; Hale, Martschuk, Goodman-Delahunty, Taibi, & Han, 2020). A series of transcription conventions is used to specify features of the source utterance and the interpreter's rendition, such as symbols designating rising and falling intonation, the duration of pauses, and syllables spoken softly or loudly (e.g., Böser, 2013). Transparency about the classification and annotation of utterances, and what comprises an error of omission, an error of commission, a turn-taking coordination error, a cultural misinterpretation, etc., promotes

Table 1 Elements of assessment of interpreting performance

Element of interpreter performance	Criterion descriptors	Mark	Weight (%)
Accuracy of propositional content	The interpreter maintains the content of the utterance, "what" the speaker said	10	30
Pragmatic force and register	The interpreter maintains stylistic features, the "how" of the utterance. This includes pragmatic force (tone, intonation, stress, hesitations, fillers, hedges, repetitions, etc.) and maintenance of register (formal/informal, technical/colloquial)	10	15
Maintenance of verbal rapport markers	The interpreter maintains the rapport features of the original. These include use of first name, acknowledgement markers such as "OK" at the start of a response, politeness markers such as "please" and "thank you," expressions of solidarity and comfort	10	15%
Use of correct interpreting protocols	The use of the direct approach (first and second grammatical persons), interpreting everything that is said regardless of what it is, seeking repetitions when needed in the right way, transparency (keeping everyone informed if a repetition or clarification is required)	10	10
Legal discourse and terminology	Maintaining institutional phrases and grammatical structures, correct use of strategic question types, legal formulas, and correct legal terminology	10	10
Management and coordination skills	This includes setting the contract by establishing the interpreter's role and modus operandi, switching to simultaneous mode to keep up when speakers' speech overlaps, knowing when to interpret, and how to manage the interaction	10	10
Language competence	Grammatical correctness, correct pronunciation, fluency in both languages	10	10
Total mark		70	100

Note: Adapted from Hale et al. (2018, pp. 9–10)

more consensus. Nonetheless, even among linguistic and interpreting scholars who take propositional and pragmatic features of communication in police interviews into account (Berk-Seligson, 2009; Hale, 2010; Lai & Mulayim, 2014; Nakane, 2014), methods to assess interpreting proficiency are not standardized.

Dependent Measures of Interpreter-Mediated Rapport in Police Interviews Interpersonal rapport is a complex construct central to investigative interviews, thus it can be difficult to operationalize. Measures of rapport applied in interpreted police interviews have varied in terms of their rigor, objectivity, and validity. In some studies, researchers have applied retrospective, post-interview measures of perceived rapport, rather than assessments of dynamic changes in rapport throughout the interview. For instance, in a study by Ewens, Vrij, Leal, et al. (2016a), ratings of perceived interviewer–interviewee rapport were provided by role-playing interviewees following a simulated monolingual or interpreted interview consisting of

five scripted questions. These global subjective retrospective impressions were not based on any definition of common understanding of rapport, nor were they compared with interviewer ratings of rapport in the same interviews, nor with any objective assessments of rapport. Similarly, in a subsequent study, non-native English-speaking participants who were interviewed via an interpreter were later asked if this had been a positive experience (Ewens et al., 2017). These measures are weak, as they are low in construct, content, criterion, and face validity.

By comparison, in other studies, composite objective measures of rapport were applied: multiple components of verbal, paraverbal, and nonverbal rapport features were distinguished and rated separately. The replication of verbal and paraverbal rapport markers was coded by professional interpreters using criteria two, three, and four in Table 1, from videotaped interviews lasting approximately 30 min and from transcriptions of the interviews (Goodman-Delahunty, Hale, Martschuk, & Dhami, 2020; Hale et al., 2018). Interpreter maintenance of nonverbal rapport features was assessed concurrently at regular intervals throughout live interpreted interviews by an observer present in the interview room (posing as a second member of the police interview team). In other words, the accuracy of nonverbal facets of interpreting was objectively assessed by coding the extent to which interpreters replicated paralinguistic behaviors of both speakers in terms of pitch, tone, facial expressions, and gestures (Goodman-Delahunty et al., 2020).

Dependent Measures of Deception Detection in Interpreted Police Interviews Many laboratory experiments have examined cues to deception in interpreted interviews. For example, much research has focused on verbal cues as indicators of veracity (Nahari et al., 2019), such as the quantity and quality of reported details. Other verbal features, such as repetitions, and paraverbal features such as pitch and hesitations, are also important cues to deception (DePaulo et al., 2003; Sporer & Schwandt, 2006), and thus important for interpreters to replicate in terms of content validity. Yet few studies have explored nonverbal cues to deception such as response latency (van der Zee, Poppe, Taylor, & Anderson, 2019). Paraverbal and nonverbal measures cannot be assessed from interpreted transcripts or from written English translations of interpreted interviews. The latter form of data is a constrained measure of oral verbal interpreted responses, but is the form relied upon by many deception researchers to assess interpreted versus monolingual interview responses.

When experimental researchers employ the same verbal dependent measure, such as counts of the number of unique reported details, differences arise due to coding practices applied in one research laboratory versus another, as there is no agreed unitary set of criteria and coding rules determining how verbal details should be counted. Differences that could lead to contrary results in monolingual studies might be magnified when coding interpreted police interviews. Some coding rules established by deception researchers in monolingual interviews to ignore repetitions and paraverbal cues (e.g., Ewens, Vrij, Leal, et al., 2016a) contradict the rules that professional interpreters are trained to observe. These contradictions underscore the

fact that dependent measures developed to test specific verbal deception theories are not valid to assess interpreting accuracy. For example, this type of unimodal, unidirectional coding represents less than 10% of the criteria for interpreting performance displayed in Table 1. Research outcomes based on these verbal deception measures should not be conflated with or compared with outcomes of multimodal coding of interpreting proficiency. Further, researchers applying constrained verbal coding schemes of this type should avoid generalizing study outcomes to interpreting performance, as the measures lack construct, content, criterion, and/or face validity to assess interpreting performance.

External Validity in Research on Interpreted Police Interviews

External validity refers to the extent to which the findings of a research study generalize to real-world interpreted interviews. In other words, will the research outcomes be replicated in actual interpreted police interviews conducted by investigative interviewing practitioners with non-English-speaking suspects and witnesses?

The external validity of research on interpreted police interviews can be curtailed by certain research procedures and sampling biases. These features also inhibit comparisons of research outcomes across studies. Sampling biases can be associated with relevant characteristics of interpreters that influence their interpreting performance, such as past interpreting experience, training in interpreting, language proficiency in the paired languages, cultural competence, knowledge of the interview subject matter, specialized legal or other terminology, memory abilities (e.g., working memory), and note-taking skills for consecutive interpreting (Chen, 2017). In this section, we discuss (a) samples of ad hoc bilinguals, (b) samples of interpreters, and (c) interpreter sample size.

First, we discuss limitations associated with some research samples of untrained ad hoc bilinguals. In some experimental studies, although the competence and qualifications of the interpreters exceeded that typically obtained in police interpreting, the interpreters lacked professional experience in legal settings (Böser, 2013). In other studies, convenience samples of ad hoc bilingual individuals or students were used as mock interpreters in simulated police interviews. Evans et al. (2020) cautioned that reliance on lay interpreters such as ad hoc bilinguals and undergraduate students, rather than professional interpreters, might limit the research outcomes and their generalizability. Results of formal empirical comparisons of interpreting in realistic simulated investigative interviews by ad hoc bilinguals versus trained, accredited interpreters underscore this point (Hale et al., 2018).

Second, external validity can relate to samples of practicing interpreters used in field and laboratory experiments. In a European study, professional interpreters each provided multiple real-world systematic samples from their daily work practice (Roziner & Shlesinger, 2010). In the UK (Braun, 2014; Braun & Taylor, 2012c), English–French professional legal interpreters with a minimum of five years' experience in police services participated in the simulated interviews. In Australia, Hale et al. (Hale et al., 2018, Hale, 2019, Hale, Goodman-Delahunty, &

Martschuk, 2020a) recruited samples of professional, accredited, and primarily trained practicing interpreters from the NAATI and AUSIT directories for participation in live, simulated, field experiments. However, practicing interpreters used in laboratory studies were not necessarily trained, accredited, or certified for legal interpreting work, and many lacked professional practical experience. For instance, of 12 interpreters in a study by Ewens, Vrij, Leal, et al. (2016a)), 5 (41%) had no practical interpreting experience. Lay interpreters used in police interviews in South Korea are not professionals (Lee, 2017). Accordingly, findings derived from Korean interpreter samples, Russian interpreter samples (specified as "fluent in English"), and English–Spanish interpreter samples (characterized as "bilingual") in studies by Ewens, Vrij, Leal, et al., 2016a, 2016b, Ewens, Vrij, Mann, & Leal, 2016, Ewens et al., 2017, Vrij et al., 2017, Vrij, Leal, Fisher, et al., 2018, Vrij, Leal, Mann, et al., 2018, and Vrij and Leal (2020) might need scrutiny.

Finally, external validity can relate to interpreter sample size. In many studies, the number of participant interpreters was very small: a total of three (one per target language) in Vrij and Leal (2020) for over 300 interviewees; six in Böser (Böser, 2013) and Ewens et al. (2017) (two per target language); 11 in Lai and Mulayim et al. (2014); 15 in Braun and Taylor (2012c); and 20 each in Gile (2001) and Howes (2018), respectively. Because these interpreter samples were small and purposive, rather than random or representative, the study findings might have limited generalizability in terms of interpreting performance. By comparison, in field experiments, larger samples of practicing interpreters were recruited: 570 systematic work samples from 36 interpreters (Roziner & Shlesinger, 2010); and randomized assignment of 46 interpreters (Hale et al., 2018); and 103 interpreters (Hale, Goodman-Delahunty, & Martschuk, 2020b) to interviews lasting approximately 30 mins.

Ecological Validity in Research on Interpreted Police Interviews

As just discussed, external validity is the extent to which the findings of a research study generalize to real-life interpreted police interviews. Ecological validity depends on the extent to which the features of simulated investigative interviews match those of real interviews. Thus, ecological validity has implications for external validity. For instance, generalizability beyond the context of one particular experiment might be limited by the brevity of the interpreted interaction and by reliance on undergraduate students or actors to role-play as interpreters, interviewers, and/or interviewees. One prominent factor that distinguishes prior studies of interpreted police interviews is the nature and scope of the interpreting task used to assess interpreting performance.

Examples of features of the interpreting task include the language pair, interpreting directions, the mode of interpreting, features of the speech, features of the speakers, expected response, task duration, preparation, task criticality, and task novelty (Chen, 2017). The extent to which interpreter participation and research tasks replicate or are representative of the experiences of professional interpreters who work in real police interviews has varied substantially.

Some interpreting tasks in past studies (e.g., Houston et al., 2017) violate core principles in interpreting codes of ethics, while others are strong in ecological validity, but are very truncated. Many researchers (Ewens, Vrij, Leal, et al., 2016a, 2016b, Ewens, Vrij, Mann, & Leal, 2016, Ewens et al., 2017; Houston et al., 2017; Vrij et al., 2017, Vrij, Leal, Fisher, et al., 2018, Vrij, Leal, Mann, et al., 2018) have simply presumed that police interviews must be conducted in the consecutive interpreting mode, but implemented the long, consecutive monologic mode (Vrij & Leal, 2020), which is atypical in police interviews when open-ended questions are asked. Experimental interpreting research has been conducted on spontaneous natural language generated in artificial, contrived interviews, and on realistic scripted enacted interviews. The extent to which the interpreting task is bidirectional has varied.

In this section, we discuss four aspects of task representativeness, namely (a) interpreter roles; (b) interpreting task duration; (c) spontaneous and scripted speech samples; and (d) unidirectional interpreting. These features of the interpreting task can diminish the ecological validity of the research and hence the generalizability of the findings to real-world interpreted police interviews.

Interpreter Roles in Police Interviews Some differences in the selection of experimental variables are attributable to disciplinary and jurisdictional differences. For example, interpreting practitioners and scholars are unlikely to support research that requires interpreters to violate the principle of neutrality in their professional code of ethics (Mulayim & Lai, 2017). By comparison, experimental psychologists have pursued lines of research requiring role-playing interpreters to compromise their professional neutrality by engaging in rapport-building with an interviewee, to participate in interview questioning as members of the police interview team, or to be seated next to a police interviewer and opposite the interviewee, visibly aligned and affiliated with the police interviewer (e.g., Houston et al., 2017). At times, to test causal relationships, or to implement a particular control group in an experimental laboratory study, departures from standard interpreting practices can be instrumental, even though they are not recommended as a best practice and are unlikely to be implemented in real practice.

Interpreting Task Duration One limitation of some studies is the truncated nature of the target task—that is, the speech sample is too brief to represent what transpires in the course of a police interview. Gile (2001), for example, compared interpreting modes of a speech unit that was a total of 280 words in length, lasting 100 s in the simulated international conference condition. Other than the brief duration, the task was realistic and demonstrated the nature of errors more likely to arise in simultaneous versus consecutive interpreting modes. In another study of simultaneous interpreting with brief units of analysis (180 s), a representative sample was obtained by including up to 20 work samples from each interpreter across five workdays, two from morning sessions, and two from afternoon sessions (Roziner & Shlesinger, 2010).

Some guidance on how long an interpreting task should be to test interpreter performance comes from Braun (2014), who reported that paralinguistic problems

increase after approximately 15–20 min of interpreting. Hence, a longer interpreting task is necessary if the research aims to assess factors such as interpreter fatigue. Interpreted interviews conducted in the long consecutive mode in laboratory experiments were comparatively brief, lasting an average of 16 min (e.g., Ewens et al., 2017). In live, simulated field studies, the interactive interpreting tasks lasted 25–30 min (Braun & Taylor, 2012c; Hale et al., 2018, Hale, Goodman-Delahunty, & Martschuk, 2020a, 2020b), or up to 45 min (Böser, 2013), and included all phases of a police interview.

Spontaneous and Scripted Speech Samples A strength of some laboratory experiments is using research procedures to generate samples of spontaneous natural language from interviewees in simulated interviews. For instance, the interpreted interview in a study by Ewens et al. (2016a) took the form of an interview of a job candidate who responded to five open-ended questions. However, a police interview might be perceived as more adversarial or formal than a job interview and might induce participants to modify their communications in comparison to their behaviors in a job interview. Results of analogue interviews in a different social context might not generalize to real-world police interviews.

The field research conducted by Böser (2013) in Scotland, by Braun and colleagues in the UK and in Europe for the AVIDICUS Projects (Napier, Skinner, & Braun, 2018), and by Hale and colleagues in Australia, used realistic simulated suspect interviews based on real cases, approved as such by police interviewing practitioners. In some field studies, spontaneous language samples were generated. For instance, six "eyewitnesses" whose native language was French or German watched CCTV footage of a real-life car theft. Via an interpreter, these individuals were questioned about the crime by an English-speaking investigating police officer who conducted a complete standard Scottish information gathering interview (Böser, 2013).

Field experiments by Hale and colleagues were conducted in realistic real-world settings such as secure interview facilities used by counter-terrorism police to interview high value detainees. When debriefed, some interpreters disclosed that they were unaware that the interview was simulated (Goodman-Delahunty, Hale, Martschuk, & Dhami, 2015). However, the interviewer and interviewee were professional actors working from a script. The performance of the same task by every participant interpreter strengthened the internal validity of these studies; the fact that the interpreted questions and responses were not spontaneously generated reduced the ecological validity of the interpersonal dynamics between interviewer and interviewee.

Unidirectional Interpreting Tasks In most laboratory experiments to date, the interpreting tasks entailed few or restricted interactions between interviewer and interviewee, as the research aim was to elicit lengthy, monologic, narrative responses (e.g., Vrij & Leal, 2020). For instance, in some studies by Ewens, Vrij, Leal, et al. (2016b, Ewens et al. 2016), the interviewer asked two scripted questions, and in Ewens et al. (Ewens, Vrij, Leal, et al., 2016a; Ewens et al., 2017) five

scripted questions, irrespective of what the interviewee said in reply. Interpreters were instructed not to interrupt interviewees, and interpreting analysis was unidirectional such that only interviewee responses interpreted into English were assessed, as the focus was the number of unique details reported by interviewees (e.g., Vrij & Leal, 2020). By comparison, field studies (Böser, 2013; Braun & Taylor, 2012c), and controlled field experiments (Hale et al., 2018, Hale, Goodman-Delahunty, & Martschuk, 2020a, 2020b), included extensive interactional interviewer–interviewee question–response exchanges (e.g., 60 and 42 exchanges). These studies with extensive interactive speech samples provided a more thorough test of an interpreter's proficiency, tested the interpreters' skills bidirectionally, both from and into English, and tested their interaction management skills (e.g., Licoppe et al., 2018).

Synopsis on Research Approaches to Interpreted Police Interviews

To understand the impact of an interpreter in a police interview, a wide range of research approaches has been applied. Traditional empirical methods favored by linguistic and interpreting scholars are field studies applying micro-level discourse analysis to professionally interpreted units of oral communication. Field experiments and laboratory experiments using quantitative methods to test cause–effect relationships are recent innovations. Strengths of internal, external, and ecological validity vary between studies. Reliable quantitative methods to assess the performance of interpreters in police interviews are still being developed. Examples show these are broader and more complex than unitary and unidirectional measures for specific purposes, such as counting details in interpreted verbal reports. To advance the field, greater consensus is needed among researchers about quantitative dependent measures to assess the performance of interpreters in police interviews.

Contemporary Research on Interpreted Police Interviews

In this section, we present research findings on six topics that are pivotal in interpreted police interviews. The first four topics center on fundamental aspects of the interpreting process, namely (a) the impact of the interpreting mode in police interviews; (b) the interpreter's role; (c) interpreting accuracy and performance; and (d) interpreted interviews via videolink and telephone. Next, we review findings on two topics driven by contemporary police interviewing practices that have a direct bearing on the effectiveness of interpreted police interviews, namely (e) the priority of investigative interviewing strategies; and (f) the impact of interpreting on witness credibility.

The Impact of Interpreting Modes in Police Interviews

The interpreting mode best suited to police interviews, and under what circumstances, remains open to empirical assessment. To date, researchers have examined the influence of the interpreting mode in police interviews on (a) interpreting performance and (b) interpreter fatigue. These findings are presented in turn.

The Influence of Interpreting Mode on Interpreting Performance in Police Interviews

A common assumption by practicing interpreters and some researchers (Evans et al., 2020) is that interpreting performance is better and that cognitive load or task demands are lower in the consecutive than the simultaneous interpreting mode. This view might not be supported by empirical findings. In some prior studies, mode of interpreting (consecutive vs. simultaneous) and presence of the interpreter were confounded in comparing the accuracy of the two modes. For example, Hornberger et al. (1996) tested face-to-face interpreting in the consecutive mode and compared this with simultaneous mode interpreting from a remote location. Thus, results showing that fewer additions were inserted by interpreters in the remote location might be attributable to the mode or might be attributable to the remote location of the interpreters. Without a fully crossed experimental design, the precise cause of these observed outcomes cannot be discerned.

To date, most comparisons of interpreting accuracy according to mode have been conducted in relation to court interpreting. For example, one study of four English–Spanish interpreted US court proceedings compared consecutive and simultaneous modes and revealed that interpreters had difficulty achieving accuracy of the degree of coercion in leading questions in both modes, but were more than twice as accurate in the consecutive than the simultaneous mode (70.6% vs. 33%) (Berk-Seligson, 1999). However, opposite results emerged in nonlegal settings. For example, a panel of experts rated the performance of ten professional conference interpreters who interpreted a speech in both modes as significantly more accurate in the simultaneous mode (Gile, 2010). The interpretation arising from the simultaneous mode more closely approximated the original speaker's style, a crucial element in legal interpreting. Similarly, a panel of experts who compared the accuracy of consecutive versus simultaneous interpreting in a medical setting found the simultaneous mode achieved better results (Gany et al., 2007). In that study, the training and competence of the interpreters were matched, whereas the court comparisons did not control this source of variation.

The Influence of Interpreting Mode on Interpreter Fatigue in Police Interviews

The simultaneous and the consecutive interpreting modes are both demanding to interpreters, albeit in different ways. One might expect fatigue to develop more rapidly for consecutive than simultaneous interpreting, as the former mode relies more extensively on aural than visual information (e.g., Klinger, Tversky, & Hanrahan, 2011 compared the cognitive load of visual vs. aural tasks). Conversely, the high demands on attention and working memory of the simultaneous interpreting mode are viewed by some as more taxing (Köpke & Nespoulous, 2006). A study of the impact of fatigue on conference interpreting performance in the simultaneous mode showed that accuracy declined markedly after 60 min (Moser-Mercer, Kunzli, & Korac, 1998). For this reason, the standard practice in international settings is for simultaneous interpreters to work in pairs and to alternate every 30 min. When the consecutive interpreting mode is used in a police interview, the interview duration is typically doubled, increasing the risk of interpreter fatigue. Yet court interpreters in domestic settings, who typically work alone in the consecutive mode, have breaks approximately every 90 min (JCCD, 2017; Roberts-Smith, 2009). No analogous protocols have been established in police interviews despite the fact that four separate Articles (5, 9, 11, and 29) in the Universal Declaration of Human Rights (United Nations, 1948) address suspect interviews, including their duration and the number of times that a detainee is interviewed. Estimates by Australian police interviewers of the duration of their monolingual interviews showed that most lasted approximately 60–75 min, out of a recommended maximum of 4 h (Sivasubramaniam, Goodman-Delahunty, Fraser, & Martin, 2014). The effect on accuracy in lengthy police investigative interview sessions has not been thoroughly researched. Further investigation of the interrelationship between interpreting modes and the duration of interpreting was recommended (Seeber, 2011).

Research applying cognitive load theory to interpreting is fairly new and is of interest because it can indicate the task difficulty of interpreting (Chen, 2017). This psychological theory predicts that the difficulty of performing a task is associated with the volume and inherent difficulty of information to be extracted from a source, and the way information is presented. Cognitive load has been defined as "the amount of capacity the performance of a cognitive task occupies in an inherently capacity-limited system" (Seeber, 2013, p. 19).

Intrinsic and extraneous cognitive load are distinguished. For instance, a high intrinsic cognitive load is predicted when the duration of the interpreted interview is protracted, the language is highly technical, the interviewer's questioning strategies are intricate or complex, and emotional expressivity is heightened (e.g., it includes expressions of profanity). Further, the intrinsic cognitive load is increased when the interpreter's attention must be allocated between multiple task features, such as management of the interaction between speakers as well as the information they convey, or taking notes while listening to the speakers. Extraneous cognitive load is generated by presenting information in a format or manner that includes unnecessary information that unduly burdens the learner.

In interpreting research, the cognitive load comprises two main aspects: (a) task and environmental characteristics which determine the amount of mental work to be done in a specific task under certain circumstances; and (b) interpreter characteristics (Chen, 2017). The mode of interpreting (simultaneous or consecutive) is a task characteristic. While the mental effort required to perform interpreting tasks, and especially simultaneous interpreting tasks, has attracted considerable research interest, consensus on how to measure cognitive load has not been achieved (Seeber, 2013). Recently, pupillometry was acknowledged as an effective indirect index of effort in cognitive control tasks (van der Wel & van Steenbergen, 2018). In other words, pupil dilation is useful not only to assess task difficulty but also the cognitive effort exerted.

Using an experimentally controlled mixed research design, Doherty et al. (2020) measured the cognitive load on qualified interpreters during a simulated police interview using pupillometry and blink rates by locating the interpreters remotely (via audio- or videolink) from the interview room. The interview was between an English-speaking interviewer and an Arabic-, Mandarin-, or Spanish-speaking suspect. Interpreters were recruited from the local pool of professional interpreters to interpret in both the simultaneous and the consecutive interpreting modes (order was counterbalanced). Analyses revealed a greater cognitive load in the consecutive than the simultaneous interpreting mode. This was reflected in significantly less gaze time at the interviewer and the suspect in the consecutive mode due to off-screen note taking followed by an observable pattern of disrupted visual attention before reorientation. Moreover, longer gaze time and a lower cognitive load were significantly associated with increased interpreting accuracy. Results showed that the interpreters performed significantly better in the simultaneous than the consecutive interpreting mode. Higher rates of interpreting accuracy were reflected in multiple convergent measures: interpreting style, maintenance of verbal rapport markers, and interactional management. Further investigation of the impact of interpreting mode on accuracy in police interviews is recommended, using a variety of different research designs.

The Role of an Interpreter in Police Interviews

The way witnesses or suspects perceive interpreters' social identities and alliance can influence their comfort and willingness to respond frankly to the interview questions (Smith-Khan, 2017). However, much research on the interpreter's role has examined interpreter rather than suspect or witness perceptions. An exception is the interactional sociolinguistic discourse analytical approach used to examine custodial interrogations of Hispanic suspects, showing that their Miranda rights were jeopardized by police officers who were assigned the role of interpreter (Berk-Seligson, 2009).

One in-depth qualitative study conducted in the UK explored interpreters' perceptions of their role and of their own performance in an interpreting task in legal

settings when working in-person or via videolink. Results demonstrated that interpreters working by videolink shifted perceptions of their role depending on the legal context (i.e., prison versus court; Devaux, 2017). A dynamic model that integrates self-presentation, participant alignment, and interactional management in legal settings in person versus via videolink (Llewellyn-Jones & Lee, 2014) was applied to responses from a sample of 18 certified interpreting professionals (Devaux, 2018). Among the findings associated with consecutive videolink interpreting compared to consecutive in-person interpreting were shifts in interpreter alignment depending on the location and configuration of the respective parties, reductions in perceived interpreter-speaker rapport, and increased rationalizations by interpreters about ethical issues due to limitations experienced in managing the interaction (Devaux, 2017, 2018). The absence of confirmation bias studies examining the influence of interpreters' beliefs about the interviewee or the case was noted by Evans et al. (2020).

In Australia, where the interpreting profession is relatively well established, with university training, a national certification system, a national professional association, and an agreed code of ethics, professional interpreters agree on their role as independent, impartial, and accurate interpreters. A survey study of 340 participants confirmed that this role was well understood by trained interpreters, while untrained bilinguals did not understand the importance of impartiality (Goodman-Delahunty et al., 2015). For instance, the majority of interpreters rejected the idea of assisting police in questioning the suspect, while more than half of untrained bilinguals endorsed it. Approximately one in five untrained bilinguals believed the interpreter's role included getting the witness to tell the truth, but fewer than one in 20 trained interpreters agreed. By contrast, trained interpreters were more likely than untrained bilinguals to agree that an interpreter should make appropriate cultural adaptations. In all, trained interpreters were more likely than ad hoc bilinguals to perceive their role as neutral, and that their duty was to interpret everything said. Further analyses demonstrated that interpreters' understanding of their role was significantly associated with interpreting accuracy in a simulated police interview (Goodman-Delahunty et al., 2015).

The Influence of Placement of Interpreters on Their Role

Different viewpoints exist about where best to place the interpreter in a police interview. Police investigators might change the placement according to their interview goals. If the goal is to portray dominance and increase distress in the interviewee, interviewers in the USA suggest placing the interpreter behind the interviewee (US Department of the Army, 2006). Placement behind the interviewee was suggested as effective in minimizing private conversations between the interpreter and interviewee, which would occur only with untrained interpreters. A laboratory experiment in which the interpreter sat either beside the interviewer or behind the interviewee showed that the latter position resulted in more negative ratings of the interaction by interviewees (Houston et al., 2017).

Conversely, interviewers might place the interpreter between the interviewer and the suspect in order to facilitate the interpreter's ability to accurately interpret rapport strategies (Goodman-Delahunty & Martschuk, 2016). In general, the preference of interpreters is the latter position, in which they are situated in an equidistant position between the interviewer and the interviewee, as this placement fosters their impartiality, facilitates management of turn taking between speakers, and provides a full view of both speakers for optimal access to nonverbal and paraverbal rapport cues (Goodman-Delahunty et al., 2020). Notably, in some laboratory studies purporting to test the triangular position, the interpreter was placed next to the interviewer and opposite the interviewee, which does not afford the interpreter a full view of both speakers (e.g., Ewens et al., 2017; Houston et al., 2017).

Measuring Interpreters' Performance in Interpreted Police Interviews

Relevant characteristics that influence interpreting performance in police interviews are interpreters' professional background, interpreting experience, and knowledge of the subject matter. Next, we elaborate on research findings on (a) the interpreting performance of bilinguals and trained interpreters in police interviews, and (b) the influence on interpreting performance of advance briefing on interview topics and vocabulary.

Interpreting Performance of Bilinguals and Trained Interpreters in Police Interviews

The training or experience of interpreters has rarely been taken into account in comparing the accuracy of the performance of interpreters in legal settings (Hale et al., 2018). Without these assessments, the generalizability of the findings to practicing interpreting professionals is placed in question. One key difference between lay interpreters and professional interpreters is that the former group is not bound by professional codes of ethics (Evans et al., 2020).

One controlled experimental study assessed the performance of trained interpreters versus untrained bilinguals. Trained interpreters performed significantly better than untrained interpreters on all elements of interpreting proficiency assessed (Hale et al., 2018). At the conclusion of every interpreted simulated police interview, assessments of the interpreters' professional credibility were gathered from the actors role-playing the police interviewer and the suspect, who were blind to the status of the interpreters. Both actors rated the credibility of the trained interpreters as significantly greater than that of their bilingual counterparts, on all credibility factors of the Witness Credibility Scale (Brodsky, Griffin, & Cramer, 2010): trustworthiness, confidence, likeability, and knowledgeability.

Following their participation in an interpreting task in a live simulated experimental police interview, trained interpreters and untrained bilinguals completed a self-assessment questionnaire comprising 21 items to which participants indicated their agreement on a Likert-type rating scale. Factor analysis yielded two factors: *Overall Competence* and *Language Reproduction* (Martschuk et al., 2020). The findings indicated that untrained bilinguals tended to overestimate their Overall Competence, while self-perceptions of their Language Reproduction skills were more critical than those of the trained interpreters.

The Influence on Interpreting Performance of Advance Briefing on Interview Topics and Vocabulary

Many practicing interpreters hold the view that a lack of advance briefing and preparation can be detrimental to their ability to interpret accurately (Hale, 2013b; Hale & Napier, 2016; Russano, Narchet, Kleinman, & Meissner, 2014). Accordingly, some interviewing practitioners provide information about a case to an interpreter (Shaffer & Evans, 2018). However, legal practitioners typically oppose the provision of briefing materials on grounds that interpreter neutrality might be compromised by advance knowledge (Hale, 2013b). This does not preclude briefing on interviewing strategies.

Some research has shown that prior access to relevant documents improves text comprehension (written or oral) (McNamara & O'Reilly, 2009) and interpreting accuracy in conference settings (Díaz Galaz, 2011; Gile, 2005; Pozo Triviño, Fernández Rodríguez, & Galanes Santos, 2012). To date, no experimental research has been published on the impact of advance briefing on the performance of legal interpreters in police interviews.

Remote Interpreting by Videolink and Telephone in Police Interviews

To overcome the problem of low availability of competent interpreters, some countries have considered the creation of national registers of a pool of specialist trained interpreters who can service all areas (Hale, 2011). Qualified interpreters can be flown into work in the required areas, as is common among conference interpreters who work for international organizations. Among the main advantages of remote interpreting (technologies are used to access an interpreter who is physically separated from the primary participants) in police interviews is prompt access to an interpreter without compromising security issues (Braun & Taylor, 2012a, 2013). However, the costs of this practice can be very high. To reduce the cost and to increase access to specialist interpreters, remote interpreting has become popular (ImPLI Project, 2012, p. 25), either via teleconference (Kelly, 2008; Wakefield,

Kebbell, Moston, & Westera, 2014) or videoconference (the interviewer and interviewee are connected by technology, and the interpreter is co-located with one of these participants; Braun, 2014; Shaffer & Evans, 2018). A further configuration is a *three-way connection* in which all (i.e., the interviewer, interviewee, and the interpreter) are in different locations (Napier et al., 2018). Yet, interviews conducted with police and military interviewers in Australia and the Asia Pacific, who had extensive experience working with interpreters, disclosed their preference for face-to-face interpreting over remote interpreting (Goodman-Delahunty & Martschuk, 2016). Similarly, a survey of 166 legal interpreters working globally via videolink disclosed their preference for face-to-face interpreting (Braun & Taylor, 2012b).

Factors often cited in opposition to remote interpreting include the absence of visual cues, the poor quality of sound and visual reception, the lack of adequate protocols, the lack of preparation, and the lack of training for interpreters and users of their services (Rosenberg, 2007; Wadensjö, 1998; Wang, 2017; Xu, Hale, & Stern, 2020). Some concern was raised that remote bilingual communication is not as reliable as face-to-face bilingual communication (Braun & Taylor, 2012a, 2012b, 2012c; Goodman-Delahunty & Martschuk, 2016). However, much of the early research on remote interpreting used outmoded technology, was limited in scope, and did not examine legal interpreting in police interviews (Ko, 2006; Ozolins, 2011; Wadensjö, 1998).

Telephone Interpreting in Police Interviews

Research on telephone interpreting has shown a deterioration in the performance of interpreters without visual cues (Ozolins, 2011; Wadensjö, 1999; Wang, 2017). A recent observational study of 17 telephone interpreting interviews in NSW Legal Aid offices in Australia (Xu et al., 2020) confirmed some of the previous results, in particular the added difficulties caused by a lack of visual cues, not only for interpreters but also for the interviewers. It highlighted a noticeable loss of control by the interviewers, who were unable to see the interpreter on the other side of the line and who at times disappeared from the interaction for periods of time, sometimes due to connection issues and sometimes without any explanation. Although the technology has improved over the years, this study demonstrated that old-fashioned telephones are still being used by the interviewers, and that interpreters at times used mobile telephones with poor reception in unknown locations (Xu et al., 2020).

Videolink Interpreting in Police Interviews

Some support for the multimodal communication model emerged in a study of the performance of 15 French–English interpreters in criminal proceedings via videoconference and teleconference (Braun & Taylor, 2012c; Braun, 2017), using qualitative methods. They compared interpreter performance in a live, simulated police interview conducted either face-to-face or via remote interpreting. Three remote

configurations were tested across 16 sessions and two types of criminal cases. As predicted by the multimodal communication model, interpreter accuracy suffered with video-mediated interpreting: A higher level of accuracy was consistently achieved in the face-to-face than the remote condition. Results provided some support for the hypothesis that greater access to visual cues contributed to increased interpreting accuracy on a range of measures.

Somewhat paradoxically, the interpreters were saying more (using more words) but were conveying less (fewer propositions) in the remote conditions. The problems that occurred were classified as linguistic, paralinguistic, and cultural, and were associated with the interpreters' cognitive processing capacity. Notably, in this study, the sample size was small, and all interpreters first interpreted remotely and then face-to-face. Thus, order effects might have exaggerated the differences in findings.

More recently, a field experiment was conducted with 103 Arabic-, Mandarin-, and Spanish-speaking qualified interpreters who interpreted a 30-min live-simulated police interview face-to-face, via videolink, or via audiolink (as a between-participants variable) (Hale, Goodman-Delahunty, & Martschuk, 2020a). Interpreting performance was assessed using multidimensional features of the interpreting task, including propositional content, manner of delivery, legal terminology, interpreting protocol, and management. Analyses showed no differences in performance when interpreting in person and via videolink, while interpreting performance was significantly lower via telephone. This effect held across all three language pairs and was pronounced in the measures of interpreting style and management skills. These findings suggest that the absence of visual cues in telephone interpreting might have contributed to the decrement in interpreting performance.

Visual Display of Parties to a Remotely Interpreted Police Interview

Past psychological research in the USA established that when the suspect's face is the focus of the camera display and the interrogator is not accorded equal space, observers tend to perceive the suspect's statements to be more voluntary and less coerced; thus, perceptions of the suspect's culpability can increase (Lassiter, 2010). However, when the suspect is a minority (e.g., Black or Chinese), and the interrogator is White, even when images of both the suspect and the interrogator are displayed equally, the minority suspect's statements were perceived as more voluntary, and his guilt as more probable. This effect disappeared when both the interrogator and the suspect were minorities (Ratcliff et al., 2010).

To date, these effects have not been tested in the context of video-mediated remote interpreting, where various members of the interview group might appear remotely on a video screen, depending on the configurations of who is co-located and who is attending the proceedings from a remote location. At times, the interpreter might appear remotely, while the interviewer and suspect are together; at other times, the interpreter and the interviewee might be together, separate from the interviewer. For example, if a minority group member is in custody or is outside of

the jurisdiction, seeking asylum in a migration proceeding, this person might attend the legal proceedings remotely via video, and the interpreter and the interviewer might be co-located elsewhere (Licoppe et al., 2018). Moreover, the impact of matching the ethnic background of the interpreter to that of the suspect or that of the interrogator has not been tested either in a remote location or in person.

The expansion and advancement of videoconferencing technology and videolink capabilities via the internet, and their widespread availability, has generated a series of new questions surrounding the effectiveness of remote interpreting services. The topic of remote interpreting in police interviews remains vastly under-researched, and rigorous studies are needed.

Interviewing Strategy Maintenance in Interpreted Police Interviews

Given the importance of specialized interviewing strategies in investigative interviews and the prevalence of police interviews with non-English-speaking witnesses and suspects, one would expect more research attention to the impact of interpreters on widely used questioning strategies, such as open-ended questions seeking narrative responses, the Cognitive Interview, and rapport building. To date, few experimental studies of these topics have been undertaken.

In general, police interviewers have left the choice of interpreting mode to the interpreters (Böser, 2013). However, interpreting scholars have cautioned that the choice of interpreting mode affects the way questions and answers are reproduced and received by interviewees (Jacobsen, 2012). The mode of interpreting used most frequently in psychological investigative interviewing research to date is the consecutive mode. The long consecutive mode is the sole mode tested in interpreted deception detection studies (Ewens, Vrij, Leal, et al., 2016a, 2016b, Ewens, Vrij, Mann, & Leal, 2016, Ewens et al., 2017; Vrij et al., 2017, Vrij, Leal, Fisher, et al., 2018, Vrij, Leal, Mann, et al., 2018; Vrij & Leal, 2020; Vrij & Leal, 2020). Yet this interpreting mode is widely acknowledged as least effective to replicate features central to interviewer rapport-building strategies, such as paraverbal discourse markers, and verbal repetitions. These features also contribute significantly to appropriate identification of the interviewer's and interviewee's meaning (Jacobsen, 2012).

In a live, simulated field study, the impact of an interpreter on responses elicited in the course of the information-gathering interview used by police interviewers in Scotland was tested (Böser, 2013). This interview model has six phases (Planning, Preparation, Rapport building, Information gathering, Clarifying, and Evaluation) and is very similar to the model used by police interviewers in the UK. The interpreters used the consecutive interpreting mode. The researcher observed that this interpreting mode led the police interviewer to shorten his questions: no question asked in any of the six interviews exceeded a 10-s duration. Of particular interest

were the critical free recall narrative responses elicited by open-ended questions. Interpreters using the consecutive mode interrupt the interviewee and fragment the narrative into either short or long turns. Once interviewees commenced longer turns to provide narrative responses to open-ended questions, both witnesses and interpreters experienced disruption and coordination difficulties. Negative consequences were interpreter summarizations that changed the evidence and the weight of the evidence reported by interviewees, as well as rapport inhibition. Böser (2013) concluded that the consecutive mode was problematic both in terms of its quality (e.g., loss of propositional content) and in terms of rapport (e.g., switching from first-person to third-person footing).

Researchers have acknowledged that the problematic "interactional quandary is a general feature of consecutively interpreted question/answer sequences" whenever turn taking between longer and shorter responses must be managed (Licoppe et al., 2018, p. 300). Some interpreters using the consecutive mode actively intervene when an interviewee elaborates and engages in narrative expansions in response to yes/no questions (Wadensjö, 2010). Interpreter interventions in response to longer, narrative interviewee responses to open-ended questions were examined in a comparative field study of interpreted asylum hearings (Licoppe et al., 2018). Both interpreters and speakers relied extensively on visual and verbal cues to stop speaking for interpretation, to continue the narrative, and to give the other speaker a turn. In general, the sequential chunking of responses to open-ended questions made it difficult to identify transition points and the relevance of responses and created an opportunity for the other speaker to intercede before the narrative response concluded.

Another interviewing strategy asks interviewees for open-ended responses by reporting events chronologically and then in reverse order. This Cognitive Interview strategy was applied in a laboratory experiment testing deception detection theories in interpreted and monolingual interviews (Ewens, Vrij, Mann, & Leal, 2016). The long form of the consecutive mode of interpreting was tested. Using this interpreting mode, this interview strategy was reported to be effective in eliciting more cues to deception in interpreted but not monolingual interviews. However, this outcome must be tempered in light of limitations of the research procedures.

Despite obvious tensions between interviewing strategies that seek an open-ended narrative response and the use of an interpreting mode that interrupts the narrative (the sequential short and long forms of the consecutive mode of interpreting), to date, no research has examined the effectiveness of the simultaneous interpreting mode with open-ended narrative responses.

Rapport Building in Interpreted Police Interviews

The impact of interpreters on verbal and nonverbal rapport building strategies has been assessed in some studies of interpreted police interviews. Next, we discuss research that has examined interpreter maintenance or inhibition of these strategies.

Verbal Markers of Rapport Some evidence for the effect of interpreter-mediated communication on rapport in a police interview comes from a homicide case study in which Russian sailors were questioned about a murder that took place on a docked ship in the UK (Krouglov, 1999). Research using discourse analysis revealed that the interpreter edited or deleted witness utterances which were important for rapport building. For example, comparisons of the interviewer's questions and the translated transcription showed colloquialisms, linguistic hedges, and diminutives were deleted or changed. Colloquialisms and linguistic hedges could provide evidence of pragmatic intention while diminutives could be used in order to appear responsive and facilitate rapport. Furthermore, the addition of particles, polite forms, and stylistic shifts in the interpreted statement meant that the witnesses were inaccurately represented to the police interviewer.

In other studies, unintended changes by interpreters included omissions and additions of discourse markers (Hale, 1999), powerless features (Hale, 2002; Mizuno et al., 2013), additions of politeness markers, or modifications of verbal strategies that the legal practitioners so carefully crafted to achieve a specific purpose (Hale, 2010). Similarly, interpreters might omit or distort profane language used by the police officer (Ainsworth, 2016) or witness (Felberg, 2016; Felberg & Šarić, 2017; Hale, Goodman-Delahunty, Martschuk, and Doherty, 2020b). Such changes might, however, result in a more formal statement, and the interviewer will not get a chance to respond to the emotionally laden expressions of the witness.

This was demonstrated in a 30-min live, simulated interpreted interview by an English-speaking police interviewer of an Arabic-, Mandarin-, or Spanish-speaking suspect who used profane language on two occasions, conveying anger and frustration that was not directed at anyone (Hale, Martschuk, Goodman-Delahunty, Taibi, and Han, 2020). To provide an appropriate rendition requires bidirectional bilingual competence, first, to understand the intent of the profane source utterance, and second, to provide a pragmatic equivalent in the target language. In this field experiment, analyses revealed that more experienced interpreters and those with more legal interpreting training maintained profane language to a higher extent than their less experienced counterparts. The majority of Spanish-speaking interpreters maintained profane language or provided a softer illocutionary force (intent or meaning) than the suspect conveyed; the majority of Mandarin-speaking interpreters omitted profane language in the first half of the interview and provided a pragmatic rendition in the second half of the interview; while half the Arabic-speaking interpreters omitted profane language in the first half of the interview and used a semantic or pragmatic rendition in the second half of the interview. In some situations, cultural factors might lead to semantic interpretations of profane expressions. Many Spanish-speaking interpreters were endogroup members, native English speakers whose competence in English exceeded that of the Arabic- and Mandarin-speaking interpreters. This factor might have contributed to the differences between the language groups.

One way that interpreters can facilitate the spontaneity of exchanges in speaker participation to build interviewer–interviewee rapport is by keeping question forms

intact. In some laboratory experiments testing deception detection theories, the interviewers asked scripted open-ended questions designed to elicit lengthy narrative responses. Interviewees' post-interview ratings of interviewer–interviewee rapport showed no differences between rapport ratings in interpreted and monolingual groups (Ewens, Vrij, Leal, et al., 2016b; Houston et al., 2017).

Nonverbal Markers of Rapport An early case study by Lang (1976) of a court case in Papua New Guinea provided some evidence that the interpreter's gaze affects turn taking, and thus rapport. Lang found that gaze was the most important indication of attention and turn taking in legal conversation. In addition, when the interpreters averted their gaze, they missed other important turn-taking cues. In the laboratory study by Houston et al. (2017), when interpreters were placed behind the interviewee, thereby blocking visual communication, post-interview rapport ratings by interviewees were lower than when the interpreter and interviewee could communicate nonverbally.

Briefing Interpreters on Rapport-Building Strategies in Police Interviews

Because interpreters are often unaware of investigative interviewing strategies, they might benefit from informative guidance defining rapport and outlining different rapport-building strategies applied by investigative interviewers, as was developed by Dhami et al. (2017). A rapport-building information sheet was administered to half of the participants (undergraduate students), before they read a series of vignettes describing police interviews of foreign suspects who were speaking a language different from that of the interviewers. Participants who read the rapport-information sheet were better able to identify the level of rapport between the interviewer and suspect than the control group.

In a subsequent experimental field study of the maintenance of rapport features in an interpreted simulated police interview lasting about 25 min, the updated rapport information guide was administered to Spanish-speaking trained interpreters and untrained bilinguals before they commenced an interpreting task, while the same number of participants undertook the same interpreting task without reviewing the guide (Goodman-Delahunty et al., 2020). Overall, trained interpreters were more likely to replicate verbal and nonverbal rapport markers found in the original speech than were untrained bilinguals. Furthermore, while trained interpreters tended to replicate the strategies of the speakers that facilitated rapport, the untrained bilinguals engaged in more behaviors that inhibited rapport between the interviewer and the suspect. Compared to interpreter groups who were not exposed to this information, the written guidance about rapport provided to interpreters before the simulated interview increased the maintenance of verbal rapport features by trained interpreters and untrained bilinguals, and decreased rapport inhibition. Ad hoc bilinguals who received the information guide increased the extent to which they replicated the interviewer's rapport strategies as the interview proceeded, whereas the trained interpreters who read the guide performed consistently well at this task throughout the interview.

Credibility Assessments of Witnesses and Suspects in Interpreted Police Interviews

Witnesses and defendants who require interpreting services in legal settings are primarily migrants and members of communities with the status of minorities (Monteoliva-Garcia, 2018, p. 48). This raises the issue of the credibility of witnesses and suspects who are members of social outgroups. A range of factors has been shown to influence the perceived credibility of both English-speaking members of outgroups, such as minorities, and non-English-speaking outgroup members whose evidence is translated by interpreters. Assessments of witness voluntariness and credibility are key factors for any witness or suspect who attends a police interview, and these issues are heightened for non-English-speaking interviewees. Next, we review research findings on (a) the perceived credibility of English-speaking outgroup members, (b) the influence of interpreting performance on perceived witness credibility, (c) the influence of interpreting mode on the perceived credibility of non-English-speaking suspects, and (d) veracity assessments in interpreted police interviews.

The Perceived Credibility of English-Speaking Outgroup Members

Psychological research has demonstrated that the credibility of members of minority groups can be disadvantaged in comparison with that of their majority counterparts, even when the minority witnesses and suspects speak the same language as their interrogators, and the police interview is conducted in English (Villalobos & Davis, 2016). This bias can arise for various reasons. One reason is cultural differences in communicative norms, both in verbal and nonverbal communication patterns. Examples of verbal cultural differences include instances of gratuitous concurrence, namely expressions of agreement with authoritative, powerful outgroup members (Villalobos & Davis, 2016). This is common in the responses of minority community members such as Indigenous Australians (Eades, 2015), regardless of their understanding of what was said. Examples of nonverbal communication patterns are gaze aversion (Vrij & Winkel, 1991, 1994) and instances of long pauses in conversation. In response to police questions, these nonverbal behaviors can have negative implications for minority suspects, despite the fact that they are not associated with deception (see meta-analyses by DePaulo et al., 2003, and Sporer & Schwandt, 2007). Typically, long pauses in conversation in Standard English are perceived as a sign of deception (Sporer & Schwandt, 2006; Vines, 2005) but are normative in Aboriginal dialects, creating negative impressions of these speakers in legal settings (Eades, 2007). In one laboratory experiment using a simulated police interview, the insertion of long pauses in response to an interviewer's questions increased ratings of guilt by observers, irrespective of whether the indigenous suspect had a clearly Aboriginal appearance (Devaraj & Goodman-Delahunty, 2009).

Another reason that minorities might be rated less credible than their majority counterparts is the influence of Stereotype Threat. Minority individuals might become more concerned about, and aware of, their own actions and about being judged and treated according to a negative stereotype about their group (Steele & Aronson, 1995). This in turn affects their emotions, cognitions, and behaviors. Self-awareness and experiences of nervousness or anxiety by minority individuals can, in turn, increase the perception of deception of and by minority suspects (Fenn, Grosz, & Blandon-Gitlin, 2020; Villalobos & Davis, 2016).

The Influence of Interpreting Performance on Perceived Witness Credibility

When the evidence provided by a witness or suspect is given in a language other than English, assessments of credibility and detection of deception are based primarily on the interpreter's rendition. The listener in a legal setting is typically looking for possible cues that bear on witness credibility, thus a correctly interpreted version is essential. If an interpreter makes factual errors and the content is attributed to the original utterance, this might lead to an unwarranted lack of credibility or perception of deception. Conversely, when an interpreter is trying to minimize contradictions (consciously or unconsciously), the interpreted version might appear coherent, while the original utterance was not.

The influence of interpreting accuracy on witness credibility has been investigated through discourse analytical studies of authentic and simulated trials and police interviews. Interpreters often fail to reproduce seemingly superfluous non-content features that might affect judgments of veracity, such as hesitations, fillers, hedges, and repetitions (referred to as powerless features) (Berk-Seligson, 1990/2002; Dueñas González, Vásquez, & Mikkelson, 1991; Hale, 2010). Prior monolingual research has indicated that features of powerless speech are prominent in police interviews (Ainsworth, 1993). Research into the impact of the style of speech on mock jurors showed that what is known to be a powerful speech style enhances evaluations of witness credibility compared to the powerless speech style (Conley et al., 2019). Studies of interpreted powerful and powerless communication styles yielded the same results (Berk-Seligson, 1990/2002; Hale, 2010).

A common inaccuracy is the omission or change of linguistic stylistic features that can affect juror perceptions of the source language speaker, such as register, pragmatic force, or levels of politeness. Quasi-experimental studies using oral recordings of interpreted evidence have shown that when interpreters unwittingly "improved" on the style of the original, by making it more coherent and omitting powerless features or by adding politeness markers, evaluations of witness credibility were significantly enhanced; the opposite was the case when interpreters added their own powerless features (Berk-Seligson, 1990/2002; Hale, 2010).

Small-scale Japanese laboratory studies of interpreted testimony excerpts disclosed that lexical choices by the interpreter had the power to shift the perceived guilt of a suspect (Mizuno et al., 2013). Further laboratory research confirmed that

a court interpreter who used a marked (distinctive) versus unmarked (common) expression for a certain concept influenced inferences drawn by mock jurors (Mizuno & Acar, 2012). Despite findings indicating that witness credibility assessments were modified by specific actions or omissions by interpreters, there is a dearth of research in more ecologically valid settings on the effects of interpreted testimony on credibility assessments, using large samples. In addition, credibility has rarely been assessed using psychometrically validated credibility scales, such as the 18-item Observed Witness Efficacy Scale (Cramer, DeCoster, Neal, & Brodsky, 2013), which includes verbal and nonverbal indicators, or the Witness Credibility Scale (Brodsky et al., 2010; Cronbach's $\alpha = .95$), a semantic differential scale that consists of 20 paired adjectives rated on a 10-point Likert-type scale (e.g., *1 = ill-mannered* to *10 = well-mannered*; *1 = dishonest* to *10 = honest*). The resulting four factor scores (Likeability, Confidence, Trustworthiness, and Knowledgeability) have been applied to interpreters (Hale et al., 2018).

The Influence of Interpreting Mode on the Perceived Credibility of Non-English-Speaking Suspects

Among factors found to have an impact on the perceived credibility of non-English speakers is the interpreting mode, that is, simultaneous versus consecutive interpreting. A field experiment assessed whether interpreting mode influenced perceptions of the credibility of the accused in a criminal trial. The Spanish-speaking accused testified either in English (monolingual trial) or in Spanish via an interpreter who interpreted simultaneously using interpreting equipment (simultaneous mode) or consecutively from a position adjacent to the accused (consecutive mode) (Hale et al., 2017). Analyses showed that the perceptions of the credibility of the accused in the simultaneous interpreting mode matched those in the monolingual trial, while the accused's apparent credibility was elevated and enhanced by consecutively interpreted testimony. In other words, mock jurors perceived the accused's evidence in the consecutive mode as more consistent, reliable, and credible than the same evidence provided in the monolingual trial and in the simultaneous interpreting mode. The interpretation was scripted to ensure the content was identical in both modes, with the same interpreter in both modes. The only differences were the mode and the position of the interpreter. At the same time, mock jurors reported they were more distracted in the consecutively interpreted trial than in the other two trials (Hale et al., 2017).

Whether credibility assessments of interviewees in consecutively interpreted police interviews will be similarly enhanced has yet to be tested in studies in which the ground truth of the witness statements is known. Future research should manipulate the ground truth of the witness testimony so that the impact of interpreting mode on credibility can be discerned.

Veracity Assessments in Interpreted Police Interviews

As was noted above, most laboratory experiments on interpreted interviews have tested deception detection theories. Much of the focus in this line of research has been on verbal communication because meta-analyses revealed that nonverbal and paraverbal cues to deception were less diagnostic (DePaulo et al., 2003; Sporer & Schwandt, 2006, 2007). The most common verbal cue to deception is a higher proportion of details reported by truth-tellers than by liars. As Evans et al. (2020) observed, the results of interpreted interviews have at times shown that the presence of verbal cues was facilitated in interpreted interviews (e.g., Leins et al., 2017), and at other times that verbal cues were inhibited (e.g., Ewens, Vrij, Leal, et al., 2016a; Vrij, Leal, Mann, et al., 2018). In monolingual studies, cross-cultural differences emerged in the extent to which details were provided (Anakwah, Horselenberg, Hope, Amankwah-Poku, & van Koppen, 2020; Leal et al., 2018; Taylor, Larner, Conchie, & Menacere, 2017). Further research is needed to examine the issues of cross-cultural factors on verbal reports in interpreted police interviews and also to examine nonverbal and paraverbal communication features. For example, nonverbal "freezing" (inhibition of body movements) did not emerge as a reliable cue to deception in cross-cultural research (van der Zee et al., 2019).

Synopsis on Contemporary Research

To date, contemporary research on interpreted police interviews has focused on several attributes of the interpreting process. Results highlighted the importance of objective measures of simultaneous and consecutive interpreting modes. These revealed several potential advantages in police interviews of the simultaneous interpreting mode facilitated by visual communication, such as more efficiency, accuracy, and faithful replication of rapport-building strategies. Attention to interpreter placement is important in an interview to convey impartiality and facilitate visual access to both speakers. Visual access emerged as a key determinant in remote interpreted police interviews, accounting for the greater effectiveness of videolink over telephone interpreting, although more research is needed on best practices in videolink interview configurations. Briefing interpreters about specific rapport-building interviewing strategies assisted them in replicating these features, especially interpreters with less experience. To date, little research has been conducted to assess the impact of interpreted communications in a police interview on the credibility of non-English-speaking suspects and witnesses. This is an important topic of research, as it is the point where veracity assessment, cross-cultural differences, and features of the interpreting task intersect.

Conclusions

The study of interpreting has been described as interdisciplinary and multifaceted (Pöchhacker, 2015). Legal interpreting is a field in which practitioners and interpreting scholars from a variety of disciplines collaborate, such as Law, Linguistics, Pragmatics, and Cognitive Psychology (Monteoliva-Garcia, 2018). While applied forensic linguists and anthropologists have been conducting research on these topics for decades, legal and forensic psychologists are relative newcomers to this endeavor.

As in the case of monolingual police interviews (Kebell & Davies, 2006; Madon et al., 2019), this review identified the need for more theory and testing of models of interaction in interpreted interviews. A contribution of this chapter was its emphasis on multimodal communication theory to synthesize the disparate research outcomes.

The research groups conducting contemporary studies of interpreted police interviews often belong to different disciplines, each of which has different research conventions and preferred methodologies. Most of their research reports are published in journals within their own disciplines, making them less accessible to researchers from other disciplines who are working on the same issues or problems. Entrenched research silos and methodologies pose challenges in comparing research outcomes of prior studies on interpreted investigative interviews when the same research questions are addressed.

Prominent examples where more consensus is needed are assessments of modes of interpreting and of interpreting accuracy, both of which are critical determinants of effectiveness in an interpreted police interview. Adoption of more standard measures of accuracy of interpreting will be helpful in determining the source of observed outcome disparities and in resolving issues about the best practice for interpreting mode in legal settings. These standards should include multiple convergent measures of accuracy that take into account errors, additions, and omissions of core verbal propositional content, as well as paraverbal and nonverbal communication components.

Overall, the research conducted to date has focused mostly on the perspectives of interviewers and has not canvassed perspectives of all stakeholders regarding interpreted interviews. In particular, perspectives of suspects, victims, witnesses, and other sources are unrepresented or under-represented in the literature. Studies of interpreted police interviews with persons other than suspects are recommended (Evans et al., 2020).

A singular factor contributing to flaws in the extant research is the lack of cross-disciplinary collaboration and collaboration between researchers and interpreting practitioners. Collaborative field studies and field experiments by police interviewers, interpreting researchers and practitioners, and psychologists have yielded more robust outcomes than laboratory experiments by psychologists. Scholars working at the interface between law, linguistics, and legal and forensic psychology have noted that the weaknesses of research conducted in one discipline alone can be cured by

interdisciplinary collaboration (Conley et al., 2019; Kebell & Davies, 2006). To this end, we advocate more extensive transdisciplinary research collaboration between researchers with expertise in Interpreting, Law, Linguistics, Policing, and Legal and Forensic Psychology. A strength of this transdisciplinary model is the complementary skills applied to resolution of a common problem. Ideally, members of a transdisciplinary team come together from the beginning to jointly communicate, exchange ideas, and work together to generate solutions—that is, efforts in determining best ideas or approaches are collective.

Few perspectives from consumers or end-users of the interpreted interviews have yet been obtained, yet several implications flow from the foregoing research review for other contexts. Next, we review implications for three groups of potential end-users of interpreted police interviews: (a) legal practitioners who from time to time represent persons with limited or no English-speaking abilities; (b) legal professionals who work in settings where interpreted proceedings are routine, such as asylum and migrancy proceedings; and (c) judges and juries who might review videotaped interpreted police interviews, or read transcripts of interpreted interviews in order to make credibility determinations that bear on verdicts in cases where witnesses or suspects require an interpreter.

Implications for courts of findings on the most effective mode of legal interpreting will be extensive. For example, if courts were to adopt proceedings in the simultaneous mode, all legal settings would require appropriate technological equipment. Institutions providing interpreting training for legal interpreters, as well as certification and accreditation bodies, would need to adapt their practices to ensure that legal interpreters were trained and proficient in this mode in place of the consecutive interpreting mode.

One by-product of research on interpreting accuracy is that methods of assessment applied in some studies might prove useful in legal disputes over the accuracy and integrity of legal interpreting in litigated cases. Future researchers might wish to explore innovative methods to crosscheck interpreting accuracy in legal settings, such as police interviews, tribunals, asylum and migrancy proceedings, and courts.

Few studies to date have tested the effectiveness of training interventions for police practitioners about interpreting components and of training interventions for interpreters about interviewing components and strategies, minimization of unconscious cognitive biases, etc. The development and testing of interpreter training to focus on contextual rather than cultural differences might be helpful.

Interviewer training programs should routinely include information about the nature of interpreting (ImPLI Project, 2012), different modes of interpreting, and ways to manage interpreter-assisted interviews. Additionally, practitioners should be advised of any organization-specific requirements of interpreters, which might supplement the professional ethical code, and about which they would need to brief interpreters (Goodman-Delahunty & Howes, 2017).

In sum, interpreting in police interviews is a critical legal topic, as errors and failures at this juncture in the criminal legal process can be far-reaching and can result in serious injustices, even wrongful convictions or acquittals. To date, interpreting practices have been implemented in the absence of a sound evidence base to

justify their use. These include fundamental practical factors, such as the mode of interpreting applied in investigative interviews, the placement of the interpreter in legal settings, and the implementation of remote interpreting due to the increasing reliance on videolink technology in legal proceedings. This approach is at odds with new mandates for evidence-based policing. Policies and practices implemented in interpreted police interviews should be informed by convergent findings derived from research conducted by diverse transdisciplinary teams using a variety of qualitative and quantitative research methods.

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An Interdisciplinary and Cross-national Analysis of Legal Safeguards for Eyewitness Evidence

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Mistaken eyewitness identifications can lead to wrongful convictions (e.g., Innocence Project, 2019a; National Research Council, 2014), and it is now well accepted that traditional trial safeguards—in particular, cross-examination—are ineffective at exposing the weaknesses of eyewitness identification (e.g., Devenport, Stinson, Cutler, & Kravitz, 2002). Thus, across the common law world, courts have increasingly turned to *educational* corrective safeguards, in particular judicial instructions and expert testimony, to supplement the traditional reliance on cross-examination. Although some jurisdictions have strengthened admissibility rules, these educational corrective safeguards are increasingly seen as an acceptable alternative to excluding weak or unreliable identification evidence.

In this chapter, we conduct a cross-national comparison of legal safeguards used in Australia, Canada, and the USA. We briefly review the admissibility standards and then provide a more in-depth discussion of the implementation and effectiveness of two educational corrective safeguards—judicial instructions[1] and expert

[1] Terminology varies; however, a distinction is sometimes drawn between judicial *directions* that a jury must follow (e.g., directions on the burden or standard of proof), and judicial *warnings* or *instructions* that inform, or warn, the jury about matters that a jury can, or should, take into account when evaluating evidence that might be unreliable. We use "judicial instructions" to encompass any information the judge delivers about the eyewitness evidence to a jury. Thus, we use "judicial instructions" to include judicial warnings or directions (the terminology most commonly used in Australian jurisdictions) and judicial or jury instructions (the terminology more commonly used in the USA and Canada).

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testimony—that inform the jury of the factors that can make eyewitness identifications unreliable. Throughout the chapter, we focus our legal discussion on jury trials rather than judge-only trials for two reasons. First, admissibility rules and trial safeguards have risen in response to concerns about the jury. Second, the vast majority of empirical work into the evaluation of eyewitness evidence has examined mock-jurors rather than judges (cf. Stinson, Devenport, Cutler, & Kravitz, 1997). After the cross-national comparison, we then evaluate these legal developments in light of contemporary psychological research on the effectiveness of these safeguards.

Wrongful Convictions, Eyewitness Evidence, and Jurors' Decision-Making

The role of mistaken eyewitness identifications in wrongful convictions has been well documented in numerous exoneration cases, multiple inquiries (e.g., Devlin Committee in the UK, 1976; The Sophonow Inquiry in Canada, Cory, 2001), and extensive academic research about the fallibility of eyewitness memory and the prevalence of wrongful convictions. Despite this extensive evidence base, research suggests that criminal justice system personnel continue to underestimate the frequency of wrongful convictions as well as the role of mistaken eyewitness identification evidence in these miscarriages of justice. Moreover, jurors apparently have a limited understanding of factors that influence eyewitness reliability. Coupled with the belief that the knowledge of eyewitness factors is a matter of common sense, these preconceptions might influence the (un)willingness of judges and legislators to use and to improve legal safeguards.

Knowledge of the Frequency of Wrongful Convictions Among Criminal Justice Officials

Scholars have written about wrongful convictions for decades (e.g., Borchard, 1932); however, the introduction of forensic DNA testing conclusively proved in a significant number of cases that factually innocent people had been wrongfully convicted. DNA testing uncovered numerous wrongful convictions in various countries and drew the public's and officials' attention to the problem (Ramsey & Frank, 2007). In the USA, at least 2500 people have been exonerated since 1989 (National Registry of Exonerations, 2019), with 367 exonerated through DNA evidence (Innocence Project, 2019a). In Canada, at least 23 people have been exonerated since 1993 (Innocence Canada, 2019; Innocence Project 2019b). Although Australia does not have a definitive estimate, wrongful convictions have been established in more than 70 cases (71 cases between 1922 and 2015, Dioso-Villa, 2015; 84 cases since 1984, Hamer, 2019). Given that DNA exonerations are possible in a limited number of crimes and cases (i.e., those with biological evidence), some scholars argue that these numbers are just the tip of the iceberg and that the reality is much

worse (see Hamer, 2014; Ramsey & Frank, 2007). Indeed, estimates of the prevalence of wrongful convictions vary from 0.5 to 20% of all felony cases in the USA (Ramsey & Frank, 2007) to 6% of all convicted people in England (Hamer, 2014). Clearly, the courts need to address and prevent wrongful convictions.

Knowledge of the problem is a necessary prerequisite to preventing miscarriages of justice; however, estimates of the prevalence of wrongful convictions by criminal justice personnel varied by their role and were positively biased toward their own jurisdiction. For example, when asked to estimate the percentage of all felony cases that resulted in a wrongful conviction in their jurisdictions (in Ohio, USA), the estimates ranged from 0.5% (prosecutors and police officers) to 1.0 to 3.0% (defense attorneys), with judges falling in the middle (0.5–1.0%; Ramsey & Frank, 2007). However, when asked about the frequency of wrongful convictions in the USA in general, all groups believed that they occur more often than in their own jurisdiction, with defense attorneys providing the highest estimates (4–5% of all felony cases). A similar pattern emerged in Michigan (USA): compared to defense attorneys, the police, prosecutors, and judges believed that errors within the criminal justice system occur less often (Smith, Zalman, & Kiger, 2011). Their interpretations of these errors varied even more drastically across their roles. Almost all defense attorneys surveyed (92%) stated that reforms of the criminal justice system were necessary to prevent wrongful convictions; however, only 10% of police officers and 33% of prosecutors and judges reported that reform was necessary. The prosecutors and judges reported that, in their opinion, the majority of mistakes stem from negligence rather than intentional misconduct.

In support of this belief, analyses of factors contributing to wrongful convictions suggest that procedural issues, such as the misapplication of forensic science and mistaken eyewitness identifications, are more common than government misconduct (Innocence Project, 2019b). Of particular relevance to this chapter, a substantial number of wrongful conviction cases included a mistaken identification by at least one eyewitness (30% of cases on the US National Registry of Exonerations, 2019; 72% of DNA exoneration cases, Innocence Project, 2019a). Next, we explain why eyewitnesses sometimes misidentify innocent people as perpetrators and briefly discuss various factors that increase or decrease the reliability of eyewitness identifications. Basic knowledge of these eyewitness factors is necessary in order to understand the empirical evidence and to evaluate the effectiveness of the legal response to eyewitness evidence issues.

Eyewitness Factors and Their Effect on the Reliability of Identifications

Eyewitness factors can be divided into two groups: *estimator variables* and *system variables* (Wells, 1978). Estimator variables include characteristics of an eyewitness (e.g., poor eyesight), of an event (e.g., presence of a weapon), and of a perpetrator (e.g., presence of disguise). These factors can be taken into account when

evaluating eyewitness evidence but cannot be controlled by the criminal justice system because they occur at the time of the crime before the police are involved. On the other hand, system variables (such as who is in the lineup with the suspect, how the lineup is presented to the eyewitness, and what is said to the eyewitness before and after the witness views the lineup) are directly under the control of the criminal justice system. It is important to highlight that system variables can influence eyewitnesses even when the lineup administrator did not *intentionally* bias the lineup (e.g., single-blind lineup administration). Whether intentional or not, suggestive identification procedures can affect not only eyewitnesses' immediate identification decisions, but also—regardless of the eyewitnesses' actual accuracy—their confidence in their decisions, their judgments about testimony-relevant factors, and even their willingness to testify (Steblay et al., 2014; Wells & Quinlivan, 2009b).

Each estimator and system variable can either increase or decrease the reliability of eyewitness evidence. When examining how people (e.g., mock-jurors) evaluate eyewitness evidence, researchers typically manipulate the quality of the eyewitness evidence as a proxy for reliability. These manipulations relate to (a) the quality of the *witnessing conditions* (good vs. poor), based on one or more estimator variables (e.g., exposure duration, distance, presence of a weapon), and/or (b) the quality of the *identification conditions* (non-suggestive vs. suggestive), based on one or more system variables (e.g., lineup presentation, lineup construction). Within studies, strong eyewitness evidence refers to good witnessing conditions and/or non-suggestive identification procedures, whereas weak evidence refers to poor witnessing conditions and/or suggestive identification procedures. Ideally, people should accept the evidence, or be more likely to render guilty verdicts, when the eyewitness evidence is strong (and, thus, more likely to be reliable), but not when the evidence is weak (and, thus, less likely to be reliable). See Table 1 for examples of witnessing and identification condition manipulations used in empirical studies investigating the effectiveness of legal safeguards. For interested readers, we also include a non-exhaustive list of key references from the eyewitness literature that demonstrate the effects of these manipulations on eyewitness identification decisions.

Decision-Making in Cases that Involve Eyewitness Evidence

In this section, we discuss jurors' knowledge of eyewitness factors and examine whether their knowledge translates into an ability to determine the accuracy of an eyewitness. We also briefly explore factors that have been empirically shown to influence jurors' assessments of eyewitness evidence.

Jurors' Knowledge of Eyewitness Factors Researchers have evaluated jurors' knowledge of eyewitness factors using a number of investigative techniques, including surveys and experiments. One insightful way of examining people's understanding is to compare potential jurors' responses to those of experts with regard to a variety of questions or statements about eyewitness issues. Agreement between both

Table 1 Witnessing and identification conditions

Witnessing conditions	Quality		Eyewitness research reference
	Good	Poor	
Exposure duration	30 s or longer	Up to 12 s	Bornstein, Deffenbacher, Penrod, and McGorty (2012)[a]
Distance	Short distance	Long distance	Lindsay et al. (2008)
Presence of a weapon	No weapon	Weapon present	Fawcett, Russell, Peace, and Christie (2013)[a]
Crime seriousness	Serious crime	Crime not serious or eyewitnesses unaware of the seriousness	Leippe, Wells, Ostrom, and Campbell (1978)
Stress	Low stress	High stress	Deffenbacher, Bornstein, Penrod, and McGorty (2004), Morgan et al. (2004), Morgan, Southwick, Steffian, Hazlett, & Loftus, 2013
Cross-race ID	No	Yes	Meissner and Brigham (2001)[a]
Disguise	Absent	Present	Mansour et al. (2012)
Identification conditions	Non-suggestive	Suggestive	
Presentation of a suspect	Lineup	Showup	Steblay et al. (2003)[a], Neuschatz et al. (2016)
Types of lineup	Sequential	Simultaneous	Steblay et al. (2011)[a]
Lineup construction	Suspect matched to the witness's description and did not stand out	Suspect stands out (foil bias)	Clark, Moreland, and Rush (2015)
Lineup instructions	Warning that the perpetrator might not be in the lineup	No warning (instruction bias)	Steblay (1997)[a]
Lineup administration	Double-blind	Single-blind	Wells and Bradfield (1998), Kovera and Evelo (2017)
Post-identification feedback	No feedback	Confirmatory feedback	Wells and Bradfield (1998), Charman and Wells (2012), Steblay et al. (2014)[a]

[a]Meta-analysis

groups would indicate that jurors share eyewitness experts' opinions and, thus, have a good understanding of eyewitness issues. In contrast, disagreement would indicate that jurors lack awareness and/or an understanding of the relevant empirical evidence, which presumably informed the experts' responses.

In the first comparison of lay people and eyewitness experts, the two groups gave different responses for 15 out of 21 items (i.e., agreement for 29%, Kassin & Barndollar, 1992). For example, community members tended to overestimate the strength of the relationship between confidence and accuracy, and also underestimate the damaging influence of suggestive procedures (i.e., system variables), such

as biased lineup instructions, biased lineup construction, and showups. Another study compared community members, judges, law enforcement personnel, and experts on knowledge of eyewitness factors (Benton, Ross, Bradshaw, Thomas, & Bradshaw, 2006). Community members and experts responded differently on 26 out of 30 items (agreement for 13%); troublingly, they disagreed on all eight items about system variables. The judges and law enforcement personnel fared somewhat better—their responses differed from experts on 18 out of 30 items (agreement for 40%, Benton et al., 2006).

Desmarais and Read (2011)) portrayed a more optimistic picture in their meta-analysis of 23 published studies. The rate of agreement between lay people and experts was around 80% for factors such as the malleability of confidence, lineup instructions, wording of questions, and the influence of expectations on memory. However, the rate of agreement was lower for other crucial factors, such as the relationship between confidence and accuracy, cross-race identification, and the importance of fair lineup construction. Contrary to the previously discussed studies, they concluded that lay people had better knowledge of system than estimator variables.

Nonetheless, the task of jurors in a real trial is much different than that of participants answering survey questions. Knowledge of factors that influence eyewitnesses might not necessarily translate into better decisions when jurors have to assess various pieces of evidence and integrate this knowledge into their decisions. For example, jurors can correctly perceive procedures to be suggestive and still be more convinced by eyewitness evidence obtained using those procedures than evidence obtained using non-suggestive identification procedures (Devenport et al., 2002). Taken together, the evidence suggests that people might have a limited understanding of how various factors affect eyewitnesses' decisions, might underestimate the importance of system variables, and might not incorporate information about how identification procedures were conducted into their assessment of eyewitness evidence (Bornstein & Greene, 2017; Boyce, Beaudry, & Lindsay, 2007).

Jurors' Sensitivity to Eyewitness Accuracy In a real trial, jurors should ideally be able to determine whether an eyewitness correctly identified the perpetrator (i.e., made a correct identification) or mistakenly identified an innocent person (i.e., made a false identification). To investigate how jurors evaluate correct and false identifications, researchers use a *genuine eyewitness paradigm*. In this paradigm, eyewitness-participants view a mock-crime, make an identification, and then testify about the crime and their decision (Wells, Lindsay, & Ferguson, 1979). This approach has two clear benefits: (1) jurors are presented with real eyewitness decisions in the sense that the identification decision was genuine and not simulated or staged, and (2) the researchers know the ground truth—whether the eyewitness made a correct or false identification. Thus, we can determine whether the jurors' belief of the eyewitness was accurate (i.e., believed a correct identification) or inaccurate (i.e., believed a false identification).

A series of studies using the genuine eyewitness paradigm demonstrated people's tendency to believe eyewitnesses. For instance, participants showed a general

insensitivity to eyewitness accuracy with 80% believing the eyewitnesses regardless of their accuracy (Wells et al., 1979). Even after viewing a cross-examination of the witness, conducted by qualified lawyers or by law students, observers were not able to distinguish between correct and false identifications (Lindsay, Wells, & O'Connor, 1989). Overall, lay people consistently demonstrated insensitivity to eyewitness accuracy (Lindsay, Wells, & Rumpel, 1981; Wells, Lindsay, & Tousignant, 1980).

Semmler, Brewer, and Douglass (2012) proposed that jurors' insensitivity to eyewitness accuracy might be an example of the fundamental attribution error (Chin & Crozier, 2018; Ross, 1977). The fundamental attribution error refers to the tendency to place greater emphasis on internal factors (e.g., personality) compared to situational factors when determining the causes of another person's behavior. Following this logic, one way to potentially improve jurors' ability to evaluate eyewitness evidence might be to increase the salience of situational factors (e.g., suggestive circumstances) present during the identification procedure. This can potentially be achieved by video recording the identification procedure (Boyce et al., 2007; Wilford & Wells, 2013). Although there is promising evidence that viewing a video of an identification procedure can improve jurors' ability to discriminate between correct and false identifications (Kaminski & Sporer, 2018; Reardon & Fisher, 2011), this sensitivity to eyewitness accuracy might be impaired if the video captured suggestive procedures (Beaudry et al., 2015; Skalon & Beaudry, 2019a). Thus, it is critical that police use best-practice identification procedures to minimize both deliberate and inadvertent suggestion.

What Influences Jurors' Belief of Eyewitnesses? In order to improve jurors' evaluation of eyewitness evidence, it is essential to understand which factors jurors take into consideration and whether these factors are good predictors of eyewitness accuracy. The most powerful predictor of jurors' belief is the witness's confidence at the time of the trial (e.g., Cutler, Penrod, & Dexter, 1990; Lindsay et al., 1981). No other variables consistently influence jurors' decisions to the same extent as eyewitness confidence (see Boyce et al., 2007). Although an uncontaminated confidence statement obtained at the time of the identification can be a good predictor of accuracy (Brewer & Wells, 2006; Wixted & Wells, 2017), an eyewitness's confidence during the trial is less informative (Bradfield & Wells, 2000; Brewer & Burke, 2002; for a review see Leippe & Eisenstadt, 2007) because factors such as preparing for the trial (Wells, Ferguson, & Lindsay, 1981) or receiving feedback about their identification (Wells & Bradfield, 1998) can inflate confidence without increasing accuracy.

Attempts to reduce jurors' reliance on confidence, for the most part, have not been successful. For example, when an eyewitness was less confident at the time of an identification and more confident during the trial, observers ignored this confidence inflation unless it was explicitly questioned during cross-examination (Bradfield & McQuiston, 2004) or if the witness could not provide a compelling explanation for the change in confidence (e.g., being nervous at the time of the identification; Jones, Williams, & Brewer, 2008). Instructing jurors not to use confidence also failed to have any effect (Fox & Walters, 1986). On the other hand,

confidence inflation that was documented on the video (i.e., an overly confident witness at trial contrasted to the same witness expressing low confidence in the video-recorded identification procedure) decreased jurors' belief of eyewitnesses (Douglass & Jones, 2013). To this point, we have established that eyewitness evidence contributes to wrongful convictions, that police identification procedures can affect the reliability of eyewitness evidence, and that perceptions of this evidence do not necessarily align with cues to reliability. Next, we briefly discuss how this empirical evidence has shaped police practices before beginning our cross-national comparison of admissibility and educational safeguards.

Toward Best Practice?

Importantly, police manuals across a number of jurisdictions reflect—at least in part—the body of knowledge produced by eyewitness researchers. For example, in Australia, the New South Wales Police Force implemented non-suggestive instructions, double-blind lineup administration, and some components of the sequential lineup, requiring, wherever possible, that lineup administrators bring people into the witness's view one by one rather than all at once (New South Wales Police Force, 2012; see Lindsay et al., 2009, for a discussion of the risks associated with using individual components rather than implementing the sequential "package"). Similarly, in Victoria, Australia, police members who take part in the investigation of the case are not allowed to conduct the lineup (Victoria Police, 2003). In the USA, numerous states and jurisdictions have recommended evidence-based practices (see Innocence Project, 2019b for an up-to-date list).

The question remains, however, as to whether officers' day-to-day practice follows policy recommendations. Given the evidence that some police practices have deviated from best-practice recommendations (Bertrand et al., 2018; Greene & Evelo, 2015), it is essential to understand what happens when potentially unreliable or contaminated evidence is presented before the jury. As discussed, jurors have a propensity to believe eyewitnesses regardless of the actual strength of their evidence (Boyce et al., 2007). Taken together, these circumstances endanger our criminal justice systems' ability to ensure a fair trial and the accuracy of verdicts. We next turn our discussion to a cross-national comparison of admissibility safeguards designed to prevent weak or unreliable eyewitness evidence from appearing in court and consider whether this safeguard has been an effective response to the dangers of mistaken eyewitness testimony.

Admissibility Safeguards

The risks associated with eyewitness evidence generally have not gone unnoticed; legal systems around the world have recognized that eyewitness identification evidence has a high chance of error. Courts have also acknowledged that eyewitness

identification evidence raises particular difficulties for the fact finder given that it can be presented by a witness who is confident and honest, but mistaken (Australian Law Reform Commission, 2005; Devlin Committee, 1976; National Research Council, 2014). Consequently, over time, courts and legislatures across jurisdictions have implemented a number of safeguards to manage both the admission and the evaluation of eyewitness identification evidence.

These legal safeguards fall into two broad categories. First, admissibility safeguards direct attention to whether the evidence should be *received* by the finder of fact (judge or jury) at all. In some jurisdictions, rules of admissibility will favor certain types of identification procedures, such as live identification parades, over others (e.g., photographic lineup), or impose certain conditions, such as the expectation that the court will evaluate the reliability of the evidence prior to admission. At a more general level, and applicable to all evidence, common law jurisdictions also empower a trial judge to exclude evidence if the probative value of the evidence (i.e., the weight to be accorded to this evidence) is outweighed by the risk of unfair prejudice to the accused, or if the admission of the evidence will give rise to an unfair trial (Edmond, Cole, Cunliffe, & Roberts, 2013).

The second broad category of legal safeguards, which we have termed *educational corrective safeguards* (the focus of the next section), includes judicial instructions and expert testimony. These safeguards are designed to assist the fact finder (usually the jury) to evaluate evidence *after* it has been admitted. In many cases, educational corrective safeguards are the preferred remedy in situations in which the evidence has been admitted—often over objection—despite legitimate concerns about violations of rules and procedures or claims that the evidence might be unreliable. As we develop further below, this preference for relying on these safeguards over exclusion reveals a tension in how courts approach the risks associated with eyewitness evidence. On the one hand, Australian, Canadian, and American courts have acknowledged the importance of drawing on empirical research to inform the development and application of evidentiary rules and procedures. On the other hand, courts are often reluctant to consider whether contemporary research supports beliefs of the effectiveness of these safeguards.

Sufficiently Reliable? An Overview of Admissibility Safeguards

In our comparison of admissibility in Australia, Canada, and the USA, we focus on the extent to which these courts have incorporated admissibility thresholds or tests that allow the judge to consider the reliability of the eyewitness evidence, and to then exclude unreliable evidence. We do not intend to provide a comprehensive and exhaustive account of admissibility safeguards, but to draw attention to a tendency to minimize the consequences of factors associated with reliability, and instead rely on educational corrective safeguards to protect the defendant from risks associated with admitting evidence that might have low probative value.

Australia Australia's Uniform Evidence Law (UEL),[2] initially drafted in 1985 and first enacted in 1995, adopted an approach to the admission of eyewitness testimony that discouraged in-court or dock identifications,[3] and privileged the live identification lineup (known in Australia as an "identification parade" or "live parade"; Australian Law Reform Commission, 1985). At a general level, the Act prevents admitting evidence of eyewitness identification of the defendant (either in or out of court) unless that witness had participated in an identification parade that included the defendant. However, of necessity, the UEL offers a number of exceptions to this requirement, including relieving investigators of the obligation to hold an identification parade in circumstances when the defendant refuses to cooperate, when it would be unfair to the defendant to hold a parade, or if it is not reasonably practical to hold a parade.[4] If one of these exceptions applies, investigators can turn to alternatives, most regularly using picture identification procedures (i.e., a photoboard or photographic lineup, under section 115). At the State or Territory level, police guidelines or additional procedural legislation can govern the composition and conduct of identification procedures; however, a breach of these conditions will not necessarily result in exclusion (cf. the *Crimes Act 1900* (ACT) n.d., section 233). Similarly, evidence of an identification should be excluded if it has been "intentionally influenced"; however, this has been interpreted narrowly, does not apply to picture identifications conducted under section 115, and does not necessarily encompass live identification parades or photoboards that were composed in a way that might have had a suggestive effect (e.g., if it was argued that the suspect stood out).

In all Australian jurisdictions, the defense can also challenge identification evidence on the basis that the probative value is outweighed by the danger of unfair prejudice. For example, section 137 of the UEL could be used to exclude an in-court identification if a witness had rejected a parade or photoboard containing the defendant prior to trial. However, this exclusionary rule is not as effective when it comes

[2] The Uniform Evidence Law regime governs the majority of Australian State and Territory jurisdictions, including the Commonwealth (*Evidence Act 1995* n.d.-a (Cth)), New South Wales (*Evidence Act 1995* n.d.-b (NSW)), Victoria (*Evidence Act 2008* (Vic)), the Australian Capital Territory (*Evidence Act 2011* (ACT)), the Northern Territory (*Evidence (National Uniform Legislation) Act 2011* (NT)), and Tasmania (*Evidence Act 2001* (Tas)). Note, however, that the Tasmanian Act has not incorporated the same provisions relating to identification evidence as the rest of the UEL jurisdictions. The States of South Australia, Queensland, and Western Australia remain governed by the common law, as modified by their own legislation. In this chapter, we focus on the UEL jurisdictions, because together they cover the majority of criminal trials conducted in Australia.

[3] An in-court identification refers to an eyewitness identification made in the courtroom. A dock identification refers to an in-court identification of the defendant when they are in the specific stand in which the accused is placed (i.e., the dock).

[4] Notwithstanding the emphasis on the identification parade in the Act, very few, if any, identification parades are now held in Australia. Indeed, when this requirement was proposed, it was acknowledged that the Australian Federal Police rarely held live identification parades (ALRC, 1985).

to an identification procured *prior* to the trial because Australia's highest appellate court has now explicitly rejected reliability as a factor that judges can consider when determining the probative value of the evidence (*IMM v The Queen,* 2016). This has influenced the courts' decisions regarding identifications obtained in breach of police procedures (or recognized good practice). Breaches are unlikely to result in the exclusion of evidence, even if those breaches mean that the evidence is of low probative value (e.g., *The Queen v Dickman*, 2017). Further, the UEL relies on a narrow definition of "identification evidence," meaning that a significant proportion of evidence relevant to the identification of the accused, such as an identification from CCTV, falls outside of the definition, and is subject to weak admissibility standards (San Roque, 2017). Overall, despite the apparently exclusionary orientation of the reform behind the UEL, the trend in Australian decisions has been a preference to admit the eyewitness evidence and rely on educational corrective safeguards rather than exclude it.

Canada Criminal law, evidence, and procedure in Canada are governed primarily by Federal (i.e., national) law. This can enhance consistency as compared to the USA; however, in contrast to Australia, Canada has not undertaken any significant legislative reform of the law of evidence. Consequently, Canada has not enacted any specific exclusionary provisions equivalent to the UEL, and the regulation of eyewitness identification evidence remains governed primarily by common law. For example, although section 6.1 of the *Canada Evidence Act* (1985), which applies in courts exercising Federal jurisdiction, allows witnesses to give evidence identifying the accused, it does not impose any conditions on such testimony.

Like Australia, Canadian decisions on admissibility (and, as discussed below, on judicial instructions) incorporate references to eyewitness research. High-profile inquiries into wrongful convictions in Canada have recommended reforms to eyewitness procedures (e.g., the Sophonow Inquiry; Cory, 2001). Similarly, Canadian courts have developed a list of factors relevant to assessing the probative value of the evidence, including the risk of contamination or whether suggestive procedures were used (Hill, Tanovich, & Strezos, 2013). However, despite this expressed awareness, and in common with Australia, Canadian courts remain reluctant to exclude eyewitness evidence. And although individual jurisdictions or police forces have adopted procedural guidelines that govern the composition and administration of lineups, breaches of the guidelines in and of themselves do not necessitate exclusion (e.g., Campbell, 2018; *R v Hibbert*, 2002).

This reluctance could be because eyewitness identification is conceptualized far more explicitly as a form of permissible lay opinion, with the in-court identification still seen as the primary evidence, to be "corroborated" by prior identification(s). The Canadian courts envisage that the witness will ordinarily express an opinion in the form of an in-court "dock identification" (as contemplated in section 6.1) and that the probative value of this identification will be assessed by reference to the whole of the circumstances that have given rise to this identification (e.g., *R v Tat*, 1997). Ordinarily, the in-court identification will be accompanied by the witness's testimony that the witness had, on a previous occasion, identified the same person

(e.g., during the police identification procedure); the fact finder can then determine the weight to be given to the evidence, taking into account all of the circumstances, including those of any prior identification(s).

It is accepted that an in-court identification, standing alone, has very little probative value, and is insufficient grounds for a conviction (Hill et al., 2013); nonetheless, the Canadian approach to eyewitness identification presents as more permissive and inclusionary than that adopted in either Australia or the USA. For example, although Canadian case law contemplates the possibility that an in-court identification can be excluded, it permits witnesses to offer a positive in-court identification even if that witness had rejected a lineup containing the defendant during a prior formal identification procedure; Australian courts would be less likely to accept this evidence. Even highly suggestive or tainted identification evidence has been accepted as admissible (e.g., an identification made in court after the witness has viewed footage of the defendant in custody; *R v Hibbert*, 2002).

Canadian judges do have the capacity to exclude evidence if its probative value is outweighed by the danger of unfair prejudice to the accused (Hill et al., 2013), or direct an acquittal if it would be unreasonable for a jury to convict on eyewitness evidence alone (*R v Hay*, 2013). But, like Australia, an inclusionary orientation also leads to a preference for judicial instructions as the primary safeguard against the risk that a jury will place too much weight on the eyewitness evidence. Consistent with this trend, the *Canadian Charter of Rights and Freedoms* (1982) opened up the possibility that the Charter might require, in some cases, that evidence be excluded if its admission might compromise the defendant's right to a fair trial (Stuart, 2014). However, this remedy has not yet been extended to support a successful challenge to the admission of *unreliable* evidence, such as eyewitness identification evidence (e.g., Roach, 2007).

United States of America Like Australia and Canada, the American jurisprudence has been influenced by judicial understandings of psychological research, but the multiplicity of jurisdictions in the USA makes for a more varied landscape. A distinctive feature of the US jurisprudence, however, is a more obvious—although limited—preoccupation with the dangers associated with suggestive procedures. In line with the Supreme Court decision in *Manson v Braithwaite* (1977), if the defense believes that the identification procedure was suggestive or biased, the defense can file a motion to suppress the evidence. In response, the judge will first determine whether the procedure was indeed unfair (i.e., unduly suggestive), and second whether the identification was nonetheless reliable, despite being obtained under suggestive circumstances.

Under the *Manson* criteria, the reliability of the witness is typically determined through an evaluation of five factors: opportunity to view the culprit, attention paid to the culprit, level of detail of the description of the culprit, the delay between the crime and the identification procedure, and the certainty of the witness. Not only are these criteria limited, but they also rely on an eyewitness's self-report at trial and they fail to appreciate that suggestive procedures themselves can corrupt that self-report (e.g., reporting higher confidence, a better view of the perpetrator, and longer

exposure to the perpetrator, Wells & Quinlivan, 2009a). Although the US jurisprudence appropriately emphasizes excluding evidence obtained from suggestive procedures, it relies on judges' knowledge of contemporary eyewitness research and their ability to evaluate the evidence's reliability. Further, in US courts, an acceptable remedy to a suggestive procedure is for investigators to hold a second "non-suggestive" procedure. Rather than being a remedy, this compounds the problem because any subsequent identifications are more likely to reflect the eyewitness's memory of the first identification decision rather than the eyewitness's memory of the crime (Steblay & Dysart, 2016; Wells & Quinlivan, 2009b).

Recent decisions have, in part, recognized the weaknesses of the *Manson* criteria. For instance, in *New Jersey v Henderson* (2011), the court undertook a comprehensive review of contemporary research and held that, if the defense could point to (credible) evidence of suggestiveness, the prosecution needed to offer proof that the identification was, nonetheless, reliable. Similarly, *Oregon v Lawson* (2012) shifted the emphasis from judicial evaluation under the Manson criteria toward a more comprehensive pre-trial investigation that places the onus on the prosecutor to satisfy the court that all relevant criteria have been met. However, like *Henderson*, this ruling also places a significant burden on the defendant. Further, these rulings might not represent broader trends across US courts; notably, the Supreme Court in *Perry v New Hampshire* (2012) rejected arguments that the particular frailties of eyewitness identification gave rise to a general obligation to scrutinize the reliability of such evidence. Further, some jurisdictions have started to retract previously granted protections, while simultaneously maintaining an inappropriately restrictive approach to the admission of expert testimony during trial (Polimeni, 2018). Finally, like Australia and Canada, the Federal Rules of Evidence include a general discretion that permits the exclusion of evidence when the probative value is outweighed by the danger of unfair prejudice (Rule 403). This Rule, however, appears to be used sparingly to exclude eyewitness evidence that has either passed or bypassed an admissibility challenge (see related discussion in Tallent, 2011).

A Preference for Corrective Safeguards?

Despite an acknowledged awareness of the contributing role of eyewitness testimony to miscarriages of justice, none of the reviewed countries have developed a robust or consistent exclusionary framework to protect defendants from the dangers of unreliable eyewitness testimony. Although judges do provide reasons for their decisions, little is known about judges' exclusion decisions in terms of patterns of decision-making more broadly. The only study, to our knowledge, that explored this topic demonstrated that, when evaluating a motion to suppress eyewitness evidence, US judges took into account how the lineup was constructed and the instructions given to the eyewitness before the identification procedure (Stinson et al., 1997).

Judicial approaches appear to reflect the view that excluding unreliable evidence deprives jurors of essential information. According to this line of thinking, a

properly instructed jury is expected to be able to evaluate the entirety of the evidence while being aware of the potential unreliability of admitted evidence (e.g., Woller, 2003). In all three countries, but perhaps especially in Australia and Canada, inclusionary decisions are justified on the basis that corrective safeguards are able to address the weaknesses in the evidence. This preference tends to ignore the interdependence of evidence—the fact that one piece of evidence can influence jurors' evaluation of other pieces of evidence (Hasel & Kassin, 2009). And, as we turn now to a detailed examination of these corrective safeguards, we shall see that the judicial faith in the effects and efficacy of these safeguards—and, in particular, judicial instructions—is misplaced.

Corrective Safeguards

Increasingly, the courts rely on two educational corrective safeguards—judicial instructions and expert testimony—as the preferred response to manage the risks associated with admitting eyewitness identification evidence. This section provides an overview of the development of each of these corrective safeguards in Australia, Canada, and the USA. We then offer a general framework for assessing the effectiveness of these two safeguards before reviewing the empirical evidence examining the effectiveness of judicial instructions and expert testimony in shaping how jurors perceive eyewitness evidence and how these safeguards affect their verdicts.

Traditionally, common-law courts have relied on the adversarial nature of the criminal trial, and, in particular, cross-examination, to reveal frailties or weaknesses in the evidence. In the case of eyewitness identification evidence, cross-examination might underscore inconsistencies and demonstrate the unreliability of eyewitness evidence; however, it has been increasingly recognized that cross-examination is at best a partial safeguard (e.g., Edmond & San Roque, 2012; Righarts, O'Neill, & Zajac, 2013).[5] Courts have also acknowledged that cross-examination loses efficacy in situations when an eyewitness is giving honest and confident—but mistaken—evidence. These situations require more than highlighting inconsistencies; they require the jury to be educated about the psychology of eyewitness identifications—an objective that is not achieved by cross-examination. Thus, more recently, and in response to this need for education, courts allow judges to deliver instructions to the fact finder (in this case, the jury). More recently still, expert testimony is used to assist the fact finder to understand the weaknesses specifically related to eyewitness identification. Unlike cross-examination, judicial instructions and expert testimony

[5] This is putting aside the problem that an informed cross-examination relies on the lawyer knowing about the factors that influence the reliability of eyewitness evidence. As discussed above, knowledge of eyewitness factors might not be a matter of common sense (Boyce et al., 2007). Furthermore, even when the cross-examination reveals factors that might undermine the reliability of eyewitness evidence, jurors might not incorporate this information into their evaluations because they are unaware of the importance of these factors (Devenport et al., 2002).

are *educational* corrective safeguards because both provide general information about the psychology of eyewitness identifications and the factors that influence the reliability and accuracy of eyewitness evidence. We will discuss the features of each safeguard in greater detail below, but first it is essential to provide a framework for evaluating their effectiveness.

Effects of Educational Corrective Safeguards

In examining the research on the effectiveness of any corrective safeguard, researchers and legal practitioners need to be attentive to the various effects that these safeguards can produce in a jury. Generally speaking, if an educational corrective safeguard influences the jurors' decisions, it can lead to one of three outcomes: confusion, skepticism, or, ideally, sensitivity (Cutler, Penrod, & Dexter, 1989).

Confusion The term *confusion* is used to refer to jurors who assess the evidence in a way that contradicts information given in the educational corrective safeguard. That is, after hearing judicial instructions or expert testimony, jurors might render more guilty verdicts when the evidence is weak rather than strong. To illustrate, if jurors who heard judicial instructions believed an eyewitness who identified the perpetrator from a showup more than they believed an eyewitness who made an identification from a fairly-constructed lineup, then this would be labeled as confusion.

Skepticism *Skepticism* is evident when jurors, after hearing a corrective safeguard, disbelieve an eyewitness regardless of the actual quality of witnessing and identification conditions or the accuracy of the identification. In other words, skepticism means that jurors reject *both* weak and strong eyewitness evidence.

Sensitivity If a corrective safeguard increases jurors' *sensitivity*, it means that the jurors appropriately evaluated the quality of the eyewitness evidence and accepted strong, reliable evidence and dismissed weak, unreliable evidence. Jurors can demonstrate sensitivity in two ways (Martire & Kemp, 2011): (a) sensitivity to witnessing and/or identification conditions, and (b) sensitivity to accuracy. Sensitivity to witnessing and/or identification conditions (WIC) refers to the jurors' ability to correctly evaluate the situation under which the witness saw the perpetrator during the commission of the crime (i.e., witnessing conditions) and/or how the lineup procedure was conducted (i.e., identification conditions). If corrective safeguards are effective, jurors will demonstrate increased sensitivity to the witnessing and/or identification conditions; that is, they will be more likely to believe eyewitnesses when the conditions were good (e.g., well lit, long exposure to perpetrator, and non-suggestive identification procedures) rather than poor (e.g., dimly lit, short exposure, suggestive identification conditions).

Even though, generally, eyewitnesses who had good witnessing conditions and made an identification under non-suggestive circumstances are more likely to be

accurate, good witnessing and identification conditions should not simply be equated with eyewitness accuracy. Researchers typically examine sensitivity to witnessing and identification conditions using simulated eyewitness testimony (i.e., people acting as eyewitnesses and reading a script, e.g., Devenport et al., 2002; Modjadidi & Kovera, 2018; presenting participant-jurors with a transcript of a mock trial, e.g., Geiselman & Mendez, 2005). There are two key limitations to simulated studies. First, they cannot replicate factors that are present in a real case, such as the eyewitness's verbal and non-verbal behavior, which might provide additional cues to eyewitness accuracy (e.g., Kaminski & Sporer, 2018). Second, the concept of eyewitness accuracy itself does not exist in simulated studies because the eyewitness has been given a script and has not made an actual identification. As such, simulated testimony studies can speak to sensitivity to witnessing and identification conditions, but not to sensitivity to eyewitness accuracy.

In real cases, jurors should ideally believe accurate eyewitnesses and disbelieve inaccurate ones—that is, the ideal outcome is sensitivity to eyewitness accuracy. Their decisions should be driven by the actual accuracy of the eyewitness rather than by the circumstances under which the witness saw and later identified the perpetrator. Given jurors' general inability to determine the accuracy of eyewitness testimony (e.g., Beaudry et al., 2015; Reardon & Fisher, 2011; Wells et al., 1979), effective educational corrective safeguards should increase jurors' sensitivity to eyewitness accuracy. Thus, a corrective safeguard should be considered ineffective unless it increases jurors' belief of accurate identifications and disbelief of inaccurate identifications.

The three potential outcomes in this framework—confusion, skepticism, and sensitivity—presume that corrective safeguards significantly influence jurors' decisions. It is, of course, possible that the corrective safeguard will *not* have a statistically significant influence on jurors' judgments. Importantly, without employing contemporary statistical tests (for detailed discussions, see e.g., Dienes, 2014; Harms & Lakens, 2018), null effects in the empirical literature tell us little about whether the educational corrective safeguard had no actual influence on jurors' judgments or whether the null effect is the result of data insensitivity. Future research should use contemporary statistical approaches to shed light on the conclusions that can be drawn from these null effects in this literature (see Skalon & Beaudry, 2019a). Having established the potential effects of corrective safeguards on jurors' evaluations of eyewitness evidence, we now discuss judicial instructions and expert testimony in Australia, Canada, and the USA.

Judicial Instructions

Judicial instructions direct jurors to exercise caution in their evaluation of the eyewitness evidence. These instructions are generally delivered at the end of the trial, alongside directions on other matters (e.g., relevant law, the standard of proof). The content of judicial instructions about eyewitness evidence varies from one country to another (and within jurisdictions), and it is important to note that, while there

might be an obligation for the judge to provide the instruction, it remains a matter for the jury to determine the weight they ultimately give both to the evidence and to the factors detailed in the instruction.

Australia Even prior to the enactment of the Uniform Evidence Law in 1995, Australian courts were "early adopters" in terms of imposing a mandatory obligation on courts to warn juries about the frailties and risks associated with eyewitness identification evidence. The High Court emphasized that a failure to provide strong instructions to the jury could cause a miscarriage of justice and necessitate a new trial (*Domican v The Queen*, 1992). The UEL solidified this approach in sections 116 and 165 (and in Victoria in the *Jury Directions Act*, 2015), with section 116 framed as a mandatory obligation to direct a jury that "special caution" is necessary when assessing eyewitness testimony.

The specific content of this mandatory instruction is shaped by guidance offered by Judicial Bench Books, which are regularly updated, and provide an extensive list of "standard" or "suggested" directions addressing a wide range of evidentiary matters that can be adapted to the circumstances of the case. For example, the New South Wales [NSW] direction (implementing section 116) includes a generalized warning that mistaken eyewitness evidence has been implicated in wrongful convictions, and that a witness can be sincere, honest, and impressive yet still be mistaken (Judicial Commission of NSW, 2007). Beyond this, however, the judicial instructions suggested in the NSW Bench Book tend to focus on estimator variables, perhaps on the assumption that risks associated with system variables (such as suggestive procedures) will be excluded from the court through the application of admissibility rules.

Similarly, the judicial instructions used in Victoria (Judicial College of Victoria, Australia, 2015) warn jurors that identification evidence is potentially unreliable and then ask them to consider a variety of eyewitness factors grouped into three sections: circumstances of observation, factors concerning the witness, and factors concerning the identification. Each section poses several questions to the jury; for example: "How far away was the witness from what s/he was observing?" or "Was the identification process conducted fairly? For example, did the other people in the photoboard look sufficiently similar to the accused?" However, they do not provide any explanations for why those factors are important, sometimes provide confusing guidelines for the evaluation of the evidence, and do not always accurately represent the research. For instance, the Victorian instructions direct the jury to consider "Was the witness stressed or fearful at the time of the observation? If so, what effect would this stress have had on him/her? For some people, their powers of observation increase under stress. Others black out and their powers of observation diminish. You need to decide how the witness is likely to have reacted in this case." The relevant research, however, has shown that stress decreases identification accuracy and makes an eyewitness more prone to misinformation (Deffenbacher et al., 2004; Morgan et al., 2004, 2013).

Finally, it is important to note that even when judicial instructions are very detailed and reveal multiple weaknesses in the evidence, it remains open to the jury

to nonetheless accept the evidence as probative of the accused's guilt (see e.g., *The Queen v Dickman*, 2017). This is the case, even in those rare cases when the identification evidence is the sole evidence against the accused, and the jury needs to be convinced beyond a reasonable doubt of the accuracy of any particular identification (rather than the totality of the evidence) to render a guilty verdict.

Canada Like Australia, Canada has tended to prefer the use of judicial instructions over exclusion. The leading Supreme Court case of *R v Hibbert* (2002) was primarily about the sufficiency of the directions given by the trial judge, rather than a case about the exclusion of the evidence. In *Hibbert*, the evidence of multiple witnesses had been compromised by pre-trial exposure to images of the defendant in the media. In addition, a number of witnesses had rejected a lineup containing the defendant in formal identification procedures but were nonetheless permitted to identify the defendant in court. Notwithstanding these serious problems, the Supreme Court's task was to decide whether the trial judge had adequately explained to the jury the weaknesses in the evidence, the risks of displacement (also known as mugshot exposure, e.g., Deffenbacher, Bornstein, & Penrod, 2006), and the consequent need for the jury to exercise special caution when evaluating the evidence. The judgments in *Hibbert* offer a detailed discussion of the factors that the fact finder ought to take into account when assessing the reliability of the evidence, many of which are based on eyewitness research into estimator and system variables. The decision also recognizes that there is a lack of correlation between confidence and accuracy and that an in-court identification, standing alone, is of almost negligible probative value.

These judicially recognized factors developed via the case law have been incorporated into the Canadian Model Jury Instructions, which (like the examples from Australia discussed above) include standard or suggested instructions that refer to the need for special caution, and the association between mistaken eyewitness identifications and wrongful convictions (Canadian Judicial Council, 2012). Thus, the Canadian instructions provide a list of factors that should be taken into account depending on the circumstances of each case. These factors include witnessing conditions (e.g., how long the witness observed the offender, lighting, distance), as well as whether there was a risk of contamination (e.g., *R v McIntosh*, 1997), or whether the identification procedures might have been suggestive. However, as discussed above, the Canadian instructions provide little guidance to the jury regarding the application of the instructions and tend to present the impact of the various variables as matters of common knowledge. There is little or no commentary provided in the Model Directions to assist the judge in framing the significance of each factor, and minimal reference to the relevant literature or contemporary research. However, in contrast to the Australian guides, the Canadian Model Jury Directions draw specific attention to the risks of displacement and other system variables (such as the fairness of the array). However, these inclusions are double-edged because they point to the overly inclusionary nature of the Canadian admissibility standards. Furthermore, the details of the instructions remain up to the individual judge's discretion, monitored by the appellate courts on an ad-hoc basis. This approach is

problematic considering judges have a limited understanding of eyewitness issues (Benton et al., 2006).

United States of America The USA's *Telfaire* judicial instructions are arguably the most widely discussed and most commonly researched judicial instructions in the literature (*US v Telfaire*, 1972). These instructions ask jurors to consider factors such as the duration of the event, lighting conditions, familiarity with the perpetrator, delay, and the credibility of the witness (i.e., estimator variables). They also briefly mention identification conditions: "If the identification by the witness may have been influenced by the circumstances under which the defendant was presented to him for identification, you should scrutinize the identification with great care" (Greene, 1988, p. 3). The *Telfaire* instructions have been widely criticized for three main reasons (e.g., Dufraimont, 2008; Sheehan, 2011). First, they are based on previous cases and, thus, often do not reflect findings of psychological research (Cutler & Penrod, 1995). Second, even though the instructions mention a number of important factors, they do not explain how these factors might affect an eyewitness. Third, they do not warn jurors that even those eyewitnesses who appear highly confident at the time of the trial might be mistaken.

Taking into account these critiques, the New Jersey Supreme Court developed its own set of instructions—the *Henderson* instructions (*New Jersey v Henderson*, 2011). These instructions were informed by the Special Master's extensive review of eyewitness research and come closest to accurately reflecting findings of eyewitness research. The *Henderson* instructions provide a comprehensive overview of eyewitness factors as well as an explanation of how each of the factors can influence an identification. It is important to note that not all jurisdictions in the USA have even accepted that judicial instructions form a necessary part of a trial that has relied on eyewitness identification evidence. Thus, one of the National Research Council's (2014) key recommendations was a requirement that model, national judicial instructions be formulated and mandated. Notably, a group of experts is currently producing a White Paper for the American Psychology-Law Society for the collection and preservation of eyewitness evidence (Wells et al., 2020); these empirically based policy and procedure recommendations should, at least in part, inform the model, national judicial instructions.

What Does the Empirical Evidence Say About the Effectiveness of Judicial Instructions?

The majority of empirical studies have evaluated the effectiveness of judicial instructions used in the USA. Two notable exceptions are studies investigating the effectiveness of judicial instructions used in two Australian states (New South Wales, Martire & Kemp, 2009; Victoria, Skalon & Beaudry, 2019a). Overall, the empirical evidence suggests that judicial instructions regarding eyewitness identifi-

cation evidence produce either skepticism or have little effect on jurors' judgments (see Table 2). We highlight a few key studies here to illustrate how researchers have examined this issue and to give us an opportunity to discuss more detailed results.

Greene (1988) tested the effectiveness of the *Telfaire* judicial instructions (vs. a no-instruction control) using a videotaped trial in which she manipulated the witnessing conditions. Rather than increasing mock-jurors' sensitivity to the quality of the witnessing conditions (i.e., greater belief for good vs. poor conditions), the *Telfaire* instructions led to skepticism (i.e., reduced belief regardless of witnessing conditions). In an attempt to improve the judicial instructions, in the second study, Greene developed a revised and simplified set of *Telfaire* instructions. In addition, Greene added information about factors such as the influence of stress, lineup fairness, and the confidence–accuracy relationship. Jurors who heard the revised instructions demonstrated better knowledge of eyewitness factors and rendered fewer guilty verdicts (cf. the *Telfaire* instructions). Again, however, jurors were not sensitive to the quality of witnessing conditions and showed skepticism toward the evidence. It is worth noting that, regardless of the presence of any instructions, none of the juries returned a guilty verdict when the evidence was weak and only 24% of the juries convicted the defendant in the strong version. Similar results were obtained in a study that tested the effectiveness of the simplified set of *Telfaire* instructions in sensitizing mock-jurors to the quality of earwitness identification (Bornstein & Hamm, 2012).

Cutler, Dexter, and Penrod (1990) also tested the effectiveness of the *Telfaire* judicial instructions and of expert testimony (the results of expert testimony are discussed in the *Expert Testimony* section), compared to a control condition. They manipulated the quality of witnessing and identification conditions and found that jurors were insensitive to the quality of eyewitness evidence, regardless of the presence of the instructions.

Ramirez et al. (1996) compared the *Telfaire* instructions with revised *Telfaire* instructions (simplified and included guidance on how jurors should evaluate eyewitness factors) compared to a control condition. They also manipulated the quality of witnessing and identification conditions. Without the instructions, jurors were sensitive to the quality of eyewitness evidence—they rendered more guilty verdicts when the witnessing conditions were good rather than poor. Contrary to this desired outcome, the *Telfaire* instructions produced skepticism. The revised instructions, on the other hand, preserved jurors' sensitivity and improved their knowledge of eyewitness factors.

The *Telfaire* instructions might be less effective than anticipated because of the content and/or its presentation (i.e., as a list with little elaboration). Theoretically, the newer *Henderson* instructions should be more effective in sensitizing jurors to the quality of eyewitness evidence because they provide an empirically based description of eyewitness factors. Nonetheless, several tests of the *Henderson* instructions have found evidence of skepticism. That is, jurors exposed to the instructions discounted the eyewitness evidence, regardless of the quality of witnessing and identification conditions (Dillon et al., 2017; Papailiou et al., 2015).

Table 2 Summary of studies that tested the effectiveness of judicial instructions in cases with eyewitness identification evidence

Author	Safeguard	Evidence	Key findings
Greene (1988); study 1	None vs. *Telfaire*	Evidence: weak vs. strong (lighting, distance, clarity of view)	Skepticism
Greene (1988); study 2	None vs. *Telfaire* vs. revised + simplified instructions	Same as study 1	Skepticism (*Telfaire* and revised instructions)
Cutler, Penrod, and Dexter (1990)	None vs. expert testimony vs. *Telfaire* instructions	WIC: poor vs. good (presence of disguise, weapon presence, length of retention interval, lineup instructions) Witness confidence: 80% vs. 100%	Skepticism (expert testimony) Null effect (judicial instructions)
Ramirez, Zemba, and Geiselman (1996); study 1	None vs. *Telfaire* instructions Safeguard timing: before + after evidence vs. before vs. after	WIC: poor vs. good (disguise, weapon presence, delay, lineup presentation: biased vs. unbiased)	Skepticism if judicial instructions were presented after the evidence or overbelief when presented before and after the evidence
Ramirez et al. (1996); study 2	Safeguard type: none vs. *Telfaire* instructions vs. revised *Telfaire* instructions	WIC: poor vs. good (exposure duration, distance, stress, weapon presence, lighting, delay, mugshot exposure, lineup instructions, lineup construction)	Skepticism (*Telfaire*) Null effect (revised instructions)
Martire and Kemp (2009)	None vs. congruent expert testimony vs. incongruent expert testimony vs. judicial instructions (New South Wales, Australia)	Eyewitness accuracy: correct vs. mistaken	Null effect (all manipulations)
Papailiou, Yokum, and Robertson (2015)	*Henderson* instructions vs. minimal eyewitness instructions	Identification quality: weak vs. strong (operationalized by 10 parameters)	Skepticism (*Henderson*)
Dillon, Jones, Bergold, Hui, and Penrod (2017)	None vs. *Henderson* instructions before eyewitness testimony vs. *Henderson* instructions after eyewitness testimony	Witnessing conditions: poor vs. good (delay, weapon presence, exposure duration) Identification conditions: poor vs. good (lineup type, lineup instructions, presence of feedback)	Skepticism (all manipulations)

(continued)

Table 2 (continued)

Author	Safeguard	Evidence	Key findings
Jones, Bergold, Dillon, and Penrod (2017)	None vs. expert testimony vs. *Henderson* instructions vs. enhanced instructions vs. expert testimony + *Henderson* instructions	Witnessing conditions: poor vs. good (exposure duration, weapon presence, delay) Identification conditions: poor vs. good (lineup type, lineup instructions, presence of feedback)	Skepticism (expert testimony) Null effect (both types of judicial instructions)
Skalon and Beaudry (2019a)	None vs. judicial instructions (Victoria, Australia)	Identification conditions: suggestive vs. non-suggestive (lineup construction, lineup administration, lineup instructions) Eyewitness accuracy: correct vs. mistaken	Confusion (identification conditions) Null effect (eyewitness accuracy)

Note. WIC witnessing and identification conditions

Jones et al. (2017) revised the *Henderson* instructions to explain how each factor might influence eyewitness accuracy by explicitly referring to research findings (e.g., "Additionally a recent meta-analysis demonstrates that when the perpetrator is present in the lineup, the identification accuracy rate under high stress was only 39% compared to 59% under low stress," Jones et al., 2017, electronic supplementary material, p. 2). Their study investigated whether general *Henderson* instructions, their enhanced *Henderson* instructions, or the combination of *Henderson* instructions and expert testimony improved mock-jurors' evaluation of eyewitness evidence compared to the no-corrective-safeguard control condition. Mock-jurors heard the instructions before the eyewitness testimony and also received a printed copy of the instructions. Despite being evidence-based, compared to the control condition, none of the instruction variations affected jurors' verdicts, nor did they improve jurors' knowledge of the majority of eyewitness factors present in the study. Regardless of the instruction condition, the quality of witnessing conditions did not affect jurors' judgments of defendant guilt. Contrary to Jones et al.'s (2017) expectations, jurors were sensitive to the quality of identification conditions without any corrective safeguards, rendering more guilty verdicts when the identification conditions were good rather than poor. Taken together, there is little empirical evidence that the *Henderson* instructions improve jurors' decisions (see McDermott & Miller, 2019).

Thus far, the studies we have discussed simulated eyewitness evidence by presenting scripted eyewitness testimonies to mock-jurors. As previously discussed, this type of research examines whether judicial instructions help jurors evaluate the quality of witnessing and/or identification conditions; however, it does not answer the ultimate question of whether judicial instructions improve jurors' sensitivity to eyewitness accuracy. To date, only two studies speak to this question. Martire and Kemp (2009) tested the effectiveness of the judicial instructions used in New South

Wales, Australia (Judicial Commission of NSW, 2006) by presenting mock-jurors with video-recorded testimony of genuine eyewitnesses without manipulating the witnessing or identification conditions. Mock-jurors were relatively sensitive to identification accuracy (i.e., accuracy rate of 64%); however, the judicial instructions did not improve their sensitivity. Skalon and Beaudry (2019a) examined whether the Victorian (Australia) judicial instructions (Judicial College of Victoria, 2015) sensitized mock-jurors to the quality of identification procedures and to eyewitness accuracy. The judicial instructions produced confusion. That is, when they viewed an identification obtained using suggestive procedures, mock-jurors who read the judicial instructions estimated a higher likelihood that the eyewitness correctly identified the culprit than mock-jurors in the control condition. Furthermore, the judicial instructions had no effect on mock-jurors' sensitivity to eyewitness accuracy.

Overall, to date, there is no support for the long-held belief that judicial instructions are an effective corrective safeguard for eyewitness evidence. There is no published empirical evidence that judicial instructions improve jurors' sensitivity to either the accuracy of the eyewitness identification or relevant factors (i.e., witnessing and identification conditions) that affect the reliability of eyewitness evidence. One limitation of this body of work is that the research has examined only a few of the available instructions (e.g., *Telfaire,* Judicial Commission of NSW*, Henderson*), while neglecting others (e.g., judicial instructions used in Canada or other Australian jurisdictions). However, considering that the *Henderson* instructions—which incorporate psychological research and provide explanations for each of the eyewitness factors—were largely ineffective, it is unlikely that any other judicial instructions, presented in the same way, would be more effective. Future research into improving the effectiveness of judicial instructions in sensitizing jurors to eyewitness evidence should consider developments in the general judicial instructions research, including how to measure comprehension and how simplifying features of the instructions affects jurors' application of the instructions (Baguley, McKimmie, & Masser, 2017).

Expert Testimony

Expert testimony about the psychology of eyewitness identification is another available corrective safeguard that can be used alongside judicial instructions. An expert's testimony will usually include a brief overview of the way human memory works and a discussion of factors that influence the reliability and accuracy of eyewitness evidence. Rather than providing a list of factors, experts explain why certain factors are important and sometimes present results of the studies that informed their claims. In contrast to judicial instructions, experts do not read this information to the jury; rather they provide it in response to questioning by one of the attorneys. An additional point of difference from judicial instructions is that expert testimony is subject to cross-examination; any claims made by the expert can be disputed by the opposing side.

As a matter of general principle, witnesses are limited to giving evidence of their observations and of facts, and are prohibited from giving evidence in the form of an opinion (e.g., UEL, section 76). However, all three countries under consideration provide for exceptions, including an exception that allows for the court and fact finder to receive expert opinion evidence. Broadly speaking, experts are witnesses who can demonstrate that they possess some form of specialized knowledge based on training, study, or experience; and the opinions they proffer are based on that specialized knowledge (see, e.g., UEL, section 79; Federal Rules of Evidence, rule 702). Although controversies have arisen in many jurisdictions about the reliability and validity of expert opinion evidence in specific domains (see, e.g., National Research Council, 2009), it is well established that parties can call appropriately qualified expert witnesses to testify to matters relevant directly to a fact in issue (e.g., a fingerprint expert). What is less accepted is whether the expert can be allowed to offer information to a jury relevant to the assessment of the credibility or reliability of an eyewitness. Overall, courts have been historically reluctant to admit evidence from experts in these circumstances, preferring instead to rely on judicial instructions. In general, this attitude was informed by the (we would argue, erroneous) belief that many of these matters could be adequately explored in cross-examination and/or were simply matters of general knowledge (for a discussion, see Bornstein & Greene, 2017; Boyce et al., 2007).

Historically, Australia, Canada, and the USA have approached the question of admissibility of expert evidence with general reluctance and a desire to preserve the decision-making role of the jury. However, more recently, the three countries have diverged in their willingness to allow experts to testify. In the USA, despite the lack of national conformity, the inclusion of expert testimony that addresses the credibility or reliability of eyewitness evidence is not generally regarded with the same hostility as it is in Canada. Australia falls somewhere in-between, with a growing acceptance that, in some cases, it is appropriate to call an expert to provide general information about eyewitness or memory issues to assist the jury or judge to evaluate evidence. However, it is important to note that even when experts are admitted, they are limited to presenting general information, and cannot be called on to proffer an opinion as to whether particular factors have definitively affected the reliability of the particular evidence, or whether a particular witness can be considered reliable.

Australia In Uniform Evidence Law (UEL) jurisdictions, expert evidence about eyewitness identification can be admitted either under section 79 (the exception to the opinion rule allowing experts to proffer opinion evidence) or via section 108C (a specific exception to the general rule that prohibits the admission of evidence relevant *only* to the credibility of a witness). Section 108C incorporates the same criteria for the expert as those outlined in section 79, but with the additional criteria that the evidence must have the capacity to "substantially affect the assessment of the credibility of the witness" (*Evidence Act 1995* (NSW) n.d.-b). Although the introduction of this section (and its amendment in 2009) was primarily driven by concerns about the evaluation of witnesses in child sexual assault cases, it is not

limited to these cases. Coupled with the abolition of the "common knowledge rule" in section 80 of the UEL, the introduction of section 108C indicates a liberalization of approach, as compared to the traditional position. Consequently, Australian courts no longer hold that eyewitness factors are matters of common knowledge and are now amenable to expert evidence (Freckelton, 2014).

Although uptake of the opportunity offered by the insertion of section 108C has been slow (New South Wales Law Reform Commission [NSWLRC], 2012), expert evidence—proffered by a psychologist with expertise in eyewitness testimony and memory—has been admitted in a number of Australian cases, across jurisdictions, including in *Bayley v R* (2016), *Gittany v R* (2016), and *Dupas v R* (2012). In particular, the admission of expert evidence in eyewitness cases has been influenced by the growing jurisprudence that accepts that—in some cases—there is a need to offer juries information to counter what are considered to be popular misconceptions about the credibility of a witness and/or the behavior of a witness after experiencing a criminal event. Thus, for example, expert evidence can be targeted toward ensuring that juries properly understand the relationship between confidence and accuracy and countering the common lay misconception that confidence at the time of the testimony can be correlated in a simplistic way with accuracy (e.g., Brewer & Wells, 2006; Wixted & Wells, 2017). However, as noted above, sections 79 and 108C limit the scope and content of evidence to relatively general information about the state of the research rather than factors that might be present in the particular case, leaving the jury (or judge) to consider the importance and influence of those factors (Dupas, 2012; Gittany, 2016).

Canada In contrast to Australia (and, to some extent, the USA), Canada has remained hostile to the admission of expert testimony on eyewitness evidence. Even though Canadian courts have accepted psychologists as expert witnesses in relation to substantive issues, such as the assessment of the mental state or condition of the accused at the time of the offense, they prefer them to speak to these specific issues rather than the psychology of decision-making more broadly (Chin and Crozier, 2018). In cases involving the admission of expert testimony, Canadian courts have held more strongly than the other countries we discuss to the position that information about the psychology of eyewitness identification is within the common knowledge (or "ken") of the decision-maker. Overall, courts have expressed a strong preference for such information to be delivered by the judge presiding over the trial, rather than allowing a party (usually the defense) to call an eyewitness expert.

The influential case of *R v McIntosh* (1997) exemplifies this conservative approach. The judge in that case not only rejected the expert on the grounds that the expert's evidence would not meet the criteria for the admission of expert opinion evidence established in *R v Mohan* (1994), but also emphasized that the information that the expert would provide was not "outside of the normal experience of the trier of fact" (para 5). In contrast, the Sophonow Inquiry, chaired by Justice Cory in the wake of a miscarriage of justice in which eyewitness testimony was seriously implicated, recommended that courts "readily admit properly qualified expert evidence

pertaining to eyewitness identification" (Cory, 2001, p. 18) to assist the fact finder. However, the more recent Report on the Prevention of Miscarriages of Justice did not include this recommendation (Department of Justice, 2004). Both this 2004 report and the subsequent review (Department of Justice, 2011) confirmed the preference for judicial instructions over the admission of expert testimony to assist the fact finder. In addition to expressing the view that the widespread knowledge of the frailties of eyewitness identification (among both lay people and the judiciary) rendered expert evidence "redundant," the report also reinforced the traditional position that allowing an expert to testify about the potential frailties of a particular witness's testimony risked usurping the role of the jury as the fact finder (Department of Justice, 2004). Thus, the concern remains that jurors will effectively defer to the expert's account of the risks associated with this type of evidence, without jurors undertaking their own evaluation of the specific witness. Although more recent cases have adopted a more inclusionary approach (e.g., Campbell, 2018) that permitted an expert to proffer an opinion, these cases appear to be outliers and cannot yet be considered evidence of a trend toward a more general acceptance of expert evidence in Canada.

United States of America Earlier cases in the USA tended to place greater reliance on the adversarial safeguard of cross-examination as the primary mechanism through which the defense could challenge the reliability of incriminating eyewitness evidence and reveal its weaknesses to the fact finder. However, more recent cases (e.g., *New Jersey v Henderson*, 2011) have recognized that cross-examination will not always be sufficient to articulate to the jury the real need for caution. Thus, in contrast to Canada, a number of jurisdictions have become, in recent years, more open to the admission of expert testimony to guide jurors' assessment of eyewitness testimony.

This shift in allowing expert testimony corresponds with the growing acceptance of the need to ensure that jurors are properly instructed about the frailties of eyewitness testimony. This position is not uniform, but a number of key recent decisions in State courts have rejected the proposition that expert evidence is never admissible, and have instead held that the trial judge has the discretion to admit such evidence from a properly qualified expert, provided that the evidence does not extend to proffering a direct opinion as to the reliability or credibility of the specific witness and their testimony (e.g., *Commonwealth v Walker*, 2014; Polimeni, 2018). And in an outlier decision, the Seventh Circuit Court of Appeal has even permitted an expert to conduct an experiment using the evidence presented at trial, and proffer an opinion tailored to that evidence (*Newsome v McCabe*, 2003). More conventionally, influential cases such as *New Jersey v Henderson* (discussed above), advocated a greater use of expert testimony, as has the National Research Council (2014; see also Tallent, 2011).

What Does the Empirical Evidence Say About the Effectiveness of Expert Testimony?

Investigations into the effectiveness of expert testimony in sensitizing jurors to witnessing and identification conditions provide mixed conclusions (see Table 3 for a summary). On the one hand, some studies have found that expert testimony produced skepticism. That is, compared to jurors in the control condition, those who heard expert testimony gave lower ratings of guilt and deemed the eyewitness to be less accurate, regardless of the quality of witnessing and/or identification conditions (Cutler, Dexter, & Penrod, 1990; Jones et al., 2017), or eyewitness confidence (Fox & Walters, 1986). On the other hand, some studies found that expert testimony improved sensitivity to witnessing and/or identification conditions (Cutler, Penrod, & Dexter, 1989; Geiselman & Mendez, 2005). Another study found more complicated results, with jurors in the expert testimony (cf. control) condition demonstrating an increased awareness of some suggestive procedures (i.e., instruction, but not foil, bias); however, this awareness was not associated with a significant difference in the jurors' verdicts (Devenport et al., 2002).

Furthermore, a number of studies have revealed both skepticism and sensitivity. For example, *specific* expert testimony that commented on factors present in the case successfully sensitized jurors to witnessing conditions (Geiselman et al., 2002, Experiment 1). However, a more traditional *general* expert testimony—in line with the accepted approach in Australia, Canada, and the USA—did not influence jurors' judgments. To add to the mixed results, yet other studies reported that expert testimony produced confusion (i.e., jurors evaluated the evidence contrary to the information conveyed by the expert; Lindsay, 1994, Experiment 5), or had a null effect on jurors' judgments (Devenport & Cutler, 2004).

Few studies have examined whether expert testimony improves jurors' sensitivity to eyewitness accuracy. The first study of this kind presented mock-jurors with expert testimony and the cross-examination of genuine eyewitnesses, who viewed the crime under poor, moderate, or good witnessing conditions (Wells et al., 1980). Expert testimony did not sensitize mock-jurors to witnessing conditions; instead, it produced skepticism by reducing belief of even accurate eyewitnesses. Expert testimony did, however, reduce the correlation between mock-jurors' willingness to believe the eyewitness and the eyewitness's confidence reported during cross-examination. This reduced reliance on an eyewitness's confidence at the time of the testimony is an important improvement, but we should highlight that an eyewitness's uncontaminated confidence statement at the time of the identification does relate to accuracy (e.g., Wixted & Wells, 2017). More recently, Martire and Kemp (2009) found a null effect of expert testimony on mock-jurors' sensitivity to eyewitness accuracy.

Taken together, the results of expert testimony studies do not warrant a definitive conclusion regarding the effectiveness of expert testimony in sensitizing jurors to the quality of witnessing conditions, identification conditions, and eyewitness accuracy. These mixed results might be caused by differences in expert testimony content

Table 3 Summary of studies that tested the effectiveness of expert testimony in cases with eyewitness identification evidence

Author	Safeguard	Evidence	Key findings
Wells et al. (1980)	None vs. expert testimony	Eyewitness accuracy: accurate vs. inaccurate	Skepticism
Fox and Walters (1986)	None vs. general expert testimony vs. specific expert testimony	Eyewitness confidence: high vs. low	Skepticism (general and specific expert testimony)
Cutler, Dexter, and Penrod (1989)	None vs. expert testimony	WIC: poor vs. good (i.e., presence of disguise, weapon presence, length of retention interval, lineup instructions) Eyewitness confidence: 80% vs. 100%	Sensitivity (strength of the prosecution's and of the defense's cases; did not affect verdict)
Cutler, Penrod, and Dexter (1989)	Expert testimony: descriptive vs. quantified Expert opinion: expert opinion vs. no opinion	WIC: poor vs. good (i.e., presence of disguise, weapon presence, length of retention interval, lineup instructions) Eyewitness confidence: 80% vs. 100%	Sensitivity (verdict and belief, for both types of expert testimony)
Cutler, Dexter, and Penrod (1990)	None vs. expert testimony vs. *Telfaire* instructions	WIC: poor vs. good (i.e., presence of disguise, weapon presence, length of retention interval, lineup instructions) Eyewitness confidence: 80% vs. 100%	Skepticism (expert testimony) Null effect (judicial instructions)
Devenport et al. (2002)	None vs. expert testimony	Identification conditions: foil bias, lineup instructions, lineup presentation	Sensitivity (lineup instructions; did not affect verdict)
Geiselman et al. (2002, Experiment 1)	None vs. general expert testimony vs. specific expert testimony	WIC: poor vs. good (i.e., lighting, distance, duration of view, emotional state of the witness, cross-race identification, presence of disguise, suggestiveness of lineup instructions, showup or lineup, delay)	Sensitivity (specific expert testimony) Null effect (general expert testimony)
Devenport and Cutler (2004)	None vs. defense-only expert vs. opposing experts	Foil bias: biased vs. unbiased Lineup instructions: suggestive vs. non-suggestive	Null effect

(continued)

Table 3 (continued)

Author	Safeguard	Evidence	Key findings
Leippe, Eisenstadt, Rauch, and Seib (2004)	Expert testimony pre-evidence + no reminder vs. pre-evidence + reminder vs. post-evidence + no reminder vs. post-evidence + reminder vs. no-expert	Case strength: weak vs. strong (based on circumstantial evidence)	Skepticism (post-evidence and reminder)
Geiselman and Mendez (2005)	None vs. expert testimony + closing arguments + judge instructions vs. closing arguments + judge instructions vs. closing arguments	WIC: poor vs. good (i.e., lighting, distance, duration of view, emotional state of the witness, witness vision, cross-race identification, presence of disguise, lineup instructions, showup or lineup, delay)	Sensitivity (expert testimony)
Martire and Kemp (2009)	None vs. congruent expert testimony vs. incongruent expert testimony vs. judicial instructions	Eyewitness accuracy: accurate vs. inaccurate	Null effect (all manipulations)
Jones et al. (2017)	None vs. expert testimony vs. *Henderson* instructions vs. enhanced instructions vs. expert testimony and *Henderson* instructions	Witnessing conditions: poor vs. good (i.e., exposure duration, weapon presence, delay) Identification conditions: poor vs. good (lineup type, lineup instructions, presence of feedback)	Skepticism (expert testimony) Null effect (both types of judicial instructions

Note: WIC = witnessing and identification conditions

and presentation. Even though all eyewitness experts explain the psychology of eyewitness identifications, individual differences between experts likely influence their delivery of the information, potentially making expert testimony effective in some instances, but not in others.

Comparative Analysis: Judicial Instructions vs. Expert Testimony

Understanding the strengths and weaknesses of the two corrective safeguards can help establish which corrective safeguard should be the preferred method for educating the jury. In this section, we synthesize the legal and psychological perspectives by summarizing the strengths and weaknesses of both safeguards. The empirical evidence suggests that expert testimony is potentially more effective than judicial instructions because in many studies, expert testimony influenced jurors' judgments (i.e., skepticism), even though it did not consistently improve sensitivity. Table 4 summarizes the limited number of studies that included direct comparisons

Table 4 Summary of studies that compared judicial instructions and expert testimony in cases with eyewitness identification evidence

Author	Safeguard	Evidence	Judicial instructions	Expert testimony
Cutler, Dexter, and Penrod (1990)	None vs. expert testimony vs. *Telfaire* instructions	WIC: poor vs. good (i.e., presence of disguise, presence of a weapon, length of retention interval, lineup instructions) Eyewitness confidence: 80% vs. 100%	Null effect	Skepticism
Martire and Kemp (2009)	None vs. congruent expert testimony vs. incongruent expert testimony vs. judicial instructions	Eyewitness accuracy: accurate vs. inaccurate	Null effect	Null effect
Jones et al. (2017)	None vs. expert testimony vs. *Henderson* instructions vs. enhanced instructions vs. expert testimony + *Henderson* instructions	Witnessing conditions: poor vs. good (i.e., exposure duration, weapon presence, delay) Identification conditions: poor vs. good (lineup type, lineup instructions, presence of feedback)	Null effect	Skepticism

Note: WIC = Witnessing and identification conditions.

of judicial instructions and expert testimony (Cutler, Dexter, & Penrod, 1990; Cutler, Penrod, and Dexter, 1990; Jones et al., 2017; Martire & Kemp, 2009).

Strengths

Judicial instructions require relatively little time to deliver and, unlike expert testimony, do not impose additional costs on the defendant (Sheehan, 2011; Simmonsen, 2011). In an adversarial system, and in particular in a jury trial, the judge's role is limited in terms of the selection, presentation, and testing of evidence. Judges are impartial as to the outcome, while at the same time charged with the responsibility to ensure that the defendant receives a fair trial according to law. Importantly, judicial instructions carry with them the authority of the court and, unlike expert testimony, are less likely to be perceived as aligned with the interests of either the prosecution or defense (Simmonsen, 2011). As compared to the use of expert testimony, judicial instructions might reduce jurors' reliance on less relevant criteria (e.g., the expert's credentials) and prevent them from disregarding eyewitness testimony on irrelevant grounds. Moreover, with judicial instructions, jurors do not have

to evaluate the credibility of another witness (which is the case with expert testimony) and can instead focus on the information provided in the instructions.

Another strength of judicial instruction is that it is relatively easy to create uniform instructions, at least within a given jurisdiction, whereas expert testimony will vary from one case (and one expert) to another. Moreover, uniform instructions could be crafted in advance to accurately reflect scientific findings and eliminate the possibility of misinforming the jury. And, at least in jurisdictions with uniform procedural guides (such as Judicial Bench Books, or Practice Notes issued by a Court), it should be easier to implement revised versions of judicial instructions to better reflect emerging scientific evidence because they are already a part of a trial and do not require any significant procedural changes (Simmonsen, 2011).

One of the main strengths of expert testimony is that, contrary to the vast majority of judicial instructions, the information provided by an expert is based on psychological research and is within the scope of the expert's competence. As such, expert testimony is more likely to reflect the current state of knowledge. Moreover, experts usually provide explanations as to the magnitude and direction of eyewitness effects rather than simply listing them (as is common in judicial instructions; cf. *New Jersey v Henderson*, 2011). Additionally, expert testimony is given in a question-and-answer format which might improve jurors' ability to focus on the relevant information. Finally, experts are cross-examined, which gives jurors an opportunity to critically examine an expert's claims (Dufraimont, 2008).

Weaknesses

Both educational corrective safeguards have flaws. One of the most striking weaknesses of judicial instructions is that the evidence repeatedly demonstrates that they do not improve jurors' ability to differentiate between reliable and unreliable eyewitness evidence (e.g., Jones et al., 2017; Martire & Kemp, 2009; Skalon & Beaudry, 2019a). Beyond the empirical evidence, legal scholars have noted additional issues with judicial instructions. Given that the judge reads the judicial instructions, jurors might be influenced by the judge's authority instead of critically evaluating the information (see Dufraimont, 2008). This might produce skepticism if jurors perceive the judge's instructions as a critique of eyewitness evidence. Unlike expert testimony, judicial instructions are not subject to cross-examination and, thus, the information is not open for explicit critical evaluation. Moreover, some judicial instructions contain inaccurate information and, as such, misinform the jury (Sheehan, 2011). For example, some judicial instructions appeal to jurors' common sense when evaluating the reliability of eyewitness evidence, even though some eyewitness factors are unknown to lay people or are counterintuitive (Benton et al., 2006).

Judges usually have the discretion to modify judicial instructions by omitting what they deem to be unnecessary factors. This is problematic from an evidence-based perspective. Changing an existing set of previously tested instructions introduces

variability and consequently invalidates any previous demonstrations of their effectiveness (if they existed). Finally, the judge usually reads the instructions at the end of the trial, after the presentation of all evidence and along with instructions on other matters, which might reduce their effectiveness (Ogloff & Rose, 2005; Ramirez et al., 1996; Sheehan, 2011).

Despite the empirical evidence, some legal scholars argue that judicial instructions could be effective if they are rewritten and presented before the evidence (e.g., Leverick, 2016; Sheehan, 2011), or if they are accompanied by visual aids (Simmonsen, 2011). Unfortunately, so far, empirical tests of improved instructions do not support their optimism. Recent tests of the *Henderson* instructions have demonstrated that even when the instructions were rewritten to provide explanations, were presented before the evidence, and were provided to jurors as a handout, the instructions still did not sensitize jurors to the quality of eyewitness evidence (Dillon et al., 2017; Jones et al., 2017). An analysis of 121 studies examining the effectiveness of judicial instructions on a range of topics (e.g., reasonable doubt) demonstrated that mock-jurors are more likely to apply the information in judicial instructions if the concepts are simplified and the amount of supplementary information is reduced (Baguley et al., 2017). It is unclear, however, whether it is possible to modify judicial instructions related to eyewitness evidence as suggested because these instructions do not convey complex legal concepts and include a minimal amount of supplementary information.

Expert testimony also has its own weaknesses. One of the most frequently mentioned weaknesses is that, unlike judicial instructions, expert testimony is expensive and is, therefore, unavailable to many defendants (Sheehan, 2011; Simmonsen, 2011). Second, unlike judicial instructions, expert testimony can lead to a "battle of the experts" if the prosecutor and the defense attorney put forward experts who make opposing claims. Conflicting opinions might confuse jurors, distract them from the actual evidence, and lead them to believe the expert who has better credentials rather than the one who makes the most credible arguments (Sheehan, 2011). Third, experts often describe the results of the research without explaining how these results were obtained; thus, jurors must presume that the expert presented only valid research findings (Sheehan, 2011). Finally, it is difficult to definitively establish the effectiveness of expert testimony because—in laboratory studies and in real cases—the testimony itself, and the expert, will vary. Even if one study establishes the effectiveness of expert testimony, it does not necessarily guarantee that another expert's testimony (with similar content, but presented differently) will be as effective.

The final weakness that we discuss applies to both educational corrective safeguards. Regardless of whether a judge or an expert provides the information to the jury, that eyewitness information in the educational aid is general rather than case-specific. Neither the judicial instructions, nor the expert can or should comment on whether the specific witness testimony *is* unreliable, or whether the eyewitness evidence *should* be rejected (Faigman, Monahan, & Slobogin, 2014). Thus, even when the fact finder does understand the general information provided, their knowledge of eyewitness factors at a general level will not necessarily translate into an

effective evaluation of a particular eyewitness. Indeed, evidence that jurors knew about eyewitness factors demonstrates that jurors understood and remembered the information. That knowledge, however, does not necessarily imply that jurors were persuaded by the information and that they will apply it to the case at hand (see McGuire, 1972). The fact finder is always at liberty to reject the information provided as inapplicable in the current case.

Conclusions and Future Directions

Legal systems around the world have recognized the frailties and weaknesses inherent in eyewitness testimony. In response, Australia, Canada, and the USA developed (inconsistently applied) exclusionary rules. More recently, rather than excluding the evidence, courts in these countries have relied heavily on educational corrective safeguards, particularly judicial instructions. Empirical research into eyewitness issues has influenced, to some extent, the legal safeguards we discussed in this chapter. These safeguards have also, to some extent, incorporated aspects of this research into rules and procedures designed to guide investigative conduct, and the admission and reception of the evidence in court. Nonetheless, the empirical evidence suggests that the existing educational corrective safeguards are inadequate to protect against risks that result from the admission of eyewitness evidence that might be unreliable either because of the circumstances of the witnessing conditions or the suggestiveness of the identification procedures.

Despite incorporating some empirical research findings into policies, legal scholars and practitioners still resist embracing recommendations informed by psychological research. Some critics suggest that conclusions reached in most jury decision-making studies should be regarded with special caution and should not be extrapolated to real trials (e.g., Leverick, 2016). One of the potential reasons for this resistance is a difference in the way legal scholars and psychologists evaluate the validity of jury decision-making studies. Psychological research relies heavily on simulations of trial experiences and research conducted with student participants, whereas legal scholars often consider studies to be valid only if the study conditions are the same as, or very similar to, those used during actual trials.

From a psychological perspective, empirical evidence should inform evaluations of research validity. Several of the criticisms articulated by legal scholars are not supported by the available evidence (e.g., in a meta-analysis of 53 jury decision-making studies, very few significant differences emerged between student and community samples; Bornstein et al., 2017). Nonetheless, we acknowledge that laboratory-based studies do not capture the entirety of the courtroom experience and, thus, lack the degree of ecological validity desired by some courts and legal scholars (Leverick, 2016). The systematic and experimental approach that underpins psychological research, however, has other strengths. For instance, researchers can examine and isolate the influence of a number of individually manipulated variables (e.g., suggestive identification procedures, expert testimony) on jurors'

decisions. Researchers examining a trial in its entirety would have less experimental control and, therefore, less understanding of the factors that ultimately influenced the verdict.

Regardless, psychologists must acknowledge that real cases will rarely be as clean-cut as those used in research studies. Likewise, legal scholars and practitioners must acknowledge that, although research fails to capture the complexity of real cases, they should not ignore the relevant empirical evidence. We highlight this debate not to dismiss the concerns of either side, but rather to encourage both lawyers and psychologists to advance the field through increased collaboration and various research methodological approaches.

If courts are to consider relevant empirical evidence when making decisions, then researchers must provide such evidence. There are multiple gaps in the empirical knowledge. For example, research has not yet established: (a) if jurors process the same information provided by the judge and the expert in the same manner; (b) how deliberation influences the effectiveness of both corrective safeguards in eyewitness cases; and (c) *why* expert testimony often leads to skepticism, whereas judicial instructions produce null effects. These questions, although important and interesting, are still confined to a relatively stagnant research area. Few efforts have been made to develop innovative ways of educating jurors about eyewitness issues (Wise, Fishman, & Safer, 2009 is a notable exception), and little is known about how video-recorded identification procedures will interact with legal safeguards.

Furthermore, little attention has been drawn to new challenges facing the criminal justice system. For example, the proliferation of social media platforms provides an opportunity for eyewitnesses or victims to conduct their own investigation of possible suspects (e.g., if someone was assaulted by a stranger at a party, they might search through the host's Facebook friends list; McGorrery, 2015) before notifying the police. Similarly, the eyewitness or victim might be exposed to information about a known criminal (and potential suspect in a different crime) before undergoing a proper identification procedure (e.g., Skalon & Beaudry, 2019b). Contemporary developments in surveillance are creating other challenges that courts need to address. For example, if CCTV footage shows someone committing a crime, the courts need to decide whether—and upon what basis—a witness can give evidence that the accused is the person captured on video, or, alternatively, if this is a task that can or should be left to the jury alone (see e.g., Edmond & San Roque, 2013; McGorrery, 2015; San Roque, 2017).

Even recent reports (e.g., National Research Council, 2014) have missed the significance of these technological developments in their analysis of the challenges facing the field. Ultimately, more collaboration between psychologists and lawyers will provide evidence-based solutions to these unanswered questions and new challenges.

Overall, although the research shows that educational corrective safeguards can sometimes influence jurors' decision-making, the limited and inconsistent nature of this influence calls into question the extent to which legal systems should rely on these safeguards as an alternative to excluding weak and potentially unreliable identification evidence. Neither judicial instructions nor expert testimony definitively

and consistently mitigates the damage created by admitting unreliable eyewitness evidence. Thus, we contend that courts should be more willing to exclude eyewitness identification evidence when reliability is questionable (i.e., poor witnessing conditions, or the identification procedures did not follow best-practice recommendations).

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Life After Exoneration: An Overview of Factors That Affect Exoneree Reintegration

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According to the National Registry of Exonerations, as of June 7, 2019, 2460 people have been exonerated in the United States since 1989. An exoneree is a person who was convicted of a crime and later officially declared innocent or relieved of all legal consequences of the conviction (The National Registry of Exonerations, 2019). The wrongfully convicted can be exonerated and have their convictions overturned for various reasons such as new evidence, ineffective counsel, fallible eyewitness accounts, or police and prosecutorial misconduct. Recently, DNA testing has been a major contributor to exonerations (Innocence Project, 2018). On average, people who have been exonerated through DNA testing spent 14 years in prison (Innocence Project, 2019). Although exoneration is a long process, many exonerees are released abruptly after their conviction is overturned (Kregg, 2016). Because of the extensive years spent in prison and how abruptly they are released, many exonerees face difficulty reintegrating into society: They are deprived of the ability to establish themselves professionally (Chunias & Aufgang, 2008); are released from prison with no money, housing, transportation, or health insurance (e.g., Clow, Leach, & Ricciardelli, 2011); and often still have a criminal record (expungement—the sealing or erasing of a criminal conviction—is not automatic; Shlosberg, Mandery, & West, 2011). These factors make it difficult to satisfy basic needs (e.g., shelter, food), obtain a job, and reintegrate into society. Exonerees need not only monetary compensation but also services that help with reintegration (e.g., finding employment, housing, and education).

Given all of the obstacles exonerees might encounter, it is important to review and discuss the factors that influence exoneree reintegration. For the purposes of

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this chapter, successful reintegration refers to an exoneree's ability to (1) obtain employment, housing, and necessary resources for living independently, (2) re/build relationships with friends and family, (3) receive treatment for mental and physical health issues, and (4) feel a sense of acceptance and belonging within their community. The knowledge regarding factors that influence reintegration not only can enhance researchers' and policy-makers' understanding about exonerees' experience after exoneration but can also serve as a foundation for improving exonerees' reintegration into society. The purpose of this chapter is to provide a synthesis of the research on factors that influence exoneree reintegration. Because of the limited research on exoneree reintegration specifically, many of the factors discussed draw on literature regarding general prison populations (i.e., not exonerees specifically). Although some exoneree experiences might be similar to general prisoner experiences, they also likely differ in substantial ways.

Discussed first are current organizations that work to overturn convictions and aid exonerees in reintegration. Discussed second are individual-level factors that influence reintegration, including factors that exist before the wrongful conviction (i.e., individual differences and worldview), after the wrongful conviction (i.e., prison experience), and during reintegration (e.g., social support). Discussed third are policies that influence reintegration, including compensation and expungement policies and laws pertaining to discrimination. Discussed fourth are community-level factors that affect exoneree reintegration, including stigma and community sentiment regarding exonerees. The chapter closes with recommendations for future research and policy.

Exoneree Organizations

Despite the many challenges that exonerees face during reintegration, a handful of organizations and programs assist them (Innocence Network, n.d.). These organizations include independent nonprofits, organizations affiliated with law schools and educational institutions, units of public defender offices, and pro bono sections of law firms. These organizations and support groups assist the wrongfully convicted through the exoneration process as well as reintegration into society upon release. The Innocence Network is an affiliation of 68 organizations (56 U.S.-based, 12 non-U.S.-based) that work to provide pro bono legal and investigative services for people seeking to prove their innocence and that attempt to redress causes of wrongful convictions.

A member of the Innocence Network and the most well-known exoneree nonprofit, the Innocence Project, is based out of Cardozo Law School in New York City. The Innocence Project has affiliated locations nationwide and provides legal services, networking, and resources to exonerees. It also secures postconviction DNA testing for inmates claiming innocence. The Innocence Project works to change and pass legislation necessary for exoneree reintegration and spreads awareness of wrongful conviction. Every year, the Innocence Network hosts a conference for

exonerees, families of exonerees, legal professionals, academics, students, and the public to educate people about wrongful conviction, provide networking opportunities, and allow exonerees to share their stories (Innocence Network, n.d.).

Another member of the Innocence Network, After Innocence, is a public charity based in Oakland, California. As a member of the Innocence Network, After Innocence's mission is to provide effective, efficient reentry assistance for exonerees and advocate for policy reform. The organization aims to secure compensation and reentry assistance that would help exonerees rebuild their lives (After Innocence, n.d.).

The Life After Exoneration Program, another member of the Innocence Network, is a national organization that focuses on helping exonerees to re-enter society and rebuild their lives. This organization works to ensure that exonerees have access to needed services, helps to build a community of exonerees, and supports policy reform that benefits exonerees. Specifically, Life After Exoneration coordinates services for exonerees and provides them with basic resources (e.g., food, clothing, transportation, computers, and emergency funds). Through the organization, exonerees are also matched with pro bono legal service providers. Life After Exoneration maintains a network of exonerees, lobbies for legislative reform, supports advocacy efforts, and develops model state policies outlining exoneree services (Life After Exoneration Program, n.d.).

Individual-Level Factors That Affect Reintegration

Many individual factors pertaining to exonerees can influence their ability to successfully reintegrate into society. Some of these factors are present even before a wrongful conviction, such as a person's individual characteristics, worldviews, and psychological processes (i.e., tendency to engage in counterfactual thinking, locus of control, and resilience). Some factors that might affect reintegration occur after a wrongful conviction during incarceration, such as trauma and abuse, coping strategies, sentence length, and social support. Finally, some of these factors occur during reintegration, such as mental and physical health, skills, social support, fear and guilt, advocating for exonerees, and therapy.

Before Wrongful Conviction: Psychological Factors and Worldviews

This section reviews the factors that occur before the conviction that can contribute to or hinder successful reintegration after release from prison. Many individual psychological characteristics, worldviews, and psychological processes can influence exoneree reintegration. This chapter focuses on counterfactual thinking, locus of

control (LOC), and resilience, as these factors have been researched in prison populations and are likely highly influential in exoneree reintegration.

Upward Counterfactual Thinking Counterfactual thinking occurs when people think about possible alternatives to events that have already happened. Specifically, upward counterfactual thinking occurs when people think about what they could have done differently to improve their current situation, whereas downward counterfactual thinking occurs when people think about ways their situation could have been worse (Mandel & Dhami, 2005). For example, a wrongfully convicted prisoner might engage in upward counterfactual thinking and think, "If I hadn't gone out that night, I wouldn't have been near the crime scene." Upward counterfactual thinking increases negative affect and can result in various explanations for past events including causality, preventability, and blame (Mandel & Dhami, 2005). Specifically, exonerees might believe that they caused the wrongful conviction, the wrongful imprisonment was preventable, and they are to blame for their own imprisonment. Upward counterfactual thinking also increases feelings of regret, dissatisfaction, guilt, shame (Mandel & Dhami, 2005), anxiety, and psychological distress (Callander, Brown, Tata, & Regan, 2007). Empirical research has found that prisoners who engaged in counterfactual thinking blamed themselves more and felt guiltier than those who thought about actual past events (Mandel & Dhami, 2005). Although past research was mostly conducted on prisoners who were not necessarily wrongfully convicted, exonerees who engage in counterfactual thinking might have similar emotional reactions. However, exonerees might feel guilty and blame themselves for causing their own plight rather than for committing an actual offense. For example, suspects who falsely confessed might blame themselves for their wrongful conviction because they failed to resist the influence of a coercive interrogation.

The negative affect that results from counterfactual thinking can impede successful reintegration. For example, distress from a coerced confession amplifies the negative consequences of long-term incarceration (Kregg, 2016). Continuous thoughts of guilt and self-blame can lead to poorer mental health (e.g., depression, anxiety; Abramson & Sackheim, 1977; Callander et al., 2007) and less ability to adapt in prison as well as post-release, compared to not engaging in counterfactual thinking.

Locus of Control Locus of control (LOC) refers to the belief that important personal outcomes are either the result of personal control (internal locus of control) or the result of fate, chance, and powerful others (external locus of control; Rotter, 1966). Although LOC has not been examined in exonerees specifically, some studies have examined this individual factor in prison populations. Generally, these studies concluded that inmates who believe that outcomes are internally controlled adapt better to both prison and reintegration compared to inmates who believe that outcomes are externally controlled (Mackenzie & Goodstein, 1986). Inmates who believe that outcomes are internally controlled also report being less depressed, anxious, and angry (Zamble & Porporino, 1988), are less likely to be deemed

"troublemakers" in prison (Wood Jr, Wilson, Jessor, & Bogan, 1966), are disciplined less frequently and less severely (Levenson, 1975), and retain more information necessary for survival during long-term incarceration (Seeman, 1963) compared to inmates who believe that outcomes are externally controlled. Most importantly, inmates who believe that outcomes are internally controlled experience a more successful transition back into the community upon release (Goodstein, 1979). These findings suggest that exonerees who have an internal LOC might adjust better to prison and upon release.

Although inmates who believe outcomes are internally controlled might experience better adjustment, it is possible that the unique and traumatic experience of wrongful conviction can alter a person's locus of control. People who are wrongfully convicted and imprisoned might believe that they have lost control of their lives and external forces are working against them because they did not actually commit a crime but are still punished as though they did. Thus, it might be difficult to maintain an internal locus of control after experiencing such an injustice. In addition, having an internal locus of control might be in some ways detrimental to exonerees. If exonerees believe that they control what happens to them, then exonerees might blame themselves for contributing to their own wrongful conviction.

Exonerees who have an internal locus of control might reintegrate better than exonerees who have an external locus of control because exonerees who believe that they have personal control over events that happen to them might be more likely to seek out opportunities to improve their lives post-release. For example, exonerees with an internal locus of control might persevere when searching for a job, whereas exonerees with an external locus of control might be more likely to end their job-seeking efforts early due to the belief that fate will not let them acquire a job. In addition, exonerees' locus of control might affect how they frame their reintegration process. Exonerees with an internal locus of control might be able to recognize that although they suffered an injustice, they need to take an active role in their reintegration (e.g., seek out resources). In contrast, exonerees with an external locus of control might adopt a passive role in their reintegration (e.g., only utilize resources that are presented to them).

Resilience Resilient exonerees likely experience more successful reintegration compared to non-resilient exonerees. In a broad sense, resilience is the ability to adapt and cope despite threatening or challenging situations (Agaibi & Wilson, 2005). Much of the research on resilience has focused on soldiers (e.g., Schaubroeck, Riolli, Peng, & Spain, 2011). Although once viewed as a static trait, modern conceptualizations posit that resilience is a dynamic process that is a result of ongoing transactions between people and their environment (Luthar, 2003) and that varies across time (Vanderbilt-Adriance & Shaw, 2008b).

Both protective and risk factors can interact to influence a person's resilience to adversity (Vanderbilt-Adriance & Shaw, 2008a). Protective factors are characteristics of the person, family, and environment that reduce negative effects of adversity such as high IQ level, emotion regulation, parenting styles (e.g., responsive

parenting), and living in a safe neighborhood (Masten & Reed, 2002). In contrast, risk factors are characteristics of the person, family, and environment that increase the likelihood of experiencing the negative effects of adversity such as living in poverty and in unsafe neighborhoods (Vanderbilt-Adriance & Shaw, 2008a).

Exonerees likely experience many risk factors and few protective factors when they are wrongfully imprisoned. For example, imprisonment likely serves as a large risk factor because prisoners often experience physical and psychological trauma (discussed in more detail in the section on trauma and abuse). Exonerees also often lose protective factors such as social support from family as a result of their conviction. When risk factors outweigh protective factors, the likelihood of a person remaining resilient decreases (Vanderbilt-Adriance & Shaw, 2008a). Because exonerees likely experience many risk factors and few protective factors during incarceration, they are likely to experience negative effects of their trauma such as increased anxiety and depression.

However, some exonerees do demonstrate resiliency both in prison and after they are released. Some exonerees draw strength from persistence regarding their innocence and refusal to admit guilt, even when it means being denied parole (Kregg, 2016). Other exonerees attempt to give back to their community (e.g., advocating for legal reform) despite all that has been taken from them (Weigand, 2009).

Exonerees who are more resilient likely reintegrate more successfully compared to those who are less resilient. Generally, resilience results in the ability to maintain normal functioning (mental or physical health) or better than expected functioning after adversity (Windle, 2011). Therefore, compared to exonerees who are less resilient, exonerees who are more resilient should be more likely to maintain functioning (e.g., fewer mental health issues) after experiencing adversity (i.e., wrongful conviction).

After Wrongful Conviction: Effects of Prison

In addition to individual-level factors that occur before wrongful convictions, there are factors that occur after the wrongful conviction that could influence exonerees' ability to reintegrate. For example, both prison life itself and duration of imprisonment can affect successful reintegration into society after exoneration (e.g., Kling, 1999; Schnittker & John, 2007; Thomas & Zaitzow, 2006). Although empirical data on exonerees' experiences in prison are lacking, data on prisoners in general demonstrate negative effects of incarceration related to trauma and abuse, a lack of social support, and amount of time served (e.g., Kling, 1999; Rantala, 2018; Schnittker & John, 2007; Wildeman, Costelloe, & Schehr, 2011; Wolff, Blitz, Shi, Siegel, & Bachman, 2007). Many of the factors present in prison have long-lasting effects on exonerees even after release from prison. We discuss more detail in the next section.

Trauma and Abuse Exonerees might have to endure tremendous trauma and abuse in prison. For example, Kalief Browder was accused of stealing a backpack at age 16 and spent 3 years imprisoned at Rikers Island Prison Complex while awaiting trial. Although his case was dropped due to a lack of prosecutorial evidence, Browder had such a troubled experience (e.g., physical abuse and extended solitary confinement) in prison and post-release that he ultimately committed suicide (Kysel, 2016; Schwirtz & Winerip, 2015).

Browder's case is a prime example of what some prisoners endure. Inmates often report experiencing psychological, physical, or sexual abuse and trauma while they are incarcerated (Grounds, 2004; Man & Cronan, 2001). Even though most of the research on trauma and abuse in prison reflects more general prison populations and not exonerees specifically, abuse and trauma likely have negative effects on the success of exonerees' reintegration (e.g., mental health; Chunias & Aufgang, 2008). Below, we discuss the sexual, physical, and mental harms exonerees might endure.

Sexual Harms In 2012, the U.S. government passed the Prison Rape Elimination Act (PREA), which sought to increase rates of reporting of sexual assault and rape among prisoners and decrease instances of assault and rape (Rantala, 2018). Since the passing of PREA, the rates of sexual assault allegations in jails and prisons have increased dramatically, but the rates of investigation and substantiation have remained relatively stable at about 8% of all reports (Rantala, 2018). In 2015, adult correctional authorities filed reports on 24,661 sexual victimization allegations, up from 8768 reports in 2011 (Rantala, 2018). Of the substantiated claims, over half (58%) of the incidents reported in 2015 were non-consensual sexual acts or abusive sexual contact carried out by inmates against other inmates, and the remaining incidents (42%) were sexual misconduct or harassment carried out by staff against inmates (Rantala, 2018). The 2011–2012 National Inmate Survey suggested that these incidents affect 3–4% of the jail and inmate population. In particular, inmates with mental disabilities or illnesses are nine times more likely than other inmates to experience sexual victimization (Beck, Berzofsky, Caspar, & Krebs, 2013). Experiencing sexual abuse or assault can have long-lasting consequences that could be pertinent to successful reintegration. Specifically, victims of sexual assault in prison tend to have higher rates of depression, suicidal ideation, and suicide attempts than prisoners who have not been assaulted (Dirks, 2004; Dumond, 2004; Struckman-Johnson & Struckman-Johnson, 2006).

Physical Harms Physical abuse and violence rates vary by prison, but some research has estimated that 13–35% of inmates experienced inmate-on-inmate violence, and 8–32% of inmates experienced staff-on-inmate violence in the preceding 6 months (Wolff et al., 2007). Other research found that 21% of male inmates were victims of any physical abuse, including victimizations both by other inmates and by staff (Wolff & Shi, 2010). Although the majority of research on prison abuse focuses on sexual abuse, physical abuse happens more frequently in prison, approximately five to ten times as often as sexual abuse (Wolff & Shi, 2010).

In addition to physical abuse, psychological trauma endured in prison can have lasting effects on physical health as well. Such feelings as rejection, anger, and bitterness and depression are associated with decrements in physical health, including chronic health conditions (e.g., Moussavi et al., 2007). After release from prison, former inmates continue to have negative health outcomes (Schnittker & John, 2007; Wildeman et al., 2011). These effects do not necessarily compound with longer sentences or more periods of incarceration, and serving any amount of prison time is associated with negative health consequences and thus can adversely affect exonerees (discussed later in the section on health; Schnittker & John, 2007; Wildeman et al., 2011).

Mental Harms All prisoners face potential mental harms such as distrust of others (Haney, 2002), institutionalization (Smith, 2006), deindividuation (Haney, Banks, & Zimbardo, 1973), and extreme prison overcrowding (Dye, 2010). Mental health outcomes might be especially deleterious for exonerees, relative to other prisoners, as they are more susceptible to Post Traumatic Stress Disorder (PTSD) and other mental health disorders (Wildeman et al., 2011).

Diagnosable mental health conditions are more common in exonerees than other prisoners. Although most prisoners demonstrate some symptoms of anxiety, depression, and PTSD during incarceration or after release, the rates of anxiety and depression tend to be higher in exonerees (Wildeman et al., 2011). For instance, researchers in one study interviewed 55 exonerees and found that over 40% were symptomatic of both clinical anxiety and depression (Wildeman et al., 2011). Another study of inmates found around 25% of inmates to be symptomatic for clinical depression, but estimates vary widely by study (Eyestone & Howell, 1994). This phenomenon is likely due to the additional trauma that exonerees might undergo due to being wrongfully convicted and incarcerated.

Prisoners also might become less trusting of others because of abuse and trauma, and therefore might hesitate to rely on others for support upon release (Haney, 2002). Because inmates often perceive that displaying a tough persona is necessary to avoid harm inside a prison, psychological distancing and isolation can become a necessity (Haney, 2002). However, psychological distancing also contributes to the institutionalization most inmates undergo (Chunias & Aufgang, 2008; Haney, 2002), creating psychological changes related to adapting to prison life. This distancing is especially the case for inmates who are subjected to solitary confinement (Smith, 2006). Although psychological distancing can be used as a coping mechanism both in solitary confinement and the general prison population, it is often coupled with depression, flat affect, diminished self-worth, and internalized stigma as well (Chunias & Aufgang, 2008).

Prisoners might experience deindividuation as a result of being assigned and referred to by a number, thereby losing perceived personal control (Haney et al., 1973). However, some research has found that prisoners developed a sense of shared group identity that provided social support and more effective resistance to situational adversity (Haslam & Reicher, 2006). Although the classic model of deindividuation would predict negative outcomes for prisoners who lose their sense of

self, more recent models of deindividuation (e.g., social identity models of deindividuation) suggest the phenomenon is more related to maximizing collective identities rather than solo identities and is not necessarily related to negative outcomes (see Reicher, Spears, & Postmes, 1995, for a review).

Overcrowding not only decreases prisoners' physical health, but also impairs their mental health (e.g., Dye, 2010). Overcrowding is related to stress and negative health outcomes (see Gaes, 1985, for a review) and even higher rates of suicide among prisoners, relative to prisons with lower rates of overcrowding at the same security level (suicide rates tend to increase with increases in security level; Dye, 2010; Huey & McNulty, 2005). This relationship is strongest in prisons with the greatest proportion of inmates seeking treatment for mental health issues (Dye, 2010). Overcrowding also means a higher inmate-to-staff ratio, making it more difficult to service the mental health needs of all prisoners who seek help (Haney, 2006). Particularly, the negative effects of overcrowding on mental health tend to be strongest in younger inmate populations (Ekland-Olson, Barrick, & Cohen, 1983; Haney, 2006).

It should be noted that the reviewed research on negative health consequences and prison/overcrowding were mostly conducted in general prison populations or in research labs, but the effects are likely compounded for exonerees because they endure prison with the knowledge they did not commit the crime for which they were incarcerated (Chunias & Aufgang, 2008). All these variations of trauma might be re-experienced if they are triggered in exonerees post-release (Grounds, 2004), and if negative health outcomes persist after exoneration. To deal with such trauma, prisoners often develop coping strategies.

Coping Strategies Social support is a critical part of reintegration (e.g., May, Sharma, & Stewart, 2008), and some prisoners seek positive social support while incarcerated, such as religion or relationships within their prison network. Other prisoners attempt to maintain support ties with friends and family outside the prison (e.g., DeShay, 2016; Visher, LaVigne, & Travis, 2004; Visher & Travis, 2003). These ties remain critical after release and are an important factor for predicting whether someone will successfully reintegrate or reoffend (May et al., 2008; Visher & Travis, 2003).

Exonerees are generally adaptive and rely primarily on positive coping mechanisms (Campbell & Denov, 2004; DeShay, 2016). In one study, the majority of the interviewees used religious practices, such as prayer and faith, to endure incarceration and adjust to post-prison life (DeShay, 2016). Other coping mechanisms included meeting with and helping other exonerees re-acclimate after exoneration, meaning-making coping (by searching for a deeper reason for their experience of being convicted and exonerated), mental health counseling, and some negative coping strategies (e.g., withdrawing; DeShay, 2016). However, the sample for this study consisted of just nine of the 23 exonerees from Texas state prisons (DeShay, 2016), so it is possible the exonerees who agreed to participate were those who used positive coping mechanisms at a disproportionate rate.

Exonerees who reported a religious or spiritual conversion often stated that their newfound spirituality enabled them to cope with adversity and made life in prison more bearable (DeShay, 2016). Religion also helped them to put their adversity into perspective and adopt a positive outlook on life (DeShay, 2016). Exonerees who adopt religion often report finding a purpose in life and reintegrate more successfully, relative to exonerees who do not report finding a purpose in life (Kerley & Copes, 2009). Religious conversions are common in prison settings and result in behavioral changes, such as seeking out other religious associates and avoiding negative aspects of prison life (Kerley & Copes, 2009), but a religious conversion is not always necessary for positive outcomes. Other research has demonstrated that simply believing in a higher power is sufficient to reduce negative behaviors (e.g., arguing, fighting) among inmates (Kerley, Matthews, & Blanchard, 2005). Despite the reported benefits of religiosity in prisons, some officials contend that instituting religious programs relaxes security, provides mechanisms for inmates to circumvent rules, and facilitates gang meetings and activities under the guise of religious meetings (Thomas & Zaitzow, 2006).

Some prisons offer programs and services outside of religion to their inmates. These programs can also assist inmates with reentry. For example, contact with probation officers, working on job skills with a club within the prison, and taking a course in victim awareness are all related to reduced rates of recidivism (May et al., 2008). Recidivism is also contingent on numerous other factors that can vary by inmate. These programs are likely beneficial for helping exonerees cope within prison and reintegrate after release.

Duration of Imprisonment Another factor that likely affects exonerees' ability to reintegrate is the amount of time served in prison (Schnittker & John, 2007; Thomas & Zaitzow, 2006). The longer people stay in prison, the longer they are isolated from a changing outside world and the less marketable their job skills might become (Kling, 1999, 2006). However, the long-term effect of amount of time served on employment prospects is mixed: after several years post-release, there is no measurable decrease in employment prospects relative to increased time served (Kling, 2006).

More time served often results in families withdrawing from their incarcerated relatives by decreasing the frequency of visits or stopping visits altogether (Schnittker & John, 2007). Reduced familial contact can lead to reduced support both during incarceration and after release (Visher et al., 2004). Incarceration can have negative effects on families, as the time apart can result in poorer and less communication (Visher et al., 2004). The strain on relationships due to incarceration can then magnify upon release (Chunias & Aufgang, 2008). Lengthy amounts of prison time can also result in an adaptation to prison life, restricted freedoms, intense routine, a new social environment, and uncertainty about how to function as a citizen. These negative effects of lengthy imprisonment durations make it more difficult to reintegrate and relate to friends and family after release, and these difficulties and traumas increase with longer prison sentences (Chunias & Aufgang, 2008; Smith, 2006). We discuss these reintegration difficulties next.

During Reintegration

In addition to obstacles to successful reintegration as a result of prison life, exonerees face many challenges after they are released from prison. This section will discuss the factors that occur upon release which promote or hinder successful reintegration into society, including mental and physical health, skills, social support, fear and guilt, and participation as both an exoneree advocate and in group therapy.

Mental and Physical Health Exoneree mental health is one of the largest obstacles to successful reintegration (Grounds, 2004). Mental health issues are extremely prevalent and pervasive among exonerees as a result of experiencing life in prison and injustice (Grounds, 2004). Long-term psychological effects of wrongful imprisonment manifest after exoneration (Grounds, 2004) and include long-term personality change, PTSD, anxiety disorders, depression, grief, loss, suicidal ideation, loss of sense of self, and other psychiatric disorders (Clow, Leach, & Ricciardelli, 2011; Kregg, 2016; Norris, 2012; Wildeman et al., 2011). Post-release, exonerees might have difficulties coping with stigma, feelings of bitterness, social rejection, and anger (Norris, 2012). They also tend to withdraw and isolate themselves socially (Wildeman et al., 2011).

Many exonerees are also released with physical health issues such as malnutrition, muscular atrophy, asthma, skin rashes, and premature aging (Norris, 2012). These physical health problems are partly a result of sub-standard prison health care (Norris, 2012). People are also more likely to contract diseases in prison because contagious life-threatening diseases are more prevalent in the prison population than in the general population (Chunias & Aufgang, 2008). For example, although only about 2% of the U.S. population is infected with Hepatitis C, approximately 30% of prison populations have the disease (Chunias & Aufgang, 2008), due to increased transmission resulting from factors such as overcrowding and delays in medical evaluation (Bick, 2007). These mental and physical health issues hinder exonerees' ability to obtain employment, recover from their trauma, re/build relationships, and rebuild their lives.

Skills Many exonerees are abruptly released with few or no marketable job skills or educational training necessary to build a successful career (Chunias & Aufgang, 2008; Norris, 2012). They also often lack appropriate work experience (Wildeman et al., 2011). There are several reasons for their lack of skills. First, some exonerees are convicted at a fairly young age. For example, John Bunn was wrongfully convicted for the murder of an off-duty corrections officer at the age of 14. He spent 17 years in prison before he was paroled in 2009. Thus, he was imprisoned without ever finishing high school or receiving any type of work experience (Possley, 2018).

Second, exonerees spend an average of 14 years behind bars (Innocence Project, 2019). Society and technology drastically change in this amount of time. Many exonerees have not encountered mundane technology such as computers, cell

phones, answering machines, ATMs, and the internet (Clow, Blandisi, Ricciardelli, & Schuller, 2011; Norris, 2012). Exonerees report inexperience with and anxiety about new technology (Clow, Blandisi, et al., 2011). They also report difficulties with simple tasks including crossing the street, using a microwave, and handling money (Kregg, 2016). This lack of basic technological knowledge makes it difficult to find employment in today's technology-driven society. Even if an exoneree possessed professional skills prior to conviction, technological advances likely render these previous skills outdated. In addition, some exonerees' past professions are unattainable after wrongful conviction (e.g., working in childcare) unless their criminal record is expunged.

Third, exonerees often do not receive the training and service programs that are offered to prisoners nearing parole or release because exonerees are often abruptly released (Chunias & Aufgang, 2008). Thus, some exonerees are unable to effectively prepare for future employment. Although some prisoners learn new skills while in prison, many times exonerees are preoccupied with proving their innocence (Campbell & Denov, 2004). In this case, some exonerees learn legal skills that might be applicable upon release.

Possessing basic life and social skills and other skills necessary to gain employment influence an exoneree's ability to reintegrate into society (Gunnison & Helfgott, 2011; Page, 2013). Basic skills such as the ability to navigate a local library and use the internet can help an exoneree gain access to resources (e.g., public benefits). In addition, gaining employment reduces mental health issues and is one of the most important factors for successful reintegration. Despite deficiencies in life and employable skills, prisoners often do not experience deficits in social skills (Lawson, Segrin, & Ward, 1996). Many prisoners possess adequate social skills such as negative assertion (i.e., acknowledging criticism without becoming defensive) and conflict management (Lawson et al., 1996). Prisoners likely have adequate social skills because they must use them both to assimilate to prison culture and to negotiate with staff and other inmates for rewards (e.g., desirable prison jobs, respect; Lawson et al., 1996).

Social Support Social support is necessary for successful reintegration. Upon release, most exonerees must rely on friends and family for housing because states do not provide the same immediate resources for exonerees as they do for many parolees or released inmates. In addition, exonerees must rely on others for basic needs (e.g., food, clothing) until they can establish their own independence. One study found that of 55 exonerees who had been out of prison for an average of 5.65 years, 41.8% still lived in the residence of another person (Wildeman et al., 2011). Exonerees who do not have the support of friends and family often end up in homeless shelters (Chunias & Aufgang, 2008).

Although some exonerees' families provide physical resources, the relationships between exonerees and their families are often strained, at least in part, due to the wrongful conviction. Families change dramatically during the time the exoneree is imprisoned (Norris, 2012) and, as previously stated, families sometimes stop visiting exonerees in prison (Grounds, 2004). Other times, family members continue to

believe in the exonerees' guilt, despite their exoneration (Norris, 2012). This challenge is unique to exonerees because they often lose family members due to no fault of their own (compared to guilty prisoners). Some family members refuse to take in exonerees because they believe the exonerees "must have been guilty of something!" (Westervelt & Cook, 2010, p. 262). Sometimes exonerees' families experience negative effects as a result of the wrongful conviction, even if they believe in their loved one's innocence. For example, families of the wrongfully convicted are sometimes shunned, ridiculed, and become victims of vandalized property (Grounds, 2004).

Although some families attempt to support and rebuild relationships with a wrongfully convicted family member, many families are overwhelmed by the exoneree's psychological difficulties (Grounds, 2004). In addition to psychological disorders (e.g., depression, PTSD), exonerees are often socially withdrawn, experience flat affect, and have trouble connecting with family (Grounds, 2004). These deficits make it difficult for families to provide emotional support and for exonerees to receive support. Even though many of these difficulties are experienced by both exonerees and regular previous offenders, they are often more pronounced for exonerees due to their experienced injustice (Grounds, 2004). For example, fear and paranoia of being rearrested are a unique symptom that exonerees experience (Chunias & Aufgang, 2008).

Fear and Guilt After release, exonerees are often plagued by both fear and guilt. Many exonerees live in fear of being wrongfully convicted again (Chunias & Aufgang, 2008), a concern that other former prisoners (i.e., the rightfully convicted) do not share. Grounds (2004) found that nearly all exonerees showed fear or paranoia of being surveilled or re-apprehended by law enforcement. These fears are especially enhanced when exonerees are actually subjected to post-release police surveillance (Norris, 2012). For example, exoneree Daryl Hunt was so afraid of being rearrested that he went to the ATM every day to ensure that his whereabouts were recorded. After spending 12 years in prison, upon his release, David Shephard collected physical evidence such as bus ticket stubs to corroborate his activities. Kirk Bloodsworth, the first death row exoneree, made sure that someone knew where he was at all times (Clow, Leach, & Ricciardelli, 2011). Other exonerees stay in their homes, afraid to go anywhere.

Although many exonerees feel relieved after release, some still experience guilt for leaving prison. For example, exonerees sometimes experience guilt for leaving behind fellow inmates who also claimed to be innocent. Upon release, exonerees might be prohibited from contacting anyone who is still in prison (Kregg, 2016). This prohibition makes it difficult to keep in touch with friends from prison. Grounds (2004) described how one exoneree often drove by the prison where he was incarcerated and felt that he could not separate himself from prison.

Participation in Advocacy and Group Therapy Exonerees who participate in civic engagement and therapy likely adjust better post-exoneration than those who do not (Clow, Leach, & Ricciardelli, 2011). Many exonerees become advocates for

the wrongfully convicted and go on to work with organizations that assist exonerees. Specifically, many exonerees participate in the Innocence Network's annual conference and share their stories. Exonerees who speak at these conferences report that sharing their story is one of the most positive aspects of the conference (Wildeman et al., 2011), and this engagement often positively reframes an exoneree's negative experience (Clow, Leach, & Ricciardelli, 2011). Becoming an exoneree advocate also helps exonerees to build community and restore a sense of meaning in their lives.

In addition to advocacy, exonerees likely benefit from group therapy (Clow, Leach, & Ricciardelli, 2011). Group therapy not only allows survivors to socialize with other people who have been through similar trauma; it also helps them to establish a sense of community, family, and membership (Clow, Leach, & Ricciardelli, 2011). Hearing that similar survivors experience the same challenges can also help validate the feelings of other exonerees. As one exoneree stated, "Peer support is vital—there are enough of us exonerees, and nobody gets us like we get each other" (Zack, 2018). However, these individual-level factors are not the only factors that influence exoneree reintegration. The legal policies discussed next also affect reintegration success.

Policies That Affect Reintegration

Policies regarding exoneration can greatly influence an exoneree's ability to reintegrate. Compensation, expungement, employment, and housing policies all affect exonerees' ability to gain necessary resources to rebuild their lives (e.g., Chunias & Aufgang, 2008; Norris, 2012; Shlosberg et al., 2011).

Compensation

Compensation policies are important for successful reintegration. The two types of exoneree compensation include monetary compensation (i.e., financial compensation) and compensation through provision of other necessary services (e.g., job training).

Monetary As a result of legal fees, long-term incarceration, and relatively low SES on average, exonerees have few financial resources upon release (Norris, 2012). In order to begin to rebuild their lives, most exonerees need financial compensation for housing, food, and other expenses. In addition to simply providing necessary financial resources, compensation also helps to rectify injustice by providing exonerees with wages lost due to incarceration.

There are generally three ways for exonerees to obtain compensation. First, exonerees can draft a compensation proposal (i.e., a private bill) and attempt to introduce it to the state legislature. Only 9% of Innocence Project exonerees receive compensation through a private bill because this method is extremely difficult due to high burdens of proof, and it only benefits the exoneree who drafted the bill (Norris, 2012). Second, some exonerees bring a lawsuit against the state as a tort claim or under civil rights statutes. About 28% of Innocence Project exonerees have received compensation through this process because these cases are difficult to win (i.e., due to doctrines of immunity that protect police and prosecutors: Bernhard, 2009), and they are costly and time consuming (Norris, 2012). Even when drafting a bill or bringing a lawsuit is successful, exonerees wait an average of 4 years before they receive their awards (Norris, 2012).

Third, the quickest and most reliable avenue for exoneree compensation is through state or federal compensation statutes. In 2004, Congress passed the Justice for All Act, guaranteeing exonerees of federal crimes $50,000 for every year spent in prison and an additional $100,000 for every year spent on death row (Rodd, 2017). As of 2018, 33 states have compensation laws.[1] Although exonerees who receive compensation likely have more positive outcomes than exonerees who receive none (Innocence Project, 2019), some states put strict eligibility requirements (e.g., requiring a full pardon, limited compensation, must not have pled guilty or falsely confessed) on applying for compensation. The amount of compensation also varies greatly by state (Norris, 2012). For example, Wisconsin gives exonerees $5,000 per year of incarceration with a maximum of $25,000. Texas, in contrast, compensates exonerees $80,000 per year served and, in addition, provides a lifetime annuity of the same amount (Innocence Project, 2018). In May 2018, Kansas passed a compensation law providing $65,000 per year of wrongful imprisonment and an additional $25,000 per year in which the exoneree was on parole, probation, or the sex offender registry. This law also provides social services to assist exonerees with short-term and long-term needs, including housing and tuition assistance, counseling, health care, financial literacy training, and a certificate of innocence and expungement from the state (Innocence Project, 2018). Some states that do not provide monetary compensation based on time spent incarcerated leave the amount of compensation up to the discretion of a judge or a committee (Norris, 2012).

Kansas's approach to exoneree compensation closely matches that recommended by the Innocence Project. The Innocence Project recommends compensating exonerees a yearly amount of $63,000 (adjusted from $50,000 to account for inflation) with an additional $63,000 for every year spent on death row and an additional $25,000 for every year spent on parole, probation, or as a registered sex offender (Innocence Project, 2019). In addition, the Innocence Project recommends no limitations or disqualifiers to this compensation.

[1] Alaska, Arizona, Arkansas, Delaware, Georgia, Idaho, Indiana, Kentucky, Nevada, New Mexico, North Dakota, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, and Wyoming do not have exoneree compensation laws.

Services In addition to monetary compensation, exonerees need additional services to aid them in reintegration, as discussed above. The Innocence Project recommends services for exonerees beyond financial compensation. Needed services include resources for physical and emotional health; job training; assistance in obtaining housing, food stamps, education credits, and vocational training; and substance abuse programs (Chunias & Aufgang, 2008). Although 33 states compensate exonerees financially, not all states aid exonerees beyond monetary compensation (Norris, 2012). Whereas most states have services and regulations in place to assist *parolees* in reintegrating—or at least laws acknowledging that discrimination against them is unlawful—far fewer services and regulations exist for *exonerees* (Chinn & Ratliff, 2008; see The National Registry of Exonerations website for detailed description of individual states' compensation schemes). For instance, parolees are assigned a parole officer to check in with them, ensure that they are adhering to the requirements of their parole, and help them utilize parolee services. No such person exists for exonerees (Chinn & Ratliff, 2008).

Thus, solely compensating exonerees financially is substandard compared to the Innocence Project compensation recommendations. In 2004, Massachusetts became the first state to provide services beyond monetary compensation to address physical and mental health, and it gave exonerees a 50% tuition reduction at state colleges (Chunias & Aufgang, 2008). However, this type of compensation is rare.

It is important that exonerees receive services immediately upon release (Innocence Project, 2019). Receiving support immediately after release is correlated with exonerees' long-term functioning (Weigand, 2009). People who are wrongfully convicted are often released abruptly with little or no time to prepare (Chunias & Aufgang, 2008). Prison officials typically give exonerees less than one day's notice prior to their release (Westervelt & Cook, 2010). Because release is often unpredictable, exonerees cannot utilize the transition programs that other prisoners take advantage of (Chunias & Aufgang, 2008). The abruptness also makes it difficult to adapt to the change of reentering society. As discussed previously, exonerees are often released with physical and mental health issues as a result of long-term incarceration. Despite these health issues, exonerees are not provided means of obtaining health care and are expected to figure out how to receive public assistance on their own (Chunias & Aufgang, 2008). Also, exonerees are unable to take advantage of programs that help parolees or guilty prisoners who are released (Clow, Leach, & Ricciardelli, 2011). It is somewhat paradoxical that actual offenders receive better assistance than people who were wrongfully imprisoned. For example, four agencies that provide services to previous offenders denied assistance to David Shephard because he had not actually committed a crime (Innocence Project, 2019).

Expungement

Expungement does not always follow exoneration (Shlosberg et al., 2011). Expungement refers to the process of destroying a record of criminal conviction or sealing it from the state or federal registry (Shlosberg et al., 2011). Despite the common belief that most exonerees' records are expunged, one study found that even though the entire sample of exonerees had been deemed not guilty by an official body, 42% of them still had evidence of the conviction on their record (Shlosberg et al., 2011). Although expungement seems like a natural process, once a person is exonerated, this is not always the case.

Similar to compensation statutes, expungement laws vary by state. In the Shlosberg et al. (2011) sample, none of the exonerees who lived in New York had any record of prior convictions because New York has an almost automatic expungement process. On the other hand, exonerees who lived in Florida, Texas, or Illinois did not experience complete or automatic expungement. Expungement in these states was more irregular.

Due to variations in expungement laws, rates of expungement can vary by state (Shlosberg et al., 2011). Some states do not permit the expungement of certain records, whereas other states expunge records under very limited circumstances. In Florida, for example, exonerees are not eligible for expungement if they pled guilty to the offense. In Illinois, almost all felony convictions are ineligible (Shlosberg et al., 2011). This is somewhat incongruous because people who were wrongfully convicted of a felony are likely the people who are most in need of expungement. States' definitions of expungement also vary. Whereas expungement in some states means that the criminal record is completely destroyed, expungement in other states does not prevent law enforcement from accessing the record (Shlosberg et al., 2011).

The absence of expungement affects exoneree reintegration in multiple ways. First, with a criminal record, it is difficult for exonerees to obtain employment—even if they explain that the conviction was overturned. By contrast, successful expungements allow exonerees to answer "no" when asked if they have ever been convicted of a crime (Shlosberg et al., 2011). This ability to answer no helps exonerees shed the label of "criminal" and begin to rebuild their lives. Second, having a criminal record also limits exonerees' legal rights, such as the rights to vote and hold office, the right to own a firearm, and the right to serve on a jury. It even eliminates the possibility of being a foster parent or adopting a child. In addition, having a criminal record can reduce an exoneree's ability to obtain government assistance (e.g., housing, welfare, food stamps, and financial assistance) and government documents (e.g., birth certificate, social security card, and driver's license: Shlosberg et al., 2011). As a result, exonerees might still struggle to gain rights back that should have never been taken away even after being released. Indeed, failure to expunge the wrongful conviction poses challenges to exonerees' adjustment and predicts post-exoneration offending. This correlation is particularly strong for exonerees who had never been convicted prior to the wrongful conviction (Shlosberg, Mandery, West, & Callaghan, 2014).

Employment

Although some organizations, such as the Life After Exoneration Program and the Innocence Project, assist exonerees in finding stable employment, few states have taken legislative action to assist exonerees in this pursuit (Lonergan, 2008). As discussed above, many states do not automatically expunge criminal records after exoneration (Shlosberg et al., 2011). As a result, prospective employers can see exonerees' unexpunged criminal records in background checks (Connerly, Arvey, & Bernardy, 2001).

The question, "Have you ever been convicted of a felony?" that appears on most standard job applications can be problematic for exonerees whose record was not expunged (Clow, 2017; Healy, 2013). Exonerees must answer "yes" to this question (unless their record has been expunged), and then use the space below to elaborate on and explain the exoneration (Clow, 2017). However, many employers discard an application as soon as they see the applicant has been convicted, as was the case with Neil Miller (Wilson, 2003). Miller, wrongfully convicted of aggravated rape and robbery, had difficulty finding work after being exonerated because he "could not convince employers that he was innocent" (Ebbert, 2002 as cited in Wisneski, 2004). Miller advocated for reform and was instrumental in passing new Massachusetts compensation laws (Lonergan, 2008; Wilson, 2003). Miller is one of many exonerees who struggle to find steady employment (Healy, 2013; Wilson, 2003).

In 2004, the nationwide "Ban the Box" campaign began as a result of employment difficulties for both exonerated and rightfully convicted prisoners who have completed their sentences ("Ban the Box Campaign", 2019). Members of this movement aim to remove the question regarding felony convictions from job applications both through legislation and companies' voluntary compliance ("Ban the Box Campaign", 2019). To date, 45 cities and counties and seven states have adapted their government hiring policies to align with the suggestions provided by Ban the Box, and the campaign has extended to housing in some locales ("Ban the Box Campaign", 2019). Colorado, Kansas, and Indiana became the most recent states to "ban the box" when their governors signed executive orders in May 2019, May 2018, and June 2017, respectively (Carden, 2017; Daniels, 2019; Strader, 2018).

In 2015, President Obama signed an executive order that prevents questioning about criminal records for jobs within the federal government (Boyer, 2016). In late 2018, President Trump signed the First Step Act, which also contained provisions supporting Ban the Box. In Spring 2019, both the House and the Senate introduced bills to formally write President Obama's executive order into law (NELP, 2019). As of November 2019, neither bill has received a vote.

It should be noted that employers might be reasonably hesitant to give up "the box" or criminal background checks entirely. Employers can be held liable for negligent hiring practices if they "expose the public and their employees to potentially dangerous individuals" (Connerly et al., 2001, p. 174). In civil litigation over negligent hiring, employers are found to be at fault in the large majority of cases

(Connerly et al., 2001). As a result, practices of not hiring persons with criminal convictions on their records could help protect employers from lawsuits (Connerly et al., 2001), despite the potential negative influence these practices could have on exonerees' ability to acquire a job.

Applicants who believe that they have been denied a job as a result of hiring discrimination might have cause for legal recourse, and this includes exonerees. As part of Title VII within the Civil Rights Act of 1964, employers cannot discriminate in their hiring practices; this law is enforced through the Equal Employment Opportunity Commission (EEOC; Jacobs, 2015). If an applicant can show evidence of disparate treatment based on race, religion, color, nationality, or another protected basis or show disparate impact—such that a hiring policy negatively affects a group of people—the applicant could file with the EEOC under Title VII. Exonerees are not explicitly mentioned in Title VII, and courts have not ruled on whether they constitute a protected class. Laws on hiring practices vary by state, but all states adhere to Title VII as a minimum (Jacobs, 2015).

A substantial aspect of exonerees' difficulty finding employment is their gap in work history (e.g., Chunias & Aufgang, 2008; Lonergan, 2008). Time spent in jail or prison inherently means time not spent in the workforce, as well as time not spent acquiring necessary and marketable skills (Chunias & Aufgang, 2008; Lonergan, 2008). It might seem that a longer sentence should intensify the lack of skills and recent work history, although Kling (2006) found no relationship between sentence length and employment prospects. This suggests that any gap in work history—no matter how short—is detrimental; perhaps being imprisoned in and of itself is a bigger predictor of work history than sentence length.

Employment prior to wrongful conviction can also make a difference in the benefits received after exoneration. Social Security Disability Insurance grants benefits to exonerees who worked a minimum length of time and paid Social Security before they were convicted (Chinn & Ratliff, 2008). With some rather stringent qualifications, exonerees who meet the minimum work period and other disability requirements (e.g., being an exoneree) can receive these benefits (see Chinn & Ratliff, 2008, for a review).

Housing

Housing is another common issue for exonerees, and for many of the same reasons (i.e., retaining an indication of a felony conviction on their record due to lack of expungement and the question regarding felony convictions on rental applications). For example, landlords often refuse to rent to people with criminal records (Healy, 2013; Lonergan, 2008). As a result, exonerees' housing options are limited.

Discrimination cases for housing are filed under Title VIII of the Civil Rights Act of 1968 and the Fair Housing Act, which is enforced by the Office of Fair Housing and Equal Opportunity within the U.S. Department of Housing and Urban Development ("Fair Housing Act", 2015). Some scientists and advocates have

recommended policies that allow exonerees to move into public housing projects or that give Sect. 8 housing vouchers for a determined amount of time, but most states do not offer such opportunities (Lonergan, 2008). In addition to discrimination toward exonerees, it is important to examine the community's attitudes toward these policies that affect exonerees.

Community Sentiment Toward Policies Affecting Reintegration

Community sentiment refers to attitudes or opinions of a given population (Miller & Chamberlain, 2015); in this case, the population includes the general public, landlords, employers, and exonerees themselves. Thus, community sentiment is relevant to exoneree compensation laws, services for exonerees, and expungement, employment, and housing policies. If the public supports compensation laws for exonerees, for example, the government might respond by enacting such laws (Clow, Blandisi, et al., 2011). A small majority of people (57.4%) believe that wrongful convictions occur at such a frequency to justify changes within the criminal justice system (Zalman, Larson, & Smith, 2012). Respondents who were non-White, female, less educated, unmarried, and opposed to the death penalty were most likely to support criminal justice system reform (Zalman et al., 2012). However, support for criminal justice reform in general is quite broad and could be interpreted as referring to both policies preventing wrongful convictions and policies pertaining to exoneree reintegration. Thus, community sentiment might vary toward specific policies such as monetary compensation and exoneree services. Justice principles might also influence community sentiment toward these policies, as will be discussed in this section.

Community Sentiment Toward Monetary Compensation Between 90 and 100% of people support monetary compensation laws for exonerees (Clow, Leach, & Ricciardelli, 2011; Reid, 1995). One study that interviewed community members regarding compensation policies found that all interviewees believed that exonerees should be financially compensated (Clow, Leach, & Ricciardelli, 2011). Most believed that exonerees should be compensated as a result of the injustice that they experienced. However, they gave varying reasons for why they believed exonerees should be compensated. For example, some people believed that exonerees need money to start their lives over, whereas others believed that exonerees should receive compensation for lost time and wages while imprisoned. In addition, some interviewees believed that exonerees should be compensated because money is important to re-establish the exonerees' reputations. Although interviewees supported compensation laws, most were not aware of how many exonerees receive compensation or the amount of compensation they receive (Clow, Leach, & Ricciardelli, 2011).

Community Sentiment Toward Other Services Interviewees in the Clow and colleagues' study (2011) also expressed that the government should go beyond monetary compensation. Specifically, interviewees believed that exonerees need

services regarding employment and job training, housing, counseling, education, and community reintegration (Clow, Leach, & Ricciardelli, 2011). Interviewees believed that expungement and publicizing of innocence are also necessary for exonerees (Clow, Leach, & Ricciardelli, 2011). Still, some interviewees found it difficult to think beyond monetary compensation. For example, when asked whether the wrongly convicted should be compensated by other means, one interviewee replied, "Like how? Our society is unfortunately all based on money. So I don't know how else you could compensate him" (Clow, Leach, & Ricciardelli, 2011, p. 1430). Other research has found no difference in sentiment between exonerees and a person with no criminal history or between those exonerated by DNA and those exonerated through non-DNA methods on measures of deservingness of government-funded services (Thompson, 2014).

Community sentiment toward exoneree services can vary depending on the crime and the way in which the exoneree was wrongfully convicted. People are generally less supportive of psychological counseling services when the exoneree is a White male convicted of a racially stereotypic crime (e.g., embezzlement) compared to an African American male convicted of a non-stereotypic crime (like embezzlement; Scherr, Normile, & Sarmiento, 2018). People are also less likely to support psychological services, career counseling services, and job training services when exonerees falsely confessed than when exonerees were convicted by erroneous eyewitness identification (Scherr, Normile, & Putney, 2018; cf. Clow & Leach, 2015b).

Community Sentiment Toward Employment and Housing Employers and landlords are important populations from which to assess community sentiment because they play a pivotal role in exonerees receiving wages and finding housing. There is a lack of research about how employers view exonerees, though one study found they are not treated the same as the average applicant on the job market (Clow, 2017). Employers were more likely to respond to a general application (i.e., one that did not report a prior conviction) for a job posting compared to applications that reported a prior conviction. This discrepancy in responses was not due to gaps in work history. In addition, employers were equally unlikely to respond to applications that reported a past conviction and applications that reported a wrongful conviction (Clow, 2017).

Though there is little research on how employers view exonerees, some relevant research examined employers' attitudes about previous offenders. A small majority (53%) of surveyed employers reported willingness to hire previous offenders (Giguere & Dundes, 2002). Most of the concern about hiring previous offenders is related to their lack of skills and the potential customer discomfort. Employers also self-reported either "minor" or "major" concern that customers would feel uncomfortable if they knew that a previous offender was employed (81%) and that employees would feel uncomfortable if they knew that a previous offender was employed (77%). Due to these concerns, employers might decide not to hire previous offenders (Giguere & Dundes, 2002). In addition, customers might be aware of an

employee's criminal record because sometimes exonerees' high-profile cases gain a lot of media attention or exonerees return to work in the communities in which the crimes they were convicted of were committed. As mentioned previously, exonerees' conviction records are not always expunged (Shlosberg et al., 2011), so if exonerees have to report their prior convictions, employers might be unwilling to hire exonerees, as they often are with previous offenders.

Many employers (49%) reported that length of time incarcerated would affect hiring decisions. One-half of employers reported that lengthy incarceration times reflect seriousness of the crime, whereas the other half reported length of incarceration would affect how the previous offender adjusts to society (Giguere & Dundes, 2002). When asked specifically about type of crime, 61% of employers reported that they would avoid offenders convicted for murder, 58% would avoid offenders convicted of robbery, 52% would avoid offenders convicted of rape, and 23% would avoid offenders convicted of child abuse (Giguere & Dundes, 2002).

One of the physical needs exonerees have immediately upon release from prison is housing (Westervelt & Cook, 2008). However, exonerees do not receive help finding housing (Westervelt & Cook, 2008). Public opinion could affect decisions to rent properties to exonerees (Clow & Leach, 2015a). For example, property owners might be hesitant to rent to someone who has a criminal conviction, even if this conviction was overturned. However, there is no published research on property owners' sentiment toward exonerees.

Community Sentiment and Justice Principles Procedural justice, compensatory justice, and legitimacy frameworks can be used to explain and predict both the public's and exonerees' community sentiment toward exoneree compensation laws. Community sentiment is an important consideration when evaluating justice goals because a sense of justice and legitimacy is increased when lawmakers adopt laws that align with community sentiment (Miller & Chamberlain, 2015).

Procedural Justice Procedural justice refers to perceived fairness of the methods used during decision-making (Tyler, 2006b). Two types of procedural justice include quality of decision-making and quality of treatment (Tyler, 2006b). People are more likely to have positive sentiment toward a procedure when these two types of procedural justice occur (Tyler, 2006b) or when people feel that they have process or decision control (Thibaut & Walker, 1975). Process control refers to the extent to which people can present evidence on their own behalf, whereas decision control refers to whether people have a voice in the decision (Thibaut & Walker, 1975). Thus, exonerees are likely to believe that compensation is procedurally just if they can present evidence on their behalf or if they have a voice in compensation laws and decisions. If exonerees have no voice in the amount of compensation they receive, it is unlikely that they will perceive that the process of receiving compensation was procedurally just. States that do not have compensation statutes sometimes have judges determine the amount of compensation awarded. In these instances, to achieve procedural justice, judges should consider evidence presented by exonerees and include them during the decision-making process for the amount of compensation awarded.

Compensatory Justice The compensatory justice framework can also help explain people's sentiment toward compensation laws for exonerees. The goal of compensatory justice is to restore the victim's life to the same, or close to the same, level as before the harm (Darley & Pittman, 2003). Compensatory justice is often achieved in the form of monetary compensation (Darley & Pittman, 2003), though others argue that exonerees need to be compensated by also receiving reintegration services (e.g., Chunias & Aufgang, 2008). Regarding compensatory justice, the judgments of the perpetrator can affect whether people believe the victim should receive compensation (Darley & Pittman, 2003). In the case of exonerations, the "perpetrator" might be the legal system in that it is responsible for wrongful convictions. People who believe the legal system negligently (i.e., legal actors should have considered the risks but failed to do so) or intentionally harmed the exoneree will support compensation laws and reintegration policies, whereas people who believe that the legal system accidentally (i.e., with no fault) harmed the exoneree will not support compensation laws (Darley & Pittman, 2003).

Legitimacy For the community to support compensation laws and services, the laws and compensation service policies must be perceived as legitimate. Legitimacy refers to beliefs of fairness regarding authorities, institutions, and social arrangements (Tyler, 2006a). Legal actors are considered more legitimate when they meet the standards of procedural justice (Tyler, 2006b). Unfair outcomes are also less likely to result in cognitive and behavioral reactance when they are decided by a perceived legitimate authority (Hegtvedt, Clay-Warner, & Johnson, 2003).

Compensation laws for exonerees could affect perceived legitimacy of the government. The drastic variability in compensation laws between states might be viewed as unfair. For example, it might not seem fair if two people who are exonerated for the same crime but live in different states receive different amounts of compensation. Similarly, differences in services offered to exonerees and differences in expungement between states could also decrease perceived legitimacy of the government if these discrepancies are viewed as unfair. In contrast, people might feel that the policies related to exoneree reintegration are more legitimate and thus have more positive community sentiment about the government when procedural and compensatory justice principles are met. This legitimacy and positive community sentiment could result in more obedience to the law and future laws. A lack of perceived legitimacy could be one explanation as to why exonerees who receive no compensation or who are compensated below the threshold of $500,000 are more likely to commit future crimes compared to exonerees compensated above $500,000 (Mandery, Shlosberg, West, & Callaghan, 2013).

The justice principles of procedural justice, compensatory justice, and legitimacy could all influence exonerees' ability to reintegrate, in that if exonerees do not perceive that these principles are present during their release and reintegration, they are less likely to be successful in reintegrating into society. Additionally, a lack of legitimacy could lead to exonerees being less likely to obey the law compared to exonerees who perceive legitimacy, thus negatively affecting exoneree

reintegration. Additionally, exoneree reintegration could be negatively affected when community sentiment toward exonerees is expressed through stigma.

Stigma Toward Exonerees

Exonerees are often stigmatized by the public even though their convictions were wrongful (e.g., Clow & Leach, 2015a, 2015b; Thompson, Molina, & Levett, 2012). Stigma refers to an attribute that discredits a person, resulting in societal rejection (Goffman, 1963). Stigma can occur when a person is identified as deviant and is associated with negative stereotypes and prejudice (i.e., a negative attitude or hostile perception toward a person or a group; Allport, 1954). Other factors associated with stigma include victim blame and social distance (Clow & Leach, 2015b; Goffman, 1963). Victim blame occurs when observers attribute negative outcomes to the victim rather than to the aggressors, such as blaming a victim for unwanted sexual contact (Davies, Rogers, & Whitelegg, 2009). Social distance refers to unwillingness to interact with someone in social situations, which is one of the most common ways to assess stigma (Hirschfield & Piquero, 2010). Exoneree stigma is related to reintegration back into society, such that stigma toward exonerees is associated with obstacles acclimating back into society after imprisonment (Westervelt & Cook, 2012).

Stigma can take the form of body abominations, blemishes of character, or tribal stigmas (Goffman, 1963). Body abominations occur when people are visibly different from others (e.g., physical deformities), blemishes of character occur when the stigma is not physically visible (e.g., having been incarcerated), and tribal stigmas occur when people belong to a stigmatized group by lineage (e.g., race; Goffman, 1963; Link & Phelan, 2001). Exonerees have reported experiencing stigma after exoneration (see Blandisi, Clow, & Ricciardelli, 2015; Westervelt & Cook, 2012), and research has indicated that the public stigmatizes exonerees more than people without contact with the criminal justice system (e.g., Clow & Leach, 2015a; Thompson et al., 2012). Thus, stigma toward exonerees is likely a result of blemishes of character (Blandisi et al., 2015).

In addition to factors that contribute to stigma (e.g., victim blame, social distance), stigma toward exonerees could be related to (1) whether the exonerees were released before or after public awareness of their innocence, (2) the way public officials react to the release, (3) whether police caught the actual perpetrator, and (4) how the media portray exonerees (Westervelt & Cook, 2012). This stigmatization could manifest though negative perceptions of exonerees (e.g., beliefs that exonerees are still criminals, discrimination in hiring and housing, and unwillingness to support exonerees).

Why Stigma Arises

Four major theoretical models explain the reasons people might stigmatize exonerees, including the fundamental attribution error, just world beliefs, stigma by association, and the contact hypothesis (e.g., Clow & Leach, 2015b; Clow, Ricciardelli, & Cain, 2012). Each of these frameworks has been either applied by researchers studying attitudes toward exonerees or offered as explanations for stigma (e.g., Clow & Leach, 2015b; Savage, 2013; Scherr, Normile, & Sarmiento, 2018). People's stigmatizing perceptions of exonerees could lead to less support of exoneree reintegration services, which negatively affects exonerees (Scherr, Normile, & Putney, 2018).

Attributions Attributions of blame predict perceptions of responsibility (Heider, 1958; Weiner, 1993). People assign internal attributions when they attribute a person's behavior to that person's stable traits, whereas people assign external attributions when they attribute a person's behavior to the more changeable environment. The fundamental attribution error refers to people's tendency to attribute *other* people's behavior to internal factors and attribute their *own* behavior to external factors (Heider, 1958). People report more anger, pity, and less willingness to offer assistance when perceiving others as more responsible for their stigma and when perceiving others as having more control over their situation (i.e., internal attributions; Weiner, Perry, & Magnusson, 1988).

Attribution theory can be applied to stigma toward exonerees. Because of the fundamental attribution error, people might attribute exonerees' wrongful convictions to internal (e.g., personality traits) rather than external causes (e.g., erroneous eyewitness testimony). People might also stigmatize exonerees who falsely confessed more than exonerees who were convicted on eyewitness testimony because such exonerees might be perceived as more responsible for their wrongful conviction (Clow & Leach, 2015b; Savage, Clow, Schuller, & Ricciardelli, 2018; Scherr, Normile, & Sarmiento, 2018; Thompson et al., 2012). People who perceive exonerees as more responsible (versus not responsible) for their wrongful conviction might express their stigma through anger toward exonerees and an unwillingness to assist them (Ivany, 2014).

Just World Beliefs People might stigmatize exonerees if they hold just world beliefs. The just world theory posits that people want to believe that their efforts are reciprocated (Lerner, 1980). People feel psychological discomfort when information contradicts this belief. People reduce this psychological discomfort by rationalizing contradictory information and interpreting the misfortune of others as deserved (Lerner, 1980). Just world theory also predicts that people are sometimes motivated to restore injustices (i.e., when people are exposed to negative outcomes but perceived as undeserving of these outcomes) to reduce psychological discomfort (Hafer & Bègue, 2005). For example, people sometimes blame victims in order to rationalize injustices that cannot be restored (Hafer & Bègue, 2005). People can reassure themselves that they will never personally be wrongfully convicted if they can

reason that exonerees were deserving of mistreatment (Clow & Leach, 2015b), which would negatively affect exoneree reintegration. However, if people believe that injustices such as wrongful conviction can somehow be restored (e.g., compensation), they might be less likely to stigmatize exonerees, thus positively affecting exoneree reintegration.

Stigma by Association Stigma by association can also help explain exoneree stigmatization (see Clow et al., 2012). Stigma by association is the process by which people are devalued because they associate with another stigmatized group (Goffman, 1963). Originally referred to as a "courtesy" stigma by Goffman (1963), stigma by association posits that simply being in contact with a stigmatized person is enough to be stigmatized (Clow et al., 2012). In addition, some people think that exonerees could be changed or contaminated by prison (Blandisi et al., 2015; Clow & Ricciardelli, 2010). Thus, even if people believe that exonerees were wrongfully convicted, they might still stigmatize exonerees simply as a result of the incarceration, negatively affecting reintegration.

Contact Hypothesis Allport's (1954) contact hypothesis can serve as one of the theoretical explanations for stigma reduction. The contact hypothesis posits that face-to-face interaction between an in-group (the dominant group or group in power) and an out-group (the minority group or group that is disadvantaged) will reduce prejudice. It should be noted, however, that some research suggests that face-to-face contact is not necessary; instead, information sources (e.g., television, newspapers) can be enough to reduce prejudice (see Savage, 2013). Because information sources have reduced prejudice against out-groups, these sources could potentially reduce prejudice toward exonerees (Savage, 2013). For example, if the media highlighted exonerees' stories and causes of wrongful convictions, the information might serve to reduce exoneree stigmatization and also aid to improve exoneree reintegration.

Perceptions of Exonerees

There is mixed research on perceived and reported stigma toward exonerees (e.g., Thompson et al., 2012; Westervelt & Cook, 2012). In one study, half of death row exonerees expressed that they believed their community showed acceptance toward them, whereas the other half did not believe their community accepted them (Westervelt & Cook, 2012). Generally, exonerees are stereotyped more negatively, are associated with more negative emotions, and people desire more social distance from exonerees compared to a person who was not incarcerated (Clow & Leach, 2015a). People perceive exonerees as less competitive, confident, intelligent, warm, and good-natured compared to the average person (Thompson et al., 2012). However, although exonerees are more stigmatized compared to people who have never had contact with the criminal justice system, they are often less stigmatized

than non-exonerated previous offenders (Clow & Leach, 2015a, 2015b; Thompson et al., 2012).

Contrary to the above findings on exoneree stigma, other research did not find any difference between an exoneree and the average person (i.e., someone without history with the criminal justice system) on measures of social distance (e.g., closeness in housing), attitude thermometers, or measures of personal characteristics (Thompson et al., 2012; Tolson, Thompson, Levett, & Clow, 2013). However, exonerees were perceived more negatively than parolees on these measures (Tolson et al., 2013). These findings were not consistent with Clow and Leach (2015a), who used a similar attitude thermometer, but found no significant difference between exonerees and previous offenders. Thompson (2014) suggests that these differences could be due to different samples, different materials (newspaper article manipulation versus asking people's opinions toward exonerees), and different types of exoneration. For example, Tolson et al. (2013) mentioned that it was a DNA exoneration, whereas Clow and Leach (2015a) did not. However, the latter reason is an unlikely explanation for the difference because there was no significant difference between DNA exonerees and non-DNA exonerees on perceptions of character traits, perceived criminality and culpability, and social distance (Thompson, 2014).

People sometimes stigmatize exonerees because they doubt exonerees' innocence and still view them as criminals (Blandisi et al., 2015; Westervelt & Cook, 2012). Some people perceive exonerees as contributing to their wrongful conviction (a manifestation of the fundamental attribution error), suggesting that they might not be completely innocent (Blandisi et al., 2015). Others express apprehension of being around exonerees based on a lack of certainty regarding exonerees' innocence (Blandisi et al., 2015). One-third of death row exonerees reported that their "previous offender" status affected how they were treated (Westervelt & Cook, 2012). For example, Sabrina Butler, a woman who was exonerated after being accused and convicted of killing her child, still faces stigma from her community, which thinks she is guilty of the crime (Westervelt & Cook, 2012). Kirk Bloodsworth, the first death row exoneree, had the words "child killer, murderer" written in dirt by his car after he was exonerated (Innocence Project, 2018).

This doubt of innocence is related to issues of perceptions of judicially released guilty persons, the type of crime exonerees were wrongfully convicted of, and whether exonerees have past criminal records. People might be concerned about dangerous perpetrators being judicially released (Blandisi et al., 2015)—that is, a belief that even if they were innocent of *this* crime, they probably committed other crimes. The type of crime the exoneree was wrongfully convicted of could also influence exoneree stigma, such that there can be different types of prejudices related to different types of crime (Clow et al., 2012). For example, sex crimes are particularly stigmatizing (Clow et al., 2012). However, other research has found no difference between crime types on measures of exoneree stigma (see Scherr, Normile, & Putney, 2018; Thompson et al., 2012).

Fear of exonerees committing future crimes can also contribute to exoneree stigma, but this fear is moderated by race (Brown, 2012). Racial minorities are more likely to fear exonerees who are exonerated by DNA compared to White

respondents, such that minorities are more likely to think that DNA exonerees will commit violent and property crimes after release compared to Whites (Brown, 2012). There appears to be no difference between perceptions of exonerees who were exonerated by DNA versus other methods, such as discovering that forensic analysts falsified test results or prosecutors concealed exculpatory evidence (The National Registry of Exonerations, 2019; Thompson, 2014), so this effect of race on fear of exonerees committing future crime might be found among non-DNA exonerees as well.

Stigmatization of exonerees is important to consider because stigmatization has a large impact on reintegration into society after an unjust wrongful conviction. Stigmatization could affect compensation by the government, result in loss of relationships with family members (Westervelt & Cook, 2012), affect whether employers are willing to hire exonerees, and influence landlords who might rent to exonerees. Future research on many factors, including stigmatization, is needed to fully understand exoneree reintegration.

Recommendations for Future Research and Policy

Much more work is needed to fully understand exoneree reintegration and maximize assistance for exonerees. This section discuss several recommendations for research on factors pertaining to before and after the wrongful conviction, during reintegration, and community-level factors. Further, this section discusses some policy recommendations to address continuing needs of exonerees.

Research Recommendations

Several areas of research can provide a better understanding of exoneree reintegration. Although we have discussed many factors that can affect the success of reintegration, many of these factors are under-researched or researched only in the general prison population (e.g., Haney, 2002; Rantala, 2018; Wildeman et al., 2011; Wolff et al., 2007). Thus, future research should continue to examine factors such as locus of control, counterfactual thinking, prison abuse, coping strategies, mental health treatment, hiring and housing discrimination, and stigma and community sentiment.

Locus of Control and Resilience Although research on prison inmates suggests that internally controlled inmates experience better outcomes than externally controlled inmates, research on the locus of control of exonerees specifically has been neglected. It is possible that internally controlled exonerees might actually do worse in prison because they might be more likely than externally controlled exonerees to blame themselves for this injustice. As discussed previously, self-blame can lead to negative outcomes (Mandel & Dhami, 2005). However, upon release, exonerees

with an internal locus of control might reintegrate more successfully. Thus, it is important to further study which locus of control is most beneficial for exoneree reintegration. This understanding might identify if and which exonerees need more resources and assistance than other exonerees. Further, because people can alter their locus of control (Diamond & Shapiro, 1973; Haury, 1988; MacDonald, 1972), exonerees might benefit from services and training that promote a more adaptive locus of control.

Resilience also appears to be understudied in exonerees. It would be beneficial for researchers to examine specific risk and protective factors that tend to affect resiliency the most. For example, if researchers find that social support while in prison is one of the most influential protective factors, giving inmates access to social support groups in prison would aid in successful reintegration.

Prison Abuse More research is needed to examine the extent to which exonerees in particular are victims of sexual, physical, and mental harms while incarcerated. Some data exist on sexual harms prisoners face that might generalize to exonerees (e.g., Rantala, 2018), but the data on physical harms are even more limited (Wolff & Shi, 2010). Regarding mental harms, it is still unknown how exonerees respond to solitary confinement and whether they institutionalize and de-individuate in ways similar to other prisoners. Research on the experiences of exonerees and their health while incarcerated could give insight into a potential need for interventions and services particular to this population. Regardless of the findings, such research could better equip prisons in preparing prisoners for release and specifically preparing exonerees for reintegration with fewer negative health outcomes resulting from incarceration.

Coping Strategies Although much research examines the influence of religion on exonerees' coping (e.g., Campbell & Denov, 2004; DeShay, 2016), these research projects are often limited in sample such that they tend to sample from one or a few prisons in a single state. Despite the relatively low number of exonerees relative to other prisoners, research with larger and more representative samples would demonstrate the coping strategies and support mechanisms of exonerees across the country, and whether they differ from other prisoners. Perhaps exonerees work toward their own exoneration as a form of coping while incarcerated. Research should also examine similar potential coping mechanisms in order to determine if exonerees are unique in any of their coping mechanisms or sources of social support. Moreover, studies in this area could examine relationships between various forms of exonerees' coping and their reintegration outcomes to determine the most effective strategies. If certain coping strategies correspond with better outcomes (e.g., stable employment and housing, fewer mental health issues, improved physical health), prisons and exoneree support organizations could implement training for prisoners on those strategies.

Mental Health Treatment Further research should examine the effectiveness of particular mental health treatments for exonerees. For example, Grounds (2004) suggests the use of specialized treatment for specific conditions (e.g., depression,

anxiety, and PTSD) in addition to long-term counseling. In addition, Grounds (2004) recommends family counseling in order to promote cohesion and reconnection to rebuild familiar relationships, gain mutual understanding, and strengthen coping skills. Similarly, Weigand (2009) suggest the use of therapeutic approaches to strengthen the family, including cognitive-behavioral interventions, family mediation, family systems therapy, and parenting classes. Researchers should study the effectiveness of these treatments in exoneree populations because exonerees' experiences in prison could differ from the typical prisoner. The literature is not yet clear whether these populations do significantly differ in mental health and treatment. Lastly, whether exonerees would benefit more from incorporating their exoneree identity into their self-concept or completely shedding their label as a prisoner is another important question (Kregg, 2016). It is possible that some exonerees reintegrate more successfully by shedding their label as a prisoner, whereas others might benefit from incorporating the label into their identity. Thus, identifying the most effective treatments and practices for exonerees would aid in a successful reintegration.

Hiring and Housing Discrimination Future research should examine both hiring and housing decisions regarding exonerees. Although one study examined the hiring of exonerees (Clow, 2017), currently no research has examined whether exonerees are subject to housing discrimination in the same manner as previous offenders in general. This area of research could be important for policy-makers, as exonerees and researchers have expressed a need for employment and housing services upon release from prison (e.g., Chunias & Aufgang, 2008). Research demonstrating whether exonerees are discriminated against in hiring and housing decisions could be important for policy-makers looking to create services for exonerees. If exonerees are discriminated against by others, policy-makers could target specific methods of discrimination with legislation, making it easier for exonerees to procure housing and leading to smoother reintegration.

Stigma and Community Sentiment Though current research has provided initial evidence regarding community sentiment toward supporting compensation and reintegration services (e.g., Clow, Blandisi, et al., 2011; Scherr, Normile, & Sarmiento, 2018), there is still a lack of research regarding people's perceptions of these policies. Although most people support monetary compensation laws for exonerees (Clow, Blandisi, et al., 2011), the act of issuing compensation does not necessarily increase positive perceptions of exonerees (Ivany, 2014). Future research should examine the public's attitudes and exonerees' attitudes toward these policies and services.

An apology can positively affect reintegration into society after being exonerated (Penzell, 2007), and receiving an apology from the government could be more beneficial for exonerees than receiving financial compensation (Ivany, 2014). After participants read a vignette depicting the Attorney General issuing an exoneree an apology, they reported increased sympathy and positive perceptions and decreased negative perceptions of the exoneree. People also reported more willingness to

assist the exoneree after reading that the Attorney General issued an apology (Ivany, 2014). Because apologies increased positive perceptions and decreased negative perceptions, they could be beneficial for exoneree reintegration. Though there is more research needed on the effectiveness of apologies on exoneree reintegration, preliminary evidence supports the idea that government and law enforcement should issue public apologies to those who are wrongfully convicted.

There is mixed research on whether exonerees are more stigmatized than the average person—even though exonerees have not actually committed a crime (e.g., Thompson, 2014; Tolson et al., 2013; Westervelt & Cook, 2012). Future research should seek to disentangle these findings and isolate which factors contribute to exoneree stigma. For example, Brown (2012) found that minority respondents were more likely to think DNA exonerees would commit violent and property crimes after release compared to White respondents. Future research could examine whether this relationship is found among exonerees who were exonerated through different methods. Because stigma toward exonerees affects whether they will successfully reintegrate (Westervelt & Cook, 2012), identifying factors contributing to exoneree stigma could be an important first step toward reducing stigma.

Another possible tool to increase positive community sentiment and reduce stigma, thus helping exonerees reintegrate into society, could be educational videos and talks. Videos featuring an exoneree's personal story reduced prejudice toward exonerees who falsely confessed more than videos featuring only facts about false confessions (Savage, 2013). Other research found that a guest lecture on wrongful convictions by an exoneree was related to more positive attitudes toward exonerees compared to a control condition (guest lecture on Aboriginal issues; Ricciardelli & Clow, 2012). Educational videos and guest lectures, particularly those featuring a personal story about an exoneree, could be useful for policy-makers seeking to both reduce exoneree stigma and raise awareness of wrongful convictions. These educational videos and talks would be beneficial to exoneree reintegration because research shows that contact with or information about a stigmatized group can reduce stigma.

Policy Recommendations

Discussed next are several policy recommendations that could improve the reintegration process for exonerees. To start, fewer negative experiences in prison could lead to more successful reintegration of exonerees (and other released prisoners). For example, more certain punishments for inmates and staff who abuse others could decrease the prevalence of harms that prisoners encounter. In addition, more positive experiences in prison could result in more successful reintegration. To create more positive experiences, prison staff could implement additional programs and services that promote positive coping mechanisms, counseling, and positive social support within the prison network. Prisons could also offer up-to-date basic job skills training so exonerees (and other released prisoners) do not lack

marketable skills upon release, thus improving their chances of finding a job and successfully reintegrating into the community.

Regarding the reintegration process, the Innocence Project has proposed recommendations for monetary and services compensation according to research findings that exonerees who receive compensation reintegrate into society more successfully (Innocence Project, 2018). As Kansas just recently passed new laws meeting these standards, other states should follow in Kansas's footsteps. To aid exonerees' successful reintegration, these services need to exist and be readily available to exonerees immediately upon release.

Some researchers suggest using social workers or a case manager to advocate for exonerees' access to services, as well as to assist them in identifying and overcoming barriers (Weigand, 2009). Such case workers would make counseling, social services, and employment assistance available to exonerees and their families (Huff, 2002). This assistance would also include assessing the kinds of support individual exonerees need prior to release. However, social workers might not be the best group to take on additional responsibility for exonerees, as social workers in state agencies already tend to be overburdened with caseloads (e.g., Lloyd, King, & Chenoweth, 2002).

All states should provide services such as individualized mental health treatment plans, assistance finding employment, job readiness training, vocational training, employment referrals, food stamps, and access to health insurance (Wildeman et al., 2011). These plans could include Sect. 8 housing vouchers that would allow exonerees to have access to low-income housing for a designated length of time after release (Lonergan, 2008). Multiple approaches and perspectives should be used to research compensation policies, as well as which post-release services (e.g., reentry planning services) are successful in easing exoneree reintegration (Miller, 2014).

When creating policies aimed toward exonerees, policy-makers could take procedural justice, compensatory justice, and legitimacy frameworks into consideration. For example, to ensure that the process of awarding compensation is procedurally just, exonerees should have a voice in the amount of compensation they receive or a voice in compensation laws. Because compensatory justice is often achieved in the form of monetary compensation (Darley & Pittman, 2003), adequate monetary compensation is important for exonerees. Achieving procedural and compensatory justice could increase legitimacy because people are more likely to support decisions made by legal authorities and to view legal authorities as legitimate when decisions are made fairly (Tyler, 2006a). People who have more positive community sentiment toward the government will be more likely to follow laws when they perceive legal authorities as legitimate (Tyler, 2006a). By policy-makers considering procedural justice, compensatory justice, and legitimacy, exonerees could perceive the government as more legitimate and be more likely to follow laws, which is important for reintegration.

Many policies like these help parolees succeed in reentry; these services could be expanded to serve exonerees, as well. In fact, numerous interviewed exonerees made reference to the fact that parolees have access to reentry success services, but exonerees are not given similar support (e.g., Childers, 2016; Cohrs, 2016; Ebbert,

2002, as cited in Wisneski, 2004). Less restricted and faster expungement policies are also needed in every state so that exonerees are not further negatively affected by the stigma surrounding a criminal record. State legislators can continue to "ban the box" on job and housing applications, or draft legislation allowing exonerees to respond that they have no criminal convictions, even if their records are not yet officially expunged.

In summary, the implementation of several policies would likely contribute to successful exoneree reintegration. Specifically, improving the prison environment and ensuring financial compensation, expungement, and services and assistance (e.g., mental health treatment) would greatly help exonerees successfully reintegrate into society.

Conclusion

Although much research has examined the causes of wrongful conviction (e.g., Gould & Leo, 2010), more research is needed to study the factors that influence successful exoneree reintegration. This chapter has discussed several individual-level factors that can affect reintegration before and after the wrongful conviction, as well as during reintegration. These include individual differences (i.e., counterfactual thinking, locus of control, and resilience), prison experience (e.g., abuse, sentence length, and coping strategies), and experience upon release (i.e., health, skills, support, fear and guilt, and participation in therapy). The chapter also discussed relevant policies that influence exoneree reintegration, including monetary and services compensation, expungement, and housing and employment policies regarding criminal backgrounds. In addition, the chapter discussed community-level factors including stigma toward exonerees and its detrimental effects on exoneree reintegration. Lastly, the chapter discussed current practices, as well as recommendations for policy and future research.

Much more research is needed on these factors that affect exoneree reintegration. Specifically, these factors need to be examined in exoneree populations to determine whether they result in more or less successful reintegration. Exoneree services not only need to be provided as part of exoneree compensation, but their effectiveness should also be evaluated by scientific research. Policy recommendations such as laws guaranteeing fast expungement for all exonerees might also aid exonerees in successful reintegration. By the time of release, exonerees have already suffered a great injustice. What is even worse, they often struggle to successfully reintegrate into society. The factors discussed in this chapter are just a beginning to an understanding of exoneree reintegration. More research in this area as well as policy changes would aid exonerees in rebuilding their lives and successfully reintegrating into society.

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The Social Science of the Death Penalty: Before, during, and after Trial

Matthew P. West and Monica K. Miller

The death penalty is a contentious and oft-debated subject in both academic circles and in the general public. The USA is unique among Western developed countries because it has not abolished the death penalty and still performs executions (see Amnesty International, 2019). Even among various regions of the USA, there is debate as to the appropriateness of the penalty, and this is reflected in community sentiment and the laws related to the penalty (see Miller & Chamberlain, 2015). This controversy has led to much social science research, which is the focus of this chapter.

While there are several books and many articles and chapters (e.g., Alvarez, Miller, & Bornstein, 2016; Haney, 2005; Lynch, 2009; Myers, Johnson, & Nuñez, 2018) that summarize the social science research related to various aspects of the death penalty and how it has changed over time, there is limited scholarship that also synthesizes the role of social science in understanding events and behavior before, during, *and* after a death penalty trial. We consider sociological and psychological research related to the death penalty phenomenon, including factors that shape its evolution, that shape people's general beliefs about crimes and criminals, that shape jurors' decisions, and that shape prisoners' experiences while on death row. By considering a variety of sociological and psychological aspects, we offer a holistic perspective of the death penalty phenomenon.

One of the more sociological aspects of capital punishment is how the process has changed and become less frequent over time. This could be, in part, due to a

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maturing of society and its ideals. Such broad changes influence community sentiment—the collective attitude of the people in various "communities," which could include groups such as residents of a state or members of political groups (Miller, Blumenthal, & Chamberlain, 2015). Societal changes led to the notion of "evolving standards of decency": a term coined by the US Supreme Court to refer to community sentiment regarding the appropriateness of the death penalty in a variety of circumstances (e.g., for juveniles). Many communities (i.e., states) have kept the penalty, while others have rejected the penalty. This decision is related to characteristics of these regions, including their political and religious make-up (Amidon, 2013).

One of the more psychological aspects of capital punishment is associated with people's general tendencies that precede their service as jurors. For instance, humans have a tendency to categorize people, often as "good" or "less than." Perceiving other humans as "less than" allows people to quickly make decisions, even when these decisions would otherwise be morally reprehensible (e.g., sentencing someone to death; see Bandura, 2016; Haney, 2005; Smith, 2011). Another cognitive shortcut involves the attributions people make about why criminals commit crime. Specifically, people who tend to attribute the defendant's crime to dispositional factors (e.g., personality) are more punitive than people who attribute the crime to situational factors (e.g., poverty; Boots & Cochran, 2011; see also West, Yelderman, & Miller, 2018). The media encourage these psychological processes by educating people about the criminal justice system and criminals—although this education can be distorted (Haney, 2005). Social scientists have studied these and other factors that affect people's daily lives and predispose them to have certain beliefs that will later affect their actions when they become jurors.

Once people are called for jury duty, a plethora of social psychological effects arise. The death penalty jury selection process itself creates juries that are not equivalent to the population in many ways. For instance, a death penalty juror is more likely to have certain demographic characteristics (e.g., more likely to be male or White) compared to people who are excluded from jury duty (Butler & Moran, 2002; Haney, Hurtado, & Vega, 1994; Summers, Hayward, & Miller, 2010; Yelderman, Miller, & Peoples, 2016). Further, many legal and extralegal factors affect jurors' verdicts regarding guilt and sentence. Social science research has, for instance, found that cases involving a White victim are more likely to result in a death sentence than cases involving a victim of a different race (e.g., Baldus, Woodworth, & Pulaski, 1990; Kramer, Ulmer, & Zajac, 2017; see also Jennings, Richards, Smith, Bjerregaard, & Fogel, 2014).

Researchers have studied other players in the trial process, too—including both prosecutors and defense attorneys. The main concern with attorney behavior is that—as with juries—there is bias in their behaviors. Preeminent death penalty scholar David Baldus (Baldus, Grosso, Woodworth, & Newell, 2012, p. 1227) writes as follows:

> Over the last thirty years, studies of state death-penalty systems have documented three types of … racial disparities …The most common disparity or "race effect" is that capital charging and sentencing decisions are applied more punitively in cases involving one or

> more white victims than they are in similar cases with no white victims.... The next most common race-based disparity is the more punitive treatment of cases involving a black or minority defendant and one or more white victims compared to the treatment of cases involving all other similarly situated defendant/victim racial combinations. ... The least common racially based disparity is the more punitive treatment of cases involving black and minority defendants compared to the treatment of similarly situated white-defendant cases, regardless of the race of the victim involved in the case.

That study and many others discussed herein have found that prosecutors' decisions to charge a defendant with a capital crime depend on extralegal factors such as race (Beardsley, Kamin, Marceau, & Phillips, 2015) or jurisdiction (Kramer et al., 2017). Similarly, the attorney's efforts (Gould & Greenman, 2010; Pierce, Radelet, Posick, & Lyman, 2014) and resources are sometimes linked to race (Baldus et al., 2012) or jurisdiction (Gould & Greenman, 2010). Such biases are concerning, as they threaten both the equal protection rights of minorities and the integrity of the justice system as a whole.

Once an offender is on death row, psychologists can play a more hands-on role. For instance, they must assess the offender's competency to be executed and, if the offender is deemed incompetent, rehabilitate the offender so that they can be executed—a task that is rife with controversy. Further, psychologists have offered insights as to the negative physical and mental outcomes inmates often experience as a result of their isolation on death row (Haney, 2003).

The first part of this chapter presents an overview of the history of the death penalty, highlighting the social science that explains the changing use of and support for the death penalty over time and across regions of the USA. The second part of the chapter presents a synthesis of social science research regarding biases and tendencies people have prior to trial that affect their decisions when they become jurors. The third section includes a review of studies conducted about the capital pre-trial and trial processes. This includes research regarding attorney and juror behavior—and the legal and extralegal variables that affect trial outcomes in the guilt and punishment phases. The fourth section discusses the roles of psychologists after the offender is sentenced to death. The chapter concludes with a section about the future of the law and the social science concerning the death penalty.

Explaining Historical Trends and Characteristics of Capital Punishment

The first recorded execution in what would later become the United States took place shortly after the Jamestown colony was founded. Captain George Kendall, an original counselor of the colony, was executed for mutiny in 1608 (Espy & Smykla, 2016; see also Barbour, 1962). It was the first recorded execution, but far from the last. In the centuries that followed, numerous others were executed in ways that would be deemed unsavory in the modern era (e.g., burning and hanging), sometimes with attendees numbering in the tens of thousands, and for offenses ranging

from witchcraft to murder (Banner, 2002; Espy & Smykla, 2016). The death penalty is hardly a new phenomenon in the USA, but it has changed over US history, just as society has changed. Community sentiment toward the death penalty has changed, prompting legal changes. Social science suggests that society has matured, and along with this maturity came changes to the use and processes of the death penalty.

A "Maturing" Society

There have been two broad social and psychological changes in society over prior centuries that help explain why death penalty jurisprudence and practice have changed. The first is what Elias, 1939/2000 described as the "civilizing process." The concept refers to how societal members developed greater levels of empathy, self-control, and executive functioning over time. This change produced a civilized society in which people consider the perspectives and feelings of others, regulate their impulses, and assess the potential consequences of their actions. Pinker (2012) expanded on the ideas of Elias, 1939/2000 and described a second change in society—the "Humanitarian Revolution." This term encompasses the development and adoption of humanistic and Enlightenment ideals (e.g., see Beccaria, 1764), which emphasize the value of human life. As a result of these broad changes, society has become decreasingly tolerant of displays of violence and arbitrary punishment (Pinker, 2012; see also Durkheim, 1966). As society matures, standards of decency evolve and are reflected in both community sentiment and law (e.g., see *Trop v. Dulles*, 1958).

This notion of evolving standards of decency is a key reason given by the US Supreme Court in their ruling that executing people with mental illness (*Ford v. Wainwright*, 1986), people with intellectual disabilities (*Atkins v. Virginia,* 2002), and juveniles (*Roper v. Simmons*, 2005) is cruel and unusual punishment. A maturing society with evolving standards of decency has also demanded more humane methods of execution and a decrease in the number of death-eligible crimes. Hanging was once the dominant method of execution in the USA, then electrocution became the dominant method, and now lethal injection is the dominant method (Espy & Smykla, 2016). Each change was motivated, at least to some degree, by a desire to use a more humane method of execution (Paternoster, Brame, & Bacon, 2008). Similarly, the crimes deemed the worst of the worst and deserving of the death penalty have changed.

A Rational Framework for Identifying the "Worst of the Worst"

The structure of capital trials and the amount of discretion given to jurors have changed over time. There was once a wide range of death-eligible offenses, then murder and rape became the primary death-eligible offenses, and now only certain

instances of first-degree murder are death eligible (though there are some exceptions, primarily at the federal level; Espy & Smykla, 2016; Paternoster et al., 2008; see *Kennedy v. Louisiana*, 2008). At one time, when a defendant was convicted of murder, the death penalty was mandatory (Paternoster et al., 2008). Statutes eventually began differentiating among "degrees" of murder and reserving the death penalty for first-degree murder (Paternoster et al., 2008).

By the 1970s, the Supreme Court was troubled by the lack of a "rational basis" for differentiating the worst of the worst first-degree murders from the rest (see *Furman v. Georgia*, 1972; Goldberg & Dershowitz, 1970). This led to two important changes to capital trials. First, capital trials were bifurcated into a guilt phase and a penalty phase. Second, sentencing guidelines were adopted to guide jurors' discretion at the penalty phase (for a lengthier review of the process, see also Bornstein & Greene, 2017; Haney, 2005).

Modern capital jurors weigh factors that make a defendant *more* deserving of the death penalty (aggravating circumstances; also called special circumstances in some states) against factors that make a defendant *less* deserving of the death penalty (mitigating circumstances). Aggravating circumstances, or aggravators, are prescribed by statute and generally include factors suggesting that the crime is among the worst of the worst (e.g., the defendant was previously convicted of a violent offense; the victim was sexually assaulted; the murder was committed for pecuniary gain; the murder was especially heinous or cruel). Mitigating circumstances, or mitigators, are statutory (e.g., the defendant has no, or a minimal, prior criminal record; the defendant was mentally or emotionally disturbed at the time of the murder; the youth of the defendant at the time of the murder) and non-statutory. By allowing non-statutory mitigators, the law allows jurors to consider virtually any characteristic of the case or defendant they deem to have mitigating value (see *Lockett v. Ohio,* 1978). In principle, aggravators and mitigators "circumscribe" death sentences (*Gregg v. Georgia*, 1976) and provide a rational basis for determining the worst of the worst.

As this brief review suggests, capital punishment procedures have changed over time, in part due to what social scientists have described as a maturing of society. Social science also has suggested a variety of reasons for why some states and regions permit the death penalty, pursue death penalty cases, and perform executions more than other states and regions.

Variation in Capital Punishment

Another important historical trend in capital punishment is its increasing isolation: specifically, fewer and fewer states permit and pursue the death penalty as time has progressed. Although 28 of 50 states currently have the death penalty, few states conduct capital trials and/or perform executions on a frequent basis (Death Penalty Information Center, 2020a, 2020b). Three states (California, Florida, and Texas) account for almost 50% of the death row population, and three states (Texas,

Virginia, and Oklahoma) similarly account for about 50% of all executions performed since 1976 (Death Penalty Information Center, 2019, 2020a). In general, capital punishment has been and continues to be concentrated in the Southern USA and parts of the Western USA (see Death Penalty Information Center, 2019, 2020a, 2020b; Espy & Smykla, 2016; Paternoster et al., 2008). While the notion of a maturing society that increasingly embraces humanistic and Enlightenment ideals might help explain this *overall* historical trend of decreasing use, other theoretical perspectives are needed to explain *geographic* variation in the death penalty.

A number of theoretical propositions can serve as an overarching framework for understanding why there is geographic variation in the death penalty. First, people have beliefs and propositions they consider true; these can influence their behavior (Schwitzgebel, 2019; see Connors & Halligan, 2015 for review). Religious fundamentalism and political ideology are related to both death penalty characteristics at the state level (e.g., the number of executions performed) and death penalty support at the individual level. Religious fundamentalism is generally characterized by beliefs emphasizing that there is one God who has provided an unfailing guide to salvation (e.g., scripture) that should be considered as literal truth and stringently adhered to (Altemeyer & Hunsberger, 2004). Religious fundamentalists tend to be cognitively rigid—they tend to be close-minded, uncomfortable with ambiguity, and rely on intuition and heuristics (Brandt & Reyna, 2010; Razmyar & Reeve, 2013; see also Yelderman, 2019). When considering what punishment would be appropriate, religious fundamentalists appear to use an "eye for an eye" threshold—if a perpetrator kills another person, then the perpetrator deserves to be killed. The proportion of a state's population with a fundamentalist religious affiliation is positively related to the number of death sentences rendered and executions performed (Amidon, 2013). Similarly, people who more strongly endorse religious fundamentalist beliefs are more supportive of the death penalty (Miller & Hayward, 2008; Yelderman, West, & Miller, 2018). The Southern USA has the highest proportion of people with a fundamentalist religious affiliation; Pew Research Center, 2014).

Paralleling the relationships between religious fundamentalism and the death penalty, political ideology is related to state-level death penalty characteristics and individual-level death penalty support. Political ideology (or political orientation) can be difficult to define concretely, but it typically refers to people's beliefs about how society is and/or should be structured. It is often treated as a spectrum, ranging from politically liberal (more egalitarian beliefs) to politically conservative (more authoritarian beliefs). Like religious fundamentalists, political conservatives also tend to be cognitively rigid (Jost, 2006; Kemmelmeier, 2010). States with a greater proportion of people who identify as politically conservative and with a greater proportion of politically conservative state legislators are more supportive of the death penalty and perform more executions (Amidon, 2013; Baumer, Messner, & Rosenfeld, 2003). At the individual level, political conservatives tend to be more supportive of the death penalty than political liberals (Boots & Cochran, 2011; Butler & Moran, 2007). As such, it makes sense, then, that the Southern USA has the highest proportion of people who identify as politically conservative (Pew Research Center, 2014).

Second, people's beliefs have roots in human evolution, and this can affect their beliefs related to the death penalty. Moral Foundations Theory proposes that people have innate moral intuitions (or foundations), developed via evolution, that guide moral decision-making (Haidt & Joseph, 2004, 2007). These foundations emerged in response to adaptive challenges and have particular triggers. For example, the protection of vulnerable family members is an adaptation, and seeing a child suffering is a trigger (Haidt & Joseph, 2004, 2007). Not all triggers are adaptive, however. For instance, although the "purity/sanctity" foundation emerged in response to the adaptive challenge of avoiding pathological conditions, and can be triggered by seeing diseased people, purity/sanctity can also be triggered by taboo ideas and result in the feeling of disgust (Haidt & Joseph, 2004, 2007). The relationships between religious fundamentalism, political ideology, and death penalty support are explained by differences in moral intuitions people draw on. For instance, political liberals' moral concerns emphasize whether people were harmed or treated unfairly ("individualizing foundations," because they revolve around the well-being of individuals), while political conservatives' moral concerns emphasize factors such as respect for authority, in-group loyalty, and purity/sanctity ("binding foundations," because they revolve around the well-being of groups; Haidt, Graham, & Joseph, 2009). These differences explain the relationship between political ideology and death sentencing (Vaughan, Holleran, & Silver, 2019).

Other theories offer a similar perspective, emerging from the idea that people's beliefs and behaviors are rooted in adaptive challenges. Above, we noted that, according to Moral Foundations Theory, people's morality developed in response to the adaptive challenge of avoiding pathogens. The feeling of disgust is a reaction that helped humans avoid disease, similar to how feeling fearful helped humans avoid venomous snakes. Among other propositions, Parasite-Stress Theory posits that social values and behavior are rooted in humans' behavioral immune system: the psychology and behavior that help humans avoid and minimize the impact of infection (Thornhill & Fincher, 2014). People in regions of the USA (and world) with increased levels of parasite stress (e.g., the number of infectious diseases) tend to be more conservative and religious (Fincher & Thornhill, 2012; Thornhill & Fincher, 2014). Conservatism and religious fundamentalism are associated with greater endorsement of the binding foundations—respect for authority, in-group loyalty, and purity/sanctity (see Haidt et al., 2009; Harnish, Bridges, & Gump, 2018; Van Leeuwen, Park, Koenig, & Graham, 2012; Vaughan et al., 2019). In theory, the binding foundations are an adaptive response to a higher risk of infectious disease (Thornhill & Fincher, 2014). Consider, for instance, an emphasis on in-group loyalty and avoidance of out-groups. Strong and durable in-group relationships can provide a form of "insurance" so that the impacts of contagions can be better managed when they occur, and avoiding out-groups can serve the functional goal of minimizing exposure to new contagions (Thornhill & Fincher, 2014). States in the Southern USA have historically pursued the death penalty more than states in other regions (Death Penalty Information Center, 2020a, 2020b; Espy & Smykla, 2016; Paternoster et al., 2008), and Southern states also have greater levels of parasite stress (see Fincher & Thornhill, 2012; Thornhill & Fincher, 2014). Thus, one

overarching, potential explanation for variation in death penalty characteristics is that different regions have different levels of parasite stress; parasite stress is correlated with people's beliefs; and people's beliefs are correlated with support for the death penalty.

Third, people's beliefs and behaviors are shaped by sociocultural history. The Doctrine of First Effective Settlement posits that the initial settlers of an area have a long-term sociocultural impact (Zelinsky, 1973). Political scientists have drawn on this idea to link the values of initial settlers (e.g., tolerance of diversity) to current voting behavior (e.g., the share of a state's electorate that voted for a particular presidential candidate; Damore & Lang, 2016). Similarly, social psychologists have linked the norms and values of initial settlers to rates of violence (e.g., "cultures of honor" and violence in response to perceived slights; Brown & Osterman, 2012). These ideas can be seated in Parasite-Stress theory. That is, initial settlers had certain norms and values that were, at least in part, a response to adaptive challenges. Some settlers came from areas with a high degree of environmental stressors (e.g., social and political instability/disorder, infectious diseases), and then settled in areas with a high degree of environmental stressors, such as the "poor farmers and herders, from both Northern Ireland and the Scottish Lowlands" who settled in the American South (and later in parts of the West; Brown & Osterman, 2012, p. 8). The norms and values of the initial settlers might predominate in an area over time due to continued environmental stressors, transmission of personality traits that underpin beliefs from parents to offspring, cultural transmission, or combinations of these factors (see Dhont, Roets, & Van Hiel, 2013; Kandler, Bleidorn, & Riemann, 2012).

In sum, people hold general beliefs that are related to support for the death penalty; legal actors in regions with more people that hold these beliefs tend to pursue capital cases and perform executions more than other regions. These beliefs might have emerged in response to adaptive challenges in the environment, and might be maintained over time due to environmental stressors, generational transmission, and cultural transmission. These theoretical notions might help explain geographic variation in the death penalty. However, it is important to consider that the correlations among these variables (e.g., the association between parasite stress and beliefs, the association between beliefs and death penalty characteristics) might be explained by other variables, including people's pre-existing psychological tendencies.

Pre-existing Tendencies and Media

As one might suspect based on the theoretical ideas of the previous section, people who enter the courtroom to serve as capital jurors do not do so as blank slates. They enter the courtroom with general beliefs about the world, society, and justice. They also have pre-existing tendencies to process and organize information in ways that are efficient and adaptive. For instance, they might rely on stereotypes to make quick decisions. These pre-existing tendencies lay the foundation for how they will behave once they become jurors. In this section, we discuss some of these general

pre-existing tendencies and how they might be reinforced by media depictions of crime and criminals.

Pre-existing Tendencies

Capital jurors are tasked with important decisions that are life altering for defendants: determining whether the defendant is guilty, and if so, what punishment is appropriate. Jurors use available information to make these judgments. Some of the information that is presented at trial (e.g., judge's instructions, evidence, attorney arguments, demeanor of the defendant) is quite complex. Capital jurors, like people more generally, have tendencies to process and interpret information in certain ways that facilitate decision-making. The way people process information in their daily life also serves a variety of functions, such as allowing someone to avoid feeling guilty by punishing a wrongdoer or allowing someone to take actions that preserve one's own group status and resources. These tendencies—and the functions they serve—are discussed below.

Tendency to Categorize One overarching tendency, which can be seated in an evolutionary psychology perspective, is to quickly sort information into discrete categories, often without conscious awareness. One example is how people organize the social world. People tend to parse the biological and social worlds into "natural kinds," with each kind defined by its "essence" (Smith, 2011). While the tendency to organize animals into species might not have dramatic ramifications for how capital jurors make decisions, the tendency to organize humans into social groups does—particularly the tendency to organize humans along ethnic/racial lines. The dominant view, which emerged in the twentieth century, is that racial categories do not reflect biological reality (see Andreasen, 2000 for review). Nevertheless, humans have a tendency to place people into racial/ethnic groups, with each group defined by an essential nature—a belief that there is "something" inside of people that makes them "them" (Smith, 2011). An illustration of this kind of thinking is the negative reaction to Rachel Dolezal, the White woman who identified as Black and was the president of the National Association for the Advancement of Colored People. Many people criticized her because she *appeared* as Black, but her *essence* was White. A problematic aspect of the human tendency to organize people into racial/ethnic categories defined by an essential nature is that the organization often takes the form of a hierarchy. In extreme instances (e.g., slavery in the USA), certain racial/ethnic groups are placed in a subhuman category (Smith, 2011).

Seeing some groups of other humans as "less than" allows for moral disengagement: a psychological process that allows people to take actions and make decisions they would otherwise find morally reprehensible (see Bandura, 2016; Smith, 2011). Capital trials are a unique situation in which ordinary people decide whether another person should die. As Haney (1997) writes, "under typical circumstances, a group

of twelve law-abiding citizens would not calmly, rationally, and seriously discuss the killing of another, or decide that the person in question should die and then take actions to bring about that death" (p. 1447). Dehumanization is a mechanism by which capital jurors can overcome moral inhibitions and participate in a process that will potentially lead to an execution (Haney, 1997, 2005).

Tendency to Favor One's Own Group A second tendency is related to the first: The tendency to categorize people might be particularly influential in decision-making when the defendant belongs to a racial/ethnic group that is seen as "other" or "less than" in the broader society (e.g., see Lynch & Haney, 2011). About 13% of the US population identifies as Black or African American (U.S. Census Bureau, 2019), but over 40% of the current death row population is Black (Death Penalty Information Center, 2020c). Capital defendants are generally dehumanized (e.g., Butler, 2012), and this might be particularly true for Black defendants, as they have historically been placed at the bottom of the racial hierarchy in the USA (cf. Lynch & Haney, 2011; Paternoster et al., 2008; Smith, 2011). Moreover, African Americans are often stereotyped as crime-prone (e.g., Welch, 2007). Of course, other racial/ethnic groups, such as Hispanics/Latinos and Native Americans, also have negative stereotypes and might also be seen as "less than" (e.g., Fleury-Steiner & Argothy, 2004; Tan, Fujioka, & Lucht, 1997).

The social identity approach posits that, because people's self-concept is based on the groups people feel they belong to, people are motivated to favor in-group members or derogate out-group members to bolster their sense of self (see Hogg & Abrams, 1998; Tajfel & Turner, 1986). This tendency can result in a prejudice—a negative evaluation of people based on their group membership (Crandall & Eshleman, 2003). Contemporary theories of prejudice, as well as other scholarship, suggest that people often experience prejudicial *feelings* toward racial/ethnic minorities, but that it has become less normatively acceptable to *express* prejudice against racial/ethnic minorities (see Alexander, 2012; Crandall & Eshleman, 2003; Crandall, Eshleman, & O'Brien, 2002; Crandall, Ferguson, & Bahns, 2013; Crandall & Warner, 2005; Dovidio & Gaertner, 2000, 2004; Gaertner & Dovidio, 2005; Sommers & Ellsworth, 2000, 2001, 2009). People are motivated to display in-group favoritism/out-group bias, but they also are motivated to maintain harmonious social relationships and avoid appearing prejudiced. The latter motivation can be made salient, and people will then not display prejudice against racial/ethnic minorities (e.g., Sommers & Ellsworth, 2000, 2001, 2009); conversely, people can also use factors to justify or rationalize expressed prejudice. For instance, people will display prejudice against a racial/ethnic minority who has a low socioeconomic status, that is, a "race-neutral" characteristic that can be used to justify prejudice (Espinoza & Willis-Esqueda, 2015). In essence, norms have changed, but the psychological tendency to favor one's in-group and negatively evaluate out-groups as "others" has endured.

Tendencies to Use Cognitive Shortcuts Another human tendency, related to both the tendency to categorize and tendency to favor one's in-group, is the tendency to

use cognitive shortcuts, such as heuristics (see Kahneman, 2011 for review). Psychological dual-process models of information processing suggest that heuristics assist with quick, intuitive, and subconscious cognitive processing (e.g., see Epstein, 2003). This sort of processing is generally thought to be people's dominant mode of processing because of its efficiency (Epstein, 2003). In contrast, deliberate, logical, and conscious processing requires motivation, effort, and cognitive resources (Bargh & Chartrand, 1999; Epstein, 2003; Kahneman, 2011).

Processing tendencies might influence people's decision-making when they serve as capital jurors in a number of ways. First, there are individual differences in people's processing tendencies (Epstein, 2003; Epstein, Pacini, Denes-Raj, & Heier, 1996; Pacini & Epstein, 1999). People who tend to engage in quick, intuitive processing are more supportive of the death penalty (e.g., Miller, Wood, & Chomos, 2014; West, Wood, Miller, & Bornstein, 2020), while people who tend to engage in deliberate, logical processing are less supportive of the death penalty (e.g., Miller et al., 2014; Sargent, 2004). Second, there are situational differences in processing tendencies (Epstein, 2003), and jurors' processing mode is related to the types of factors that influence their decisions. For instance, a defendant's physical attractiveness influences decisions among jurors who are engaged in a quick, intuitive processing mode, but not among jurors who are engaged in a deliberate, logical processing mode (Lieberman, 2002). Furthermore, emotional stimuli can activate a quick, intuitive processing mode (Epstein, 2003). In a capital trial, jurors might be exposed to evidence or testimony that elicits emotion (e.g., see Lynch & Haney, 2015; Paternoster & Deise, 2011) and activates a quick, intuitive processing mode.

Importantly, although research has focused primarily on individual and situational differences in processing, it is possible and perhaps likely that capital jurors engage in *both* intuitive and logical processing. For instance, emotional stimuli might activate intuitive processing and result in a quick judgment, and then a person might rationalize that judgment. Holmes Jr. (1897) expressed this notion in relation to judicial decision-making over a century ago—"behind the logical form" of judicial decisions is "an inarticulate and unconscious judgment" that is the "root and nerve of the whole proceeding" (p. 998). In a capital trial, defendant characteristics (e.g., membership in a "lesser" race) and information presented to jurors (e.g., evidence, attorney arguments, and testimony) could elicit emotion and lead to an intuitive judgment which is then rationalized (West, 2018; see, e.g., Deise & Paternoster, 2013; Nuñez, Myers, Wilkowski, & Schweitzer, 2017; Paternoster & Deise, 2011). Similarly, jurors might be influenced by stereotypes (a type of heuristic) of the "typical" criminal—often racialized—and rationalize a death penalty decision by discounting the weight of mitigating evidence (e.g., Espinoza & Willis-Esqueda, 2015).

Overall, the majority of people's everyday decisions are virtually automatic, based on gut feelings and heuristics that operate outside of conscious awareness (Bargh & Chartrand, 1999). This processing tendency does not disappear when people serve as jurors, even though they might be motivated to deliberately and logically evaluate case information.

Tendencies to Make Attributions Another human tendency jurors bring with them into the courtroom is the tendency to attribute others' behavior to dispositional causes (e.g., see Bauman & Skitka, 2010). Attribution theory posits that people have mental schemata for processing behavior and attributing causes for behavior (see Heider, 1958; Jones & Davis, 1965; Kelley, 1967). The tendency to attribute others' behavior to dispositional causes (e.g., temperament) but one's own behavior to situational causes (e.g., socioeconomic circumstances) is generally referred to as the fundamental attribution error or correspondence bias (see Gilbert & Malone, 1995 for review). This bias can lead people to attribute criminal behavior to dispositional factors, and, in turn, support more punitive criminal justice sanctions (e.g., see Boots & Cochran, 2011; Sargent, 2004). In a capital trial, jurors might seek out information that aligns with a dispositional explanation for the defendant's behavior and ignore or downplay information that implies situational causes for the defendant's behavior (e.g., see Haney, 2005; Neuschatz, Lawson, Swanner, Meissner, & Neuschatz, 2008; West et al., 2018).

The Role of the Media in Encouraging These Tendencies

Most people's knowledge of the criminal justice system comes from media (Haney, 2005). Media depictions of crime and criminals, in combination with some human tendencies just discussed, are a recipe for distorted perceptions of criminals. Media depictions of crime and criminals emphasize that crime is attributable to individual factors (Haney, 2005). In essence, crime is committed by "bad people," not by ordinary people in "bad circumstances" and/or with traumatic life histories. This might reinforce the tendency to attribute criminal behavior to dispositional causes. It might also reinforce the tendency to organize groups into "us" (i.e., upstanding, law-abiding citizens) and "them" (i.e., evil criminals that are not fully human). Indeed, in a study by Butler (2012), community members described defendants in two highly publicized capital cases as garbage, evil, animals, pigs, and monsters.

Distorted media portrayals are also problematic because they often portray racial minorities in a negative light. Minorities are under-represented in positive news stories and over-represented in negative news stories (e.g., crime stories). Minorities are often portrayed in a negative light even when they are the victims of crime (see Barak, 2011 for review). Beyond the news, other media types portray minorities in ways that promote negative stereotypes as well (Miller, Rauch, & Kaplan, 2016). Minorities (especially African Americans) are often portrayed as the "bad guy," while the White American is portrayed as the upstanding moral hero (Horton, Price, & Brown, 1999). African Americans are often portrayed negatively in television shows as "inferior, stupid, comical, immoral, dishonest" (Punyanunt-Carter, 2008, p. 243). Within superhero movies, Asians are portrayed as martial arts experts, while African Americans are portrayed as non-human villains (e.g., mutants or vampires), often wearing costumes to hide their identity (Miller et al., 2016). Viewers across racial groups deem these media portrayals as realistic and accurate, and when

African Americans are portrayed positively, viewers deem these portrayals as unrealistic and inaccurate (Punyanunt-Carter, 2008). Often minorities are underrepresented in popular culture entirely—communicating that they are not of interest or import (Horton et al., 1999; Miller et al., 2016). This research generally suggests that the media promote a number of negative stereotypes and beliefs in the general population.

The media play a role more specific to the death penalty, as well. The phrase "if it bleeds, it leads" is apt for describing pretrial publicity of capital cases. In general, news media focus on the sensational elements of crime (Beale, 2006), and capital crimes are, *ipso facto*, the worst of the worst first-degree murders (see *Furman v. Georgia,* 1972; *Gregg v. Georgia*, 1976). Thus, capital cases tend to receive more publicity than other types of cases (Bandes, 2003). Vivid and sensational depictions and descriptions of capital crimes might elicit emotion in people and encourage intuitive processing, ultimately resulting in a prejudgment of a defendant's guilt. The greater the exposure people have to pretrial publicity, the greater the likelihood they enter the courtroom with a prejudgment (see Daftary-Kapur, Penrod, O'Connor, & Wallace, 2014). This issue was noted in the trial of the "Boston Bomber," Dzhokhar Tsarnaev, who was accused of planting a bomb during the Boston Marathon (killing some and injuring many) and murdering a police officer (see *United States v. Tsarnaev*, 2015). Tsarnaev's attorneys argued that there should be a change of venue because "near-daily pretrial publicity . . . cemented a narrative of guilt in the public consciousness," and noted that questionnaires completed by over a thousand prospective jurors indicated that about 70% of the prospective jurors believed Tsarnaev was guilty (*United States v. Tsarnaev*, 2015, Document 981, p. 4). The motion was rejected, and Tsarnaev was ultimately found guilty and sentenced to death.

The Death Penalty Trial

Social scientists have focused much energy on the death penalty trial process itself. There are arguably many stages that can affect the outcome of a death penalty trial, beginning with the police investigation that influences whether charges are brought and ending with the sentencing phase. One chapter cannot cover them all, so we focus on describing the general process of a death penalty trial, highlighting the main findings of research related to the pre-trial phase and trial phase. We previously discussed what could be called "distal causes" of death penalty trials, such as social, environmental, and historical factors that might explain why some states permit the death penalty, seek the death penalty, and perform executions more than other states. Here, we focus on some key "proximate causes" of death penalty trials and the outcomes of death penalty trials—namely, the decision-making that leads to a death penalty trial taking place, the decision-making during a death penalty trial, and the factors that shape both.

Pre-Trial Phase

In order for a death penalty trial to occur, a person must be charged with a death-eligible crime, prosecutors must seek the death penalty, and a panel of people in the community must be selected to serve as jurors. We first review research into how prosecutors exercise their discretion. We then review research into how capital jurors are selected.

Prosecutorial Discretion Prosecutors generally have much discretion: whether to bring charges, what charges to bring, and whether or not to seek the death penalty. There are three small bodies of research relating to prosecutorial discretion in death penalty cases. First, one body of research has examined jurisdictional differences. While there is substantial variation in death penalty characteristics *across* states, studies suggest that there is also substantial variation *within* states. Studies have found variation in the intent to seek the death penalty for death-eligible crimes within states such as Colorado (Beardsley et al., 2015), Georgia (Baldus et al., 1990), Maryland (Paternoster, Brame, Bacon, & Ditchfield, 2004), Missouri (Barnes, Sloss, & Thaman, 2009), Nebraska (Baldus, Woodworth, Grosso, & Christ, 2003), Pennsylvania (Kramer et al., 2017), and South Carolina (Songer & Unah, 2006). One theme among these studies is that prosecutors in urban areas are less likely to seek the death penalty for death-eligible crimes than prosecutors in rural areas. Ironically, the areas with the fewest number of death-eligible crimes appear to be the areas where prosecutors are most likely to seek the death penalty. For a discussion of the factors that might explain this urban/rural divide, see West and Miller (in press).

Second, another body of research has examined the extent to which there is bias in prosecutors' decisions. One variable that appears related to prosecutors' decisions (as well as jurors' decisions at trial, as discussed below) is race. Some studies find that Blacks and Hispanics are more likely to be charged with a capital offense than Whites (e.g., Beardsley et al., 2015), but other studies find no such bias (e.g., Kramer et al., 2017; Scheb, Lyons, & Waggers, 2008). One of the more robust findings of prior literature is that the race of the *victim* is related to prosecutorial decisions. Studies indicate that capital charges and pursuing the death penalty are more likely in cases with a White victim than in cases with a victim who is a racial minority (Baldus et al., 2012; Petersen, 2017; Unah, 2009). Furthermore, studies point to an interaction between the race of the victim and the race of the suspect. For instance, a Black suspect accused of killing a White victim is more likely to be charged with a capital crime compared to a Black suspect accused of killing a Black victim (Baldus et al., 2012; Keil & Vito, 2006; Songer & Unah, 2006; Unah, 2009).

The gender of the suspect and victim also appear related to prosecutors' decisions. Broadly speaking, studies suggest that male suspects are more likely to be charged with capital crimes than female suspects, while male victims are less likely to prompt prosecutors to seek the death penalty (Songer & Unah, 2006; Vito, Higgins, & Vito, 2014). The interaction between the race and gender of the victim

creates what has been called the "White female" effect. Prosecutors put more effort into cases with white female victims, resulting in bigger case files (Gould & Greenman, 2010); this later results in more severe sentencing—as compared to cases with Black female victims (Pierce et al., 2014). One potential explanation for why the race and gender of the victim play a role in prosecutors' decisions is rooted in the aforementioned tendency to organize people into a hierarchy ranging from "fully human" to "less than human," as well as gender- and race-based stereotypes. White females might be seen as "more human" and stereotyped as passive and in greater need of "protection" than others (cf. Shatz & Shatz, 2011). Therefore, prosecutors invest more effort into pursing the death penalty when the victim is a White female because they, and the communities they serve, see the murder of a White female as more egregious than a murder of someone who is of a different race and/or gender.

Third and finally, some studies examine the relationship between the suspect and victim. Suspects accused of murdering a stranger are more likely to be charged with a death-eligible offense than suspects accused of murdering an acquaintance (Gould & Greenman, 2010; Songer & Unah, 2006). As others have noted (e.g., Lynch, 2009), there is a dearth of research into prosecutorial discretion, which inhibits reaching a clear-cut conclusion as to whether there is bias in charging decisions and intent to seek the death penalty. Nonetheless, as this brief review illustrates, the empirical evidence suggests a variety of factors can lead prosecutors to pursue the death penalty in some instances but not others.

Related to these three bodies of research is research that examines how prosecutors use the death penalty as a "bargaining chip" in order to obtain a guilty plea (see Ehrhard, 2009 for review). Indeed, there is a back-and-forth between the suspect and prosecutor that is fundamentally altered by the availability of the death penalty. By filing an intention to seek the death penalty, prosecutors essentially encourage a suspect to plead guilty and accept a sentence such as life without parole (LWOP). Rather than face the uncertainty of a trial and the risk of a death sentence, a suspect can instead plead guilty and receive a "discounted" and certain sentence. This model of plea bargaining is generally called "bargaining in the shadow of the trial" (see Bibas, 2004; Bushway, Redlich, & Norris, 2014). Research suggests that the strategy of seeking the death penalty to obtain a guilty plea is quite effective. For example, Kramer et al. (2017) found that a prosecutor's filing capital charges predicted the likelihood of a guilty plea, and in turn a guilty plea predicted the likelihood of prosecutors retracting the capital charges (see also Gould & Greenman, 2010; Kuziemko, 2006). Similarly, Baldus et al. (1990) found that almost half of death-eligible cases ended in guilty pleas.

Using the death penalty as a way to secure a guilty plea is not without concerns, however. One concern is that prosecutors will over-charge a suspect in order to be able to charge them with a capital offense—for instance, by adding on extra felony charges (see Ehrhard, 2009). This increases prosecutors' bargaining power and the chances of a plea bargain, but it also can increase the chances of a false conviction. Two studies have found evidence that defendants who were later exonerated were willing to plead guilty to crimes they did not commit because of their fear of

execution (Gross, 1996; Radelet, Bedau, & Putnam, 1992). A second concern is that bias can sneak into the plea bargaining process, much like it does in the prosecutor's decision to seek the death penalty in the first place. For example, cases involving a Black suspect and White victim are less likely to result in a guilty plea than other racial dyads (Vito et al., 2014). These defendants would thus go to trial and possibly receive the death penalty—whereas other racial dyads, particularly those including a White defendant, would plea bargain and avoid the death penalty. Such biases are a concern in prosecutors' decisions and jury selection.

Jury Selection Prior to the start of a trial, a number of people selected from the community come to the courthouse in anticipation of serving as jurors. Of this pool of prospective jurors, only a subset will be chosen to be on the jury. This is referred to as jury selection, or *voir dire*. There are two mechanisms by which attorneys can exclude prospective jurors—peremptory challenges and challenges for cause. Peremptory challenges allow attorneys to exclude jurors without stating a reason for the exclusion, though a reason can be requested by the judge, in which case the reason must be race-neutral (see *Batson v. Kentucky*, 1986) and gender-neutral (*J.E.B. v. Alabama*, 1994). The number of peremptory challenges is limited and varies across jurisdictions. For example, the prosecution and defense are each permitted 20 challenges in California capital cases (see California Code of Civil Procedure § 231). Challenges for cause, as the name implies, require reasons for exclusion. They are typically used when there is a reason to believe a prospective juror will be biased, for example, if the prospective juror has been victimized in a similar crime or knows the defendant personally. This process is intended to create a fair jury.

During capital jury selection, prospective jurors can be excluded for cause based on their death penalty attitudes and sentiments. Prospective jurors who report that they would automatically render a death or life sentence regardless of the evidence, or otherwise indicate their sentiment toward the death penalty would affect their ability to perform their duties as a capital juror, may be excluded (see *Morgan v. Illinois*, 1992; *Wainwright v. Witt*, 1985; *Witherspoon v. Illinois*, 1968). This unique aspect of jury selection in capital cases is referred to as death qualification (see Yelderman et al., 2016 for review).

Research suggests that the death qualification process biases jurors' evaluation of evidence, verdicts, and sentences (e.g., see Butler & Moran, 2002; Devine, 2012; Haney, 1984, 2005; West, Wood, Casas, & Miller, 2017). Several studies indicate that jurors who go through the process of death qualification are even more likely to find the defendant *guilty* than those who do not—possibly because the process signals that the government must believe the defendant is guilty if they are talking about the sentencing phase even before the trial has started (for review, see Devine, 2012).

Research also suggests that death-qualified jurors are more likely to endorse certain beliefs (e.g., religious fundamentalism) and are more likely to have certain demographic characteristics (e.g., male gender) compared to excluded jurors (e.g., see Butler & Moran, 2002; Haney et al., 1994; Sommers & Ellsworth, 2009). Prospective capital jurors might already be different from the US population at large

(e.g., they are registered voters in a state that permits capital punishment), and death qualification might exacerbate these differences. The research on death qualification has been reviewed in more depth in an earlier volume of this book series (Yelderman et al., 2016).

Once prospective jurors are selected for inclusion in the petit jury, they formally assume the role of capital juror. As expressed by the apt name "story model," jurors' role is essentially to construct narratives for a defendant's alleged crime and base their judgment on the narrative that best fits the evidence (see Pennington & Hastie, 1992). Assuming the role of capital juror might also affect people's motivations. Jurors, as decision-makers in a legal process, are motivated to produce what they perceive as just *outcomes* (cf. Heuer, Penrod, & Kattan, 2007). Conversely, non-decision-makers' perceptions of justice are focused on *processes* (Tyler, 1989; Tyler & Blader, 2000; see Tyler & Blader, 2003, and Blader & Tyler, 2009, for extensions and elaboration). Once a jury is selected, the pre-trial phase concludes and the trial can begin.

The Trial Phase

After the pre-trial phase has concluded—the prosecutor has filed paperwork expressing intent to seek the death penalty, no guilty plea was obtained, and the petit jury was selected—the trial phase begins. Most social science research has focused on jurors' decision-making during the trial phase, but just as attorneys play an important role in the pre-trial phase, they also play an important role in the trial phase. We start by reviewing research into attorneys' behavior in the trial phase, and how this relates to capital trial outcomes. This is followed by a discussion of jury decision-making during the trial.

Attorney Behavior in the Trial Phase There is a small body of research related to attorneys' behavior in the trial phase. This includes the attorney's choice of arguments and amount of resources the attorney invests in the case.

A first body of research concerns the content of the arguments broadly. Several studies have analyzed the content of attorney arguments, identifying the themes that came out of the analysis (Costanzo & Peterson, 1994; Kolesar, 2011; Logan, 1983a, 1983b, as cited in White, 1987). Logan (1983a, 1983b, as cited in White, 1987) identified 31 themes which fit five categories: (1) the death penalty is not necessary, (2) it is costly, (3) it is wrong, (4) it is legally inappropriate, and (5) human qualities of the defendant should be considered. Costanzo and Peterson (1994) identified 94 arguments, which fit in the following categories: (1) attorney's feelings, (2) defendant and their life, (3) the murder, (4) the victims, (5) the jurors' obligations, (6) sentencing, and (7) morality/justice. Kolesar (2011) used these studies to develop and validate a comprehensive Content Analysis Manual (CAM) that can be used to analyze defense arguments in the penalty phase of a capital trial.

While those studies investigated the content of attorney arguments, others investigate whether these arguments are effective at influencing jurors. White (1987) wanted to know whether the way the attorney portrayed and described the defendant could affect the trial outcome. The most effective of the trial strategies was to provide a conceptual argument against the death penalty. Claiming the defendant had a mental illness was the least effective strategy. Providing the jury with explanations for the defendant's behavior based on his social history (e.g., a poor upbringing) was also generally ineffective.

While it is important to study the effects of attorney arguments on jurors' verdicts, another study investigated the role of attorney arguments in helping jurors *understand* instructions given by the judge (Haney & Lynch, 1997). Many studies find that jurors do not understand the instructions, and this is especially true for death penalty sentencing decisions (see a chapter in this book series about instruction comprehension; Alvarez et al., 2016). Unfortunately, attorney arguments designed to reduce juror confusion and promote juror understanding (e.g., of aggravators, mitigators, and extenuating factors) are generally ineffective.

Another very small body of research concerns arguments regarding a defendant's post-crime behavior. Miller and Bornstein (2005) found that a post-crime conversion to Christianity—which illustrates that the defendant has changed their behavior in a positive direction—helps them avoid the death penalty. A study extending this notion found that a secular conversion was more effective than a conversion to either Christianity or Islam—but that also depends on the race of the defendant (Kirshenbaum, Miller, & Yelderman, 2020). This generally comports with a study from China finding that post-crime good behavior influenced judges' sentencing decisions, thus reducing chances of a death penalty (Xiong, Liu, & Liang, 2018). More research is clearly necessary, but these three studies suggest that a defendant's post-crime behavior might influence the jury's life or death verdict.

Other studies have looked at different religion-related aspects of a trial. Miller (2006) conducted two studies investigating attorney arguments that invoke religion. For instance, a prosecutor might encourage jurors to apply the Biblical principle of "an eye for an eye" and thus give the defendant the death penalty. The defense attorney might use the Biblical principle of "turn the other cheek" to encourage jurors to forgive the defendant and spare his life. The studies found these arguments to be largely ineffective, as did Miller and Bornstein (2006).

The arguments about religion are sometimes ruled to be impermissible by some courts for a variety of reasons—for example, because they encourage jurors to use God's law, not state law (see Miller & Bornstein, 2005 for review). Other impermissible arguments might be disparaging or prejudicial or encourage jurors to rely on extralegal factors (e.g., Platania & Moran, 1999). While the empirical studies about religion (Kirshenbaum, Yelderman, & Miller, 2020; Miller, 2006; Miller & Bornstein, 2006) cast doubt on whether the arguments are effective, at least one study shows that impermissible prosecutor arguments in capital trials are effective at increasing death penalty verdicts (Platania & Moran, 1999). Even so, sometimes attorneys make improper closing arguments and judges have to instruct the jurors on how to (not) use the improper remarks (Chavez & Miller, 2009). One study has

tested this and found that such instruction led to fewer death penalty verdicts, but only if it was very specific (as compared to very general instructions; Platania & Small, 2010).

All of these examples illustrate how attorneys can influence the trial process through their choice of arguments. More broadly, the amount of effort they put into cases could also affect defendant outcomes. A few studies have investigated the type of attorney (public defender, private attorney) or amount of effort and resources attorneys spend on death penalty cases. These factors often relate to the jurisdiction where the defendant is being tried—and sometimes also involve racial bias (e.g., minorities are more likely to have a court-appointed attorney).

Some defendants can afford to hire an attorney, but others cannot and are represented by a court-appointed attorney or public defender. Unfortunately, such attorneys often have a high number of clients and few resources. This could ultimately have implications for the defendants' trial outcomes. Attorney type relates to the chances of a defendant being charged with a capital crime by the prosecutor. Specifically, prosecutors are more likely to file capital charges against defendants who have court-appointed attorneys or private attorneys as compared to public defenders (Kramer et al., 2017). Thus, having a public defender could actually benefit the defendant. This benefit has limits, however. Once capital charges are filed, defendants who have public defenders are more likely to receive the death penalty than defendants with court-appointed or private attorneys (Kramer et al., 2017).

Attorney type might be a proxy for the amount of resources, as public defenders tend to have fewer resources than private attorneys. Because not every defendant has equal resources, a few studies have investigated factors that link resources and trial outcomes. Race plays a role in the quality of representation, as Black defendants tend to have less costly defenses (Gould & Leon, 2017). Further, capital defendants in some states (e.g., Connecticut, California) receive substantially more resources from the courts than other states (e.g., Texas, Georgia, North Carolina; Gould & Greenman, 2010). Kramer and colleagues' (Kramer et al., 2017) results about how defense attorney type relates to outcome also suggest that resources vary greatly across counties. Unfortunately, having fewer resources spent on one's trial is associated with a greater likelihood of receiving a death sentence (Gould & Leon, 2017). In addition to resources and cost of the defense, a variety of jury-related factors can influence trial outcomes, as discussed next.

Jury Decision-Making This section reviews social science research concerning the factors that influence jurors' decisions during the guilt and penalty phases—focusing on how the process itself and reliance on legal and extralegal factors can affect trial outcomes. Research has primarily focused on the penalty phase, as the life or death decision is what sets it apart from other trials. Thus, we primarily focus on research into the factors that influence jurors' sentencing decision at the penalty phase.

During the guilt phase, jurors must decide whether a defendant committed the crime(s) with which the defendant is charged. At the outset, there are a number of reasons jurors might be predisposed to convict a defendant; these are largely related

to death qualification and the pre-existing tendencies discussed above. For instance, jurors have likely been exposed to news coverage of the alleged crime and descriptions of the defendant in stereotypical or dehumanized terms, and they have a tendency to favor their own group over out-groups. These tendencies might lead them to quickly form an initial judgment of the defendant's guilt, which is a strong predictor of the ultimate verdict (e.g., Scurich & John, 2017).

During the penalty phase, jurors are responsible for identifying, evaluating, and weighing aggravators and mitigators to determine a sentence—usually the death penalty or a lesser penalty such as LWOP (*Gregg v. Georgia*, 1976; *Hurst v. Florida*, 2016; *Ring v. Arizona*, 2002). As with the guilt phase, there are a number of reasons jurors might be punitively predisposed (i.e., predisposed to render a death sentence). In addition to factors like pretrial publicity and death qualification, the tendency to attribute behavior to dispositional causes is critical. This is because aggravators and mitigators imply different types of causes for a defendant's behavior. Aggravators tend to imply simple, dispositional causes (e.g., the defendant has a history of violent conduct, implying the defendant is a violent person by nature), whereas mitigators imply external and more abstract causes (e.g., the defendant was in a situation causing emotional distress or experienced childhood abuse, implying that the defendant is not violent by nature, but rather life history and situational factors produced the violent act; see Haney, 2005, 2008; West et al., 2018). Thus, jurors might be inclined to consider aggravators but disinclined to consider mitigators. This would result in a greater likelihood of the jurors favoring the death penalty.

These pre-existing tendencies are likely to influence jurors' decisions, yet research has focused more on trial-related variables that affect decisions. There are two main types of variables. First, *legal* variables are variables that *should* influence jurors' verdicts (e.g., judge's instructions, attorney arguments, witness testimony, and evidence). Second, *extralegal* variables are those that should *not* influence jurors' verdicts (e.g., the race/ethnicity, physical attractiveness, or socioeconomic status of the defendant, victim, or witnesses). The discussion below differentiates these types of variables and synthesizes how they affect jurors' decisions in both the guilt and, especially, the penalty phases of trial.

Legal Variables In general, the strength of evidence in a case is the strongest predictor of jurors' verdicts (Devine, 2012). "Strong" evidence can generally be understood as evidence "which makes for a good story" (Devine, 2012, p. 150), and more specifically as evidence that increases the probability that the defendant is guilty relative to the probability that the defendant is not guilty. Research suggests that a defendant's confession, eyewitness testimony, visual evidence, and in some instances, expert witness testimony, are the primary types of evidence that influence jurors' verdicts (see Devine, 2012 for review). Evidence that elicits emotion in jurors appears to be particularly strong. For example, gruesome photographs can elicit a strong emotional response in jurors (e.g., anger toward the defendant) and increase the likelihood of conviction (Bright & Goodman-Delahunty, 2006; though empirical support for this gruesomeness effect is mixed; see Bornstein & Greene, 2017).

As for the penalty phase, aggravators and mitigators are the primary legal variables that should influence jurors' sentencing decisions. Research generally suggests that the presence of aggravators and mitigators, and jurors' endorsements of aggravators and mitigators influence jurors' sentencing decisions. When a case includes more aggravators than mitigators, jurors are more likely to render a death sentence, as compared to a case containing more mitigators than aggravators (Miller & Bornstein, 2006; West, Boppre, Miller, & Barchard, 2019; West, Wood, Miller, & Bornstein, 2020; see also Vaughan & Holleran, 2020). Studies of the relationships between aggravator endorsements, mitigator endorsements, and sentencing decisions have produced somewhat mixed findings. Some studies find that both aggravator endorsement and mitigator endorsement predict sentencing decisions (e.g., Richards, Bjerregaard, Cochran, Smith, & Fogel, 2016; West et al., 2018), whereas some find that only aggravator endorsement predicts sentencing decisions (e.g., Baldus et al., 2003). One potential reason for this—related to the tendency to make simple, dispositional attributions and neglect more abstract and external factors—is that jurors often have minimal understanding of what mitigators are and how they should be used in sentencing decisions (e.g., Lynch & Haney, 2000, 2009; see, generally, Alvarez et al., 2016).

Beyond the number of aggravators presented to and endorsed by jurors, research has also examined the role of specific aggravators and mitigators in jurors' sentencing decisions. Several general observations can summarize the research in this area. First, in some states with the death penalty (e.g., Texas), capital jurors consider a defendant's future dangerousness. Typically, an expert witness provides testimony concerning a defendant's future dangerousness, basing their determination on their clinical opinion or an actuarial assessment. Research suggests that the jurors' sentencing decisions are more influenced by testimony concerning a defendant's future dangerousness based on *clinical* opinion than testimony based on *actuarial* assessments (Krauss & Lee, 2003; Krauss & Sales, 2001; see also Krauss, Lieberman, & Olson, 2004). This is especially problematic because predictions of future dangerousness based on clinical opinion are often unreliable (see *Barefoot v. Estelle*, 1983).

Second, one burgeoning area of research—and debate (see discussion by Denno, 2013)—relevant to predicting dangerousness is how jurors respond to genetic and neuroscientific evidence presented at trial. This type of evidence is typically presented as mitigation (e.g., the defendant's capacity to regulate their behavior was limited due to brain characteristics; Denno, 2011). The extent to which genetic and neuroscientific evidence affects capital jurors' decisions is currently unclear. Some studies suggest that it has no effect (Appelbaum, Scurich, & Raad, 2015), some suggest that it has a negligible effect (i.e., it is not "more mitigating" than other mitigators; Gordon & Greene, 2018), and others suggest that it can have a "backfire" effect (i.e., it can increase the odds of a death sentence when presented as mitigation compared to when it is presented as aggravation; Saks, Schweitzer, Aharoni, & Kiehl, 2014). Given that this evidence is increasingly common (Denno, 2011), it will likely continue to be an area of research and debate going forward.

Third, the law sometimes allows, and even encourages, jurors to use emotions in their decisions. Most states with the death penalty have at least one aggravator

emphasizing the heinousness of the crime (see Death Penalty Information Center, 2020d). One reason jurors might be inclined to see the defendant's crime as particularly heinous—beyond the fact that capital crimes are the worst of the worst (see *Furman v. Georgia,* 1972; *Gregg v. Georgia*, 1976)—is that they often hear testimony from the victim's relatives about how the loss of the victim has affected them. This testimony is referred to as a victim impact statement (VIS; a chapter in a previous volume of this book series addresses this topic fully; see Myers et al., 2018). Naturally, VISs often include emotional language (Nuñez, Egan-Wright, Kehn, & Myers, 2011), and prosecutors might even encourage emotionality in VISs (see Bandes, 2009; Burr, 2003). VISs can elicit feelings of anger among jurors (Paternoster & Deise, 2011), which can, in turn, lead to a death sentence. Anger is a frequent emotion expressed during capital jury deliberations, and jurors often express it in relation to evidence in cases they see as particularly heinous (Lynch & Haney, 2015). In this sense, VISs might elicit anger that leads to the perception that the crime was especially heinous; in turn, jurors can rationalize a death sentence by assigning the "heinousness" aggravator substantial weight (cf. Lynch & Haney, 2015).

In contrast to the VIS is an execution impact statement (EIS), which is typically made by a family member of the defendant who expresses the negative effects the execution will have, in an attempt to sway the jury toward a life sentence. An EIS can affect emotions and perceptions of the defendant (e.g., remorsefulness; Boppre & Miller, 2014). Though relatively little research exists as to the effects of VISs—and even less on the effects of EISs, perhaps because they are less commonly permitted across states compared to VISs (Logan, 1999)—such statements have potential to affect verdicts by evoking emotions in jurors.

Fourth, a defendant's mental illness or intellectual disability can serve as a mitigator for jurors to use in their sentencing decisions. It is unconstitutional to execute defendants who are incompetent due to an intellectual disability or mental illness (see *Atkins v. Virginia*, 2002; *Ford v. Wainwright*, 1986), but this is more straightforward in principle than in practice. States define intellectual disability differently, and mental health practitioners have to determine the extent to which a defendant's mental illness affects the defendant's competency (i.e., whether a defendant has the capacity to understand their punishment and why they are receiving it). As a result, some defendants can still face the prospect of a death sentence despite having diminished intellectual faculties or mental illness. Research suggests that mitigators concerning mental illness and intellectual capacity are commonly presented in capital cases, and jurors' acceptance or rejection of these mitigators explains variation in sentencing decisions (Gillespie, Smith, Bjerregaard, & Fogel, 2014). For example, juries who accept that the defendant has diminished capacity to understand their crime are more likely to render a life sentence, while jurors who reject this mitigator are more likely to render a death sentence (Gillespie et al., 2014). Mock jury studies yield similar findings (e.g., see Barnett, Brodsky, & Manning-Davis, 2004; Vaughan & Holleran, 2020).

Finally, defendant testimony can be a source of mitigation. Defendants who testify that they accept responsibility for their crime, express remorse, and indicate

they are working to become better people are perceived more favorably by jurors and less likely to receive a death sentence (Tallon, Daftary-Kapur, & Penrod, 2015; see also Antonio, 2006). Similarly, as mentioned earlier, defendants who testify that they have converted to Christianity are less likely to receive a death sentence (at least when there is also strong mitigating evidence present in the case; Miller & Bornstein, 2006). These types of testimony might increase jurors' sympathy and empathy for the defendant.

All of these areas of research suggest that legal variables affect a trial's outcome—as they should. Unfortunately, however, extralegal variables also affect trials, as discussed next.

Extralegal Variables Extralegal variables include race, gender, and other less-studied variables (e.g., perceptions of the defendant, the defendant's immigration status). The subsequent sections review research into the effects of these variables.

Race As an Extralegal Variable Social scientists have been particularly interested in the role of extralegal variables in capital jurors' decisions, especially the race/ethnicity of the defendant and the victim. The human tendency to organize people into a hierarchy of groups defined by an essential nature, the tendency to favor one's in-group, and the tendency to rely on heuristics such as stereotypes are particularly relevant in this domain (see general discussion above). Prior studies suggest that cases involving White victims are more likely to result in a death sentence than cases involving victims of other races (the "White victim effect"), and that cases involving a White victim in combination with a Black defendant are more likely to result in a death sentence than other racial dyads (see Baldus et al., 1990; Jennings et al., 2014; Kramer et al., 2017; *McCleskey v. Kemp*, 1987; Paternoster et al., 2008). However, contemporary scholarship generally acknowledges that the relationship between racial/ethnic characteristics and capital punishment is complex. Recent studies and meta-analyses suggest that racial/ethnic characteristics have weak effects on verdicts (e.g., Devine & Caughlin, 2014; Mitchell, Haw, Pfeifer, & Meissner, 2005), indirect effects on sentences via jurors' endorsement and weighing of aggravators and mitigators (e.g., Jennings et al., 2014; West et al., 2020), and effects that are moderated by other variables (Espinoza & Willis-Esqueda, 2015; Lynch & Haney, 2000; see also Sommers & Ellsworth, 2000, 2001).

One possible reason for why the relationship between racial/ethnic characteristics and capital jurors' decisions is complex is that displaying overt prejudice toward racial/ethnic minorities has become less socially acceptable (see discussion of theories of prejudice above). Because norms have changed, prejudice is subtler and tends to occur when people have a way of justifying prejudice (Crandall & Eshleman, 2003). For example, some work suggests that capital jurors are more likely to express prejudice against racial/ethnic minority defendants when there is relatively weak mitigating evidence (Espinoza & Willis-Esqueda, 2015). In theory, weak mitigating evidence provides justification for jurors to express prejudice. Critically, while norms might have changed and the effects of race/ethnicity might now be more nuanced and complex, it is nevertheless true that African Americans, in

particular, are still substantially overrepresented on death row (Death Penalty Information Center, 2020c).

Gender As an Extralegal Variable Another extralegal variable is gender (for a general review of gender effects at trial, see Livingston, Rerick, & Miller, 2019). Women represent only 2% of all death sentences since the 1970s (Death Penalty Information Center, 2020e; see also Richards, Smith, Jennings, Bjerregaard, & Fogel, 2014), and there is evidence that sentencing women to death has long been a rare occurrence (see Espy & Smykla, 2016). There are two somewhat compatible explanations for gender differences in death sentencing. One explanation is that women are less likely to commit murder compared to men, and when they do, it occurs in different contexts (see Campbell & Cross, 2012). For instance, women are more likely to commit murder as a response to violence (e.g., self-defense against an abusive partner; Suonpää & Savolainen, 2019) compared to men. In this sense, the aggravating factors that make a murder the worst of the worst might be absent for women, while conversely, mitigating factors might be present (e.g., the victim initiated the altercation that led to their murder). Another explanation is the "chivalry hypothesis." In line with ideas discussed in a previous section, the chivalry hypothesis is based on the enduring legacy of norms and values that are passed down generationally. Specifically, the norms and values associated with the "knightly class" in medieval times (e.g., rigid gender roles, a culture of honor) that have endured and are reflected in jurisprudence and criminal justice practice (Shatz & Shatz, 2011). The hypothesis suggests that "knightly" juries generally see female defendants as passive, in need of protection, less dangerous, and less culpable, and therefore, the jurors are less likely to render a death sentence (Janicki, 1999; Shatz & Shatz, 2011).

Other Extralegal Factors A number of studies suggest that extralegal variables beyond race/ethnicity and gender are related to capital jurors' decisions. We review a few here. One notable characteristic, given the current political climate, is a defendant's immigration status. Immigrants are often stereotyped as crime-prone (Hagan, Levi, & Dinovitzer, 2008), and some studies find that the expression of prejudice toward undocumented immigrants is "unalloyed, unabashed" (Crandall et al., 2002, p. 374). Not surprisingly, then, the few studies that have examined the effect of a defendant's immigrant status on jurors' decisions suggest that jurors are more likely to convict, reject mitigators, and render a death sentence when the defendant is an undocumented immigrant compared to a US citizen (Alvarez & Miller, 2017; Minero & Espinoza, 2016; West et al., 2020; Willis-Esqueda, Toscano, & Coons, 2015).

Another extralegal variable is jurors' perceptions of the defendant. Technically jurors should be making decisions based on evidence, not on their perceptions of the defendant. Yet, the more negative perceptions a juror has about the defendant, the more likely the defendant is to receive a death sentence (West et al., 2019). Similarly, when jurors perceive the defendant to be bored during the trial (Antonio, 2006) or

to be psychopathic (Edens, Colwell, Desforges, & Fernandez, 2005), jurors are more likely to render a death sentence.

Finally, one other extralegal variable that appears to influence jurors' decisions is a defendant's socioeconomic status (SES). Studies suggest that a defendant's SES interacts with other defendant characteristics to influence jurors' decisions. For example, jurors are more likely to find a defendant guilty and render a death sentence when the defendant is Latino and has a low SES (Espinoza & Willis-Esqueda, 2015).

As this review suggests, many variables affect jurors' decisions, starting with the jury selection process itself. Once selected as jurors, there are even more factors—some of which are legal and some of which are extralegal—that can affect jurors. Many of these factors (e.g., attributional processes) promote death penalty verdicts, which result in the offender spending the rest of his life on death row. This has its own set of unique psychological implications, as discussed next.

Awaiting Death: The Death Row Experience

Social scientists have studied the post-trial experiences of death row inmates, though in some respects, not as extensively as they have studied the trial phase. Several bodies of research have emerged. First, the same body of social science research discussed above to explain how the death penalty evolved can be applied to the experiences of death row inmates. This includes the maturation of society and the search for humane punishment. Second, social scientists (primarily clinical psychologists) have studied the effects of death row incarceration on inmates. Third, this same group of scientists is assigned unenviable tasks. They must consider whether an inmate is competent to be executed, and if not, they must restore the inmate's competency so that the government can execute them. Thus, the "death row experience" includes the experience of forensic psychologists as well as that of the death row inmates themselves.

Maturity, Humanity, and the Death Row Experience

In some sense, death row in the modern era is a poignant example of Foucault's (1977) thesis concerning the historical transition from punishment inflicted on the body to punishment inflicted on the soul. The moral intuition to punish wrongdoers has not changed, but society has matured and increasingly values human lives. This has created a situation in which people intuitively believe that offenders who kill deserve to be killed, but people do not want to be responsible for killing (especially with any degree of uncertainty as to guilt) due to their ideals and values. This fundamental tension explains the historical pursuit of humane methods of execution—in principle, a humane execution could reconcile intuitions of justice with humanistic

ideals and values. But, each of the humane methods of execution has largely proven itself eventually to be inhumane in practice (see Paternoster et al., 2008; Sarat, Blumstein, Jones, Richard, & Sprung-Keyser, 2014). This is perhaps best exemplified by botched executions. Lethal injection, like past methods of execution, was adopted as a more humane method of execution than other methods (e.g., electrocution), yet it actually has the highest rate of botched executions (a rate of about 7%; Sarat et al., 2014). One particularly horrifying possibility with lethal injection is that a person can be paralyzed, yet conscious while they suffocate to death (see Koniaris, Zimmers, Lubarsky, & Sheldon, 2005). To rephrase Justice Breyer, there might not be a way to execute the worst of the worst that aligns with Enlightenment and humanistic ideals and a maturing society's evolving standards of decency (see Justice Breyer's dissent in *Bucklew v. Precythe*, 2019). This might be one reason why executions have become increasingly rare. Defendants who receive the death penalty are now spending an average of two decades on death row (Death Penalty Information Center, 2020f), much longer than in previous generations, awaiting an execution that might or might not be performed.

Health Consequences of Death Row Incarceration

Ironically, although death row inmates committed violent offenses and are deemed the worst of the worst, they rarely engage in violence on death row (Buffington-Vollum, Edens, & Keilen, 2008; Cunningham & Sorensen, 2010). Nevertheless, death row conditions reflect the assumption that people sentenced to death are exceptionally dangerous (Toch, Acker, & Bonventre, 2018), as well as the assumption that death row is akin to a waiting room (Woodford, 2018). Even so, imprisonment on death row is perhaps best perceived as a step toward possible execution, not an end in itself. This view encourages the scientific study of the experiences related to this (sometimes lengthy) phase in death row inmates' experience.

Although there are exceptions, death row inmates are isolated from the general inmate population and other death row inmates (e.g., limited time outside of their cell, solitary confinement) and have limited access to services, programming, and activities (e.g., exercise, contact/visits with friends or family, religious services; American Civil Liberties Union, 2013; Woodford, 2018). Isolation, idleness, and a lack of control over one's environment and circumstances are related to mental and physical deterioration (Kupers, 2018). Prolonged exposure to this environment can result in symptoms such as hypertension, hallucinations, depression, and suicidality (Haney, 2003; Kupers, 2018). The rate of potentially fatal self-harm behaviors (e.g., laceration) among inmates who experience solitary confinement is about 10 times higher than among inmates who do not experience solitary confinement (Kaba et al., 2014), and suicides occur disproportionately in isolation units (e.g., see Patterson & Hughes, 2008).

Isolation is especially problematic for inmates with a pre-existing mental disorder, as it can exacerbate symptoms (Haney, 2003; Human Rights Watch, 2003). By

some estimates, the prevalence of mental disorders among inmates housed in isolation units might be as high as 60% (Human Rights Watch, 2003). The incarcerated population has higher rates of mental disorders than the general population (e.g., see Fazel, Hayes, Bartellas, Clerici, & Trestman, 2016), and the death row population has even higher rates of mental disorders than the overall incarcerated population (Cunningham & Vigen, 2002). While there have been moves toward restricting the use of isolation for inmates with mental disorders, death row inmates are generally required to remain in the isolated conditions characteristic of death row (Kupers, 2018).

In addition to, and often comorbid with, mental health problems are physical health problems associated with incarceration. Roughly 40% of the incarcerated population has at least one chronic medical condition (Wilper et al., 2009). In some cases, these are preexisting conditions, but often they develop during incarceration due to poor nutrition, restricted opportunities for healthy behaviors (e.g., exercise), or aging. For example, as the time between sentencing and execution has increased, the death row population has aged considerably. As of 2016, over half of the death row population is age 50 or older (Davis & Snell, 2018). As people age, they face an increased risk of certain health conditions (e.g., hypertension, cancer) and have additional healthcare needs (e.g., dietary restrictions, medication, frequent consultation with a physician), which can be difficult to manage in prisons (see Anno, Graham, Lawrence, & Shansky, 2004; Gaydon & Miller, 2007; Masotto, 2014). Moreover, people age faster while incarcerated (Anno et al., 2004). Prisons are generally ill-equipped to address the physical and healthcare needs of the elderly in the general prison population (Anno et al., 2004; Gaydon & Miller, 2007), much less the needs of elderly prisoners on death row, who face additional barriers. For example, there is the normative question of whether elders on death row should receive specialized medical treatment if they will eventually be executed (Masotto, 2014). Thus, some prison employees or medical personnel responsible for caring for death row inmates might not be inclined to provide the highest level of care.

As this review suggests, social scientists have revealed a plethora of negative effects of death row imprisonment. Despite claims that prolonged stays on death row awaiting an execution—and the associated mental and physical suffering—are cruel and unusual, the Supreme Court has so far refused to consider cases making these claims (e.g., see *Lackey v. Texas*, 1995). However, the Court has considered the extent to which executing elderly death row inmates suffering from age-related health problems is cruel and unusual (*Madison v. Alabama*, 2019). The ruling in that case centered on the concept of *competency*, a topic we turn to in the next section.

Competency of Death Row Inmates

The US Supreme Court has made it clear that the death penalty should not be applied to everyone. The reasoning in many of these cases is that certain conditions (e.g., intellectual disabilities, mental disorders) affect people's competency, and therefore

executing people with these conditions fails to achieve any goal of punishment (e.g., deterrence, retribution) and is unconstitutional (e.g., see *Atkins v. Virginia*, 2002; *Ford v. Wainwright*, 1986). Given the current realities of death row—decades in an environment associated with physical and mental deterioration—what have become increasingly problematic are instances in which a person was "competent to stand trial," but later is "incompetent for execution." This issue was highlighted in a recent Supreme Court case involving an elderly death row inmate who had no memory of his crime after experiencing multiple strokes while on death row (*Madison v. Alabama*, 2019). The Court ruled in favor of petitioner Madison, though he eventually died of natural causes in early 2020 (Hrynkiw, 2020). The ruling in the *Madison* case emphasized that the execution of a death row inmate with a particular health condition is unconstitutional, but only insofar as the condition affects the inmate's competency.

Competency for execution, sometimes called the "last competency" (see Brodsky, Zapf, & Boccaccini, 2001), is typically evaluated by mental health professionals. There are a number of practical and ethical issues. An important practical issue is that there is no universal standard for determining competency for execution. Most states with the death penalty have a standard, but some use a "one-prong" standard while others use a "two-prong" standard (Zapf, 2009). The one-prong standard is how the law previously defined competency—a factual and rational understanding of punishment and the reasons for the punishment (see *Ford v. Wainwright*, 1986; *Panetti v. Quarterman*, 2007). The two-prong standard adds an additional element—the rational ability to assist and consult with counsel (see *Dusky v. United States*, 1960). The fact that there is variation across states means it is possible that a person deemed competent for execution in one state might not be deemed competent for execution in another state. Moreover, because competency for execution is not a clinical diagnosis, mental health professionals have to decide how to interpret and apply competency for execution standards (see discussion by Brodsky, 1990). Thus, not only is there questionable reliability in competency for execution across states, but there is also the potential for questionable reliability in competency for execution across mental health professionals. To help address this issue and assist mental health professionals conducting evaluations, psychologists have developed the Competency for Execution Research Rating Scale (Ackerson, Brodsky, & Zapf, 2005) and the Interview Checklist for Evaluations of Competence for Execution (Zapf, Boccaccini, & Brodsky, 2003).

There are many potential ethical issues with competency for execution evaluations (see Neal, 2010 for review), two of which are noted here. First, one ethical problem concerns the extent to which mental health professionals' attitudes toward the death penalty might bias their evaluations (see Brodsky, 1990). Indeed, studies suggest that forensic psychologists have less favorable views of the death penalty than community members (Garcia-Dubus, 2016; O'Neil, Patry, & Penrod, 2004). These attitudes appear to be unrelated to competency for execution evaluations, at least in hypothetical scenarios (Garcia-Dubus, 2016), but they are related to willingness to conduct evaluations (Neal, 2016; see also Pirelli & Zapf, 2008). For example,

Neal (2016) found that forensic psychologists who were more opposed to the death penalty reported less willingness to perform evaluations in capital cases.

A second ethical problem revolves around the "do no harm" principle, and more broadly the role of health professionals as "healers." If an evaluator concludes a person is competent for execution, the person could very well be executed. A related concern is whether a health professional should provide treatment (e.g., medication) and thereby "restore" a person's competency (see Shannon & Scarano, 2013; Winick, 1992; though note that psychologists do not have prescription privileges in most jurisdictions). This essentially puts health professionals in a role that is antithetical to their role as healers, which might cause stress, deter professionals from working in corrections, and inhibit a therapeutic relationship between the professional and their "patient" (i.e., the inmate; Winick, 1992).

Known Unknowns: The Future of the Death Penalty and Death Penalty Research

Predicting the future of the death penalty inherently involves uncertainty, but, given the controversial nature of the death penalty, it is almost certain that both the related law and research will continue to develop in some capacity.

The Future of Death Penalty Law

There are a number of possible futures for the death penalty. The future of the death penalty in the USA might be like an asymptote—approaching formal abolition, but never fully reaching it (see Paternoster et al., 2008). In this scenario, more states will formally abolish the death penalty, by statute or case law; more states will de facto abolish the death penalty; and death sentences and executions will become increasingly rare. However, Americans have historically valued local control, and capital punishment is largely a local affair in the USA (i.e., bottom-up policymaking as opposed to top-down policymaking). Thus, even if current aggregate trends continue, some jurisdictions might retain the death penalty, at least as a formally sanctioned punishment, for quite some time because of benefits (e.g., as a tool in plea bargaining, as discussed above). Moreover, polling suggests that, with only a few exceptions, a majority of Americans have supported the death penalty for three-quarters of a century (though the proportion has decreased to 56% since peaking around 80% in the 1990s; Gallup, 2020). Given Supreme Court precedents, it is unlikely the death penalty will be deemed unconstitutional unless a majority of states abolish it and a majority of citizens oppose it. If the latter conditions are met, it is possible the Supreme Court will eventually determine the death penalty, in itself, violates standards of decency.

Whether or not the death penalty is eventually abolished, there are good reasons to predict that LWOP will come to supplant the death penalty. First, as death sentences and executions have decreased over the past two decades, LWOP sentences have increased (see Ogletree Jr. & Sarat, 2012). Virtually every state permits LWOP (Alaska is the lone exception), and in every state that has abolished the death penalty in the past decade, LWOP has essentially supplanted the death penalty (Death Penalty Information Center, 2020g). Second, although polling indicates that a majority of Americans continue to favor the death penalty and see it as morally acceptable, poll questions that ask people to choose between the death penalty and LWOP as punishment for murder indicate people are increasingly in favor of LWOP (Gallup, 2020). Indeed, in the 1980s, about 35% of people chose LWOP as opposed to the death penalty, but as of 2019, 60% of people chose LWOP (Gallup, 2020). The rise in the use of LWOP and support for LWOP might be a product of the tension between the intuition to punish the worst of the worst and a maturing society which embraces humanistic and Enlightenment ideals. Consider, for example, the problem of innocence. One study estimates that about 4% of people sentenced to death are erroneously convicted (Gross, O'Brien, Hu, & Kennedy, 2014). Whereas an execution is irreversible, LWOP is reversible and thereby lowers the stakes if there is an erroneous conviction. Similarly, LWOP allays the moral aversion to killing another person, especially when there might not be a "humane" method by which to do so.

Of course, it is also within the realm of possibility that states will reinstate the death penalty and/or that death sentences and executions will start increasing at some point, as has happened before. From the 1930s to the late 1960s and early 1970s, the number of annual death sentences and executions decreased dramatically, only to be followed by a substantial increase into the 1990s (see Death Penalty Information Center, 2020a, 2020b; Espy & Smykla, 2016). The federal government has performed three executions in the modern era (i.e., since *Furman*), but in the coming years, the federal government is scheduled to execute five people (Death Penalty Information Center, 2020a; Williams & Arkin, 2019). This could be an exception, but the main idea is that there are good reasons to predict the eventual demise of the death penalty, and also good reasons to be at least a little bit skeptical of that prediction.

It is also possible that the death penalty will remain, but will see drastic reforms and alternatives. Bornstein and Greene (2017) offer a number of possibilities for alternatives that would limit some of the biases in jury decision-making discussed above. First, perhaps judges should be making the sentencing decisions. While the Supreme Court has expressed the importance of a jury's involvement in the sentencing phase (e.g., *Hurst v. Florida*, 2016; *Ring v. Arizona*, 2002), there are some states that allow a judge to determine the sentence when jurors cannot reach a unanimous decision. There are also some states in which juries make factual determinations about the evidence and a judge decides the ultimate sentence. While it is possible that the death penalty will evolve so as to allow judges, not juries, to make the sentencing decisions, such reform would require drastic legal (and potentially constitutional) changes.

Second, Bornstein and Greene (2017) suggest that the trial process could be altered to remove biases created during the death qualification process. A guilt-phase jury could be impaneled without death qualification, thus allowing even those jurors who have strong attitudes toward the penalty to serve. Then, a second jury, which was death-qualified, could make the sentencing verdict. This would take more resources, but would possibly create a fairer process.

Third, Bornstein and Greene (2017) suggest further revisions of death penalty instructions so that jurors can better understand them and apply the law fairly. All these reforms have promise to create fairer outcomes for defendants charged with capital crimes. But, in order to implement them, it is necessary that social scientists continue to study the death penalty in many realms. The rest of this chapter is dedicated to discussing future research.

The Future of Community Sentiment Research

Even if the death penalty is entirely abolished in the USA, death penalty *research* will likely remain because of its important theoretical implications. Examining death sentencing and death penalty support sheds light on broad research questions about punitiveness and its social and psychological mechanisms (e.g., what shapes people's perceptions of blameworthiness?). Although the USA is unique among Western developed countries in retaining the death penalty, citizen support for the death penalty is not unique to the USA. In many European countries that abolished the death penalty, the majority of citizens initially wanted it reinstated (though support decayed over time; see Paternoster et al., 2008). Similarly, the majority of people in the USA and Canada agree that the death penalty is morally right (Anderson & Coletto, 2016; see also Gallup, 2020). This is particularly notable because both countries placed a moratorium on the death penalty around the same time (1960s–1970s), after which the countries went in opposite directions—abolition in Canada, and reinstatement in the USA. To some degree, questions about why people support the death penalty, why people believe certain actions are deserving of the death penalty, and why people find certain offenders more blameworthy and deserving of a death sentence than others are independent of whether the death penalty is a formally permitted punishment. As such, research on community sentiment toward the penalty will likely continue no matter what its legal status (however, see Bornstein & Greene, 2017, for opposing arguments).

The Future of Empirical Research

The research summarized above (and much more that was excluded due to space constraints) indicates the plethora of research on the death penalty that exists. Yet, there is more to do. For instance, the body of research about racial prejudice is well

established, but there is much more prejudice-related research yet to be conducted. The Supreme Court in 2019 declined to hear the 1993 South Dakota case of Charles Rhines, a gay man sentenced to death (see *Rhines v. Young*, 2019). During interviews in 2016, his lawyers found out that the jury had discussed his homosexuality at length; some members of his jury said they wanted to give the death penalty because the defendant was gay and he might like being in the general population with easy access to other men (Thomsen, 2019). Research has yet to investigate LGBTQ+ prejudice in the context of death penalty jury decision-making. This is important because not all prejudice "works" the same. For instance, "race salience" is a term coined to describe how White people express prejudice against a Black wrongdoer (e.g., give them more punishment than a White wrongdoer); however, when race is salient (e.g., the crime was committed because of a racial slur), this prejudice is reduced (see Sommers & Ellsworth, 2009). This pattern does not extend to religious prejudice, however. A set of studies (Miller, Clark, & Alvarez, 2020) indicated that people expressed *prejudice* against a Muslim defendant who committed a violent crime that was motivated by his religion, but showed *favoritism* toward a Muslim defendant who committed a crime after being attacked because of his religion. The same set of studies found little prejudice against atheists (Miller et al., 2020). Such studies indicate that there are normative prescriptions as to when it is acceptable to openly express prejudice. While we know some about legal-related prejudice concerning race, gender, and religion, we know less about legal-related prejudice against LGBTQ+ groups (see Plumm & Leighton, 2019), or other groups that might (re-)emerge as targets of prejudice (e.g., anti-Semitic prejudice). The normative acceptability of prejudice expression changes over time (Crandall et al., 2013) and thus this will likely always be a topic of study. There is also potential research concerning the intersectionality of individual difference factors. For instance, it is so far unknown whether being both a minority race *and* LGBTQ+ compounds the bias capital defendants might experience.

Additionally, there is much more research to be done on the *processes* of capital jurors. While research on the broader jury decision-making process suggests how jurors make decisions, it does not automatically apply to *capital* juror decision-making. For instance, appellate judges in the 2020 Florida case of Mark Poole said it was permissible to have a non-unanimous jury decide a death penalty case (*State v. Poole*, 2020). This case suggests a number of research questions. A number of studies have explored the topic of verdict unanimity (see Diamond, Rose, & Murphy, 2006 for review; see also Bazelone, 2020), but these have not been conducted in the context of the death penalty. As Justice Stewart's opinion in *Furman* and Judge Labarga's dissenting opinion in Florida's *Poole* case both indicated, "death is different," suggesting that the decision whether to end someone's life is likely qualitatively different from deciding whether to give the person a fine or a prison sentence. Thus, past jury research does not necessarily generalize to capital jurors. Many questions remain. For instance, would capital juries deliberate less (or less effectively) if they do not have to be unanimous? Will dissenting capital jurors be more or less likely to "stand their ground?" Social pressure leads many jurors to acquiesce and go along with the majority's verdict (e.g., Waters & Hans, 2009). However,

a death penalty case has more serious consequences (i.e., death of the defendant) than a non-capital case, so a juror might be *less* likely to acquiesce. On the other hand, death penalty cases are the most serious crimes, possibly making jurors *more* likely to acquiesce in order to satisfy the group's need for vengeance for such a heinous crime (cf. Lynch & Haney, 2015). These are just a few of the yet unstudied capital jury research topics that could be answered—often through experiments—in social scientists' laboratories.

Future Extensions of Death Penalty Research

A few research questions that future research might be able to answer are less experimental and more correlational than those just discussed; such studies are less likely to be addressed in the lab and more likely to be addressed through analysis of secondary data in "real-world" settings. They involve the theoretical framework seated in evolutionary psychology discussed earlier in this chapter. One core idea was that geographic variation in the death penalty might be indirectly related to rates of infectious diseases via people's beliefs. Studies have found a relationship between parasite stress and conservatism (Terrizzi Jr., Shook, & McDaniel, 2013; Thornhill & Fincher, 2014), as well as a relationship between conservatism and death penalty support (Amidon, 2013; Baumer et al., 2003; Butler & Moran, 2007; Vaughan et al., 2019), but no study to date has tested an indirect relationship between parasite stress and death penalty support. A related set of questions based on the theoretical framework concerns how support for the death penalty might be transmitted generationally and culturally. For instance, some work suggests that personality traits underpin beliefs, and beliefs are transmitted from parents to offspring via genetic transmission of traits (e.g., Dhont et al., 2013; Kandler et al., 2012). Thus, future studies could investigate the extent to which death penalty attitudes are similarly transmitted from parents to offspring via personality traits. A related avenue of future research would be to examine how traits interact with environmental factors to shape death penalty attitudes.

One broader set of questions for future research in the USA concerns the extent to which LWOP is the "new" death penalty. We noted above that LWOP sentences have increased (see Ogletree Jr. & Sarat, 2012) and that LWOP has essentially supplanted the death penalty, especially in some regions (Death Penalty Information Center, 2020g). However, there is substantial variation in sentencing stipulations across states that have abolished the death penalty—some states require that jurors unanimously reach a LWOP sentence, while others require sentencing by a judge after the jury performs its fact-finding function (in many of these states, a LWOP sentence is mandatory upon conviction; Death Penalty Information Center, 2020h). Similarly, some states require that jurors must endorse one or more aggravators in order for a LWOP sentence to be rendered, while others do not have this requirement (Death Penalty Information Center, 2020h). Thus, numerous questions for scholars and researchers abound, such as "do defendant characteristics (e.g., race)

predict LWOP sentences similarly to how they predict death sentences?," "does the likelihood of a LWOP sentence vary across jurisdictions with different sentencing stipulations?," "do prosecutors use their discretion in LWOP cases similarly to death penalty cases?," and "to what extent does death penalty jurisprudence apply to LWOP jurisprudence?" (e.g., see *Miller v. Alabama*, 2012). Death penalty research might evolve and eventually take on a new identity and name (essentially becoming "life penalty" research), but it is unlikely to disappear.

Conclusion

The historical theme of the death penalty in the USA is one of evolution. As society has matured and changed, so too have death penalty practices, procedures, and stipulations. In prior centuries, public hangings were attended by thousands of spectators, and one could face the death penalty for offenses such as witchcraft, bestiality, and horse-stealing (Espy & Smykla, 2016). Today, executions are rare and are conducted in private; executions also are generally isolated to certain jurisdictions and reserved for the most severe and egregious crimes. In this chapter, we reviewed the social science research and theory that can help explain how these historical trends led to the current state of the death penalty.

More narrowly, the chapter offered a variety of theories and studies as a way of demonstrating how human tendencies, such as the tendency to categorize people and favor their own group (e.g., see Hogg & Abrams, 1998; Smith, 2011), lay the foundation for people's beliefs about the death penalty—even before they are ever called for jury duty. Simply put, being human and having life experiences shape one's perceptions, expectations, and decisions. Once a person becomes a juror, a host of psychological effects can affect trial outcomes (e.g., see Haney, 2005). Countless legal and extralegal factors can help predict whether a defendant will be charged with a capital crime, found guilty, and if so, receive the death penalty. For instance, the jurisdiction in which a death penalty case is handled is one of the strongest predictors of death penalty case outcomes (Kramer et al., 2017). Social scientists have also studied the death penalty phenomenon post-trial, for instance by studying how death row inmates are affected by their incarceration experiences. A psychologist could also assess an inmate for competency to be executed. If the person is found to be incompetent, then the psychologist must decide whether they are willing to rehabilitate the person so that the legal system can carry out the execution.

There is a plethora of research related to the death penalty. Certainly, there is too much to review in one chapter. However, the research described here provides a foundation for understanding some of the major aspects of the death penalty phenomenon before, during, and after trial. The death penalty might be increasingly rare in principle and practice, but the fundamental issues and questions evoked by the death penalty likely will remain. While no one can predict the future, it is likely that the penalty will continue to evolve, and that social scientists will be there to study it.

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The Black and White Reality: Historical and Post-Ferguson Era Perspectives on Public Attitudes Toward the Police

Lindsey M. Cole, Keisha April, and Rick J. Trinkner

On August 9, 2014, Michael Brown, an unarmed 18-year-old Black man, was shot and killed by Darren Wilson, a White police officer, in Ferguson, Missouri. Following an investigation into the incident, a grand jury declined to indict officer Wilson on charges for the death of Brown. The shooting of Michael Brown by police and later announcement of the grand jury decision led to protests, rallies, and riots, which lasted for weeks following each of the events. The protests expressed the anger and pain of the communities affected by this young man's death and sparked increased media coverage of similar instances of police officer shootings of young Black men in the U.S. These forms of social outcry reflected public outrage over the lack of institutional response to these events (Thomas & Blackmon, 2015). People of color mobilized and came together to amplify their voices in a time when they felt unheard. Social movements like *Black Lives Matter* developed in response to the spate of police killings of unarmed Black individuals and the increased media attention they garnered in 2014–2015 (Kahn & Martin, 2016).

Police are the gatekeepers at the forefront of modern legal systems, representing the initial point of contact for those who enter. Yet, unlike other legal actors and representatives of the justice system, police function in the community where the public is exposed to police personnel and policing practices on a daily basis. As a result, most citizens have had some experience with police in their lives, whether

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directly or vicariously through others, that shapes their opinion of and attitudes toward the police.

Public distrust in the police is not a new phenomenon, nor are the issues that often precipitate, exacerbate, and maintain it. While many communities maintain generally positive and productive relationships with the police, others have more contentious and complicated relationships. Historically, police have struggled with their relationships with racial/ethnic minority communities and communities that are economically disadvantaged or disenfranchised. Racial and ethnic disparities in police contact with and treatment of minority citizens have resulted in distrust of police in these communities and increased perceptions of police as adversarial instead of helpful. When citizens do not trust the police, it becomes difficult to effectively police those communities; people will fail to report crime when it occurs, cooperate with police, and assist in police investigations. This systemic lack of trust in police is often reciprocated by police distrust in members of the public, which can perpetuate issues of disproportionate contact and escalating tensions between police and community members.

The tumultuous relationship between the police and some communities creates contentious encounters, some ending in police use of force. Every so often, these contentious incidents involving police find their way into the mainstream media and the people's awareness, sparking conversations about the institution of policing and its relationship with the populace it serves. Previous decades and generations have experienced social movements born out of increasingly negative perceptions of the police, fueled by salient incidents of excessive use of force, including use of deadly force, particularly against racial and ethnic minority citizens (Sigelman, Welch, Bledsoe, & Combs, 1997). Many of these social movements have revolved around the historic disparate police contact with and treatment of members of the Black community, especially (but not only) in the U.S. (see Tyler, 2011 for comparisons to Europe).

Events in recent years have renewed the national conversation about police, policing practices, and policing culture, highlighting numerous highly publicized incidents of police use of deadly force and raising questions about the disproportionate use of force on Black citizens. Yet, the current events and climate seem to have brought these issues into the national spotlight unlike any other era in recent history, predominantly due to the advent of social media, and has given rise to the *Black Lives Matter* and *Blue Lives Matter* movements nationally. The looming questions about what effect the immense amount of media coverage, online videos, and public outcry has had on widespread attitudes toward the police remain.

To understand the effect of the post Ferguson era on public perceptions of the police, we focus on the relationship between various types of experiences and interactions with police and the formation and perpetuation of trust and legitimacy. To accomplish this goal, this chapter has been structured in three conceptual parts. The first section of the chapter is devoted to understanding the formation of attitudes and perceptionstoward the police and the historically disparate contact with and

treatment by legal authorities experienced by people of color. In the second section, we explore the effect of Ferguson and other police shooting events on public attitudes toward the police. Finally, in the last section, we discuss how police shooting events have impacted police perceptions of the community and current directions in policing practices.

In the first section of this chapter, we begin our discussion by reviewing the mechanisms by which people develop perceptions of and attitudes toward the police and legal institutions. Procedural justice theory, within the context of the legal system, has dominated empirical study of policing attitudes and understanding of the creation and maintenance of trust in the police in recent years. Therefore, this first section will primarily focus on the contributions of procedural justice researchers to the field. Although procedural justice theory extends far beyond the confines of the legal literature and has conceptual variations across different fields of study, such an extensive review of the procedural justice literature is beyond the scope of this chapter. The work presented here is largely drawn from research within the context of the legal system (Tyler, 2006a).

Procedural Justice: The Development of Attitudes Toward the Police

Before delving into the detailed concepts of procedural justice, it is important to define and differentiate what is meant by *procedural* justice as opposed to other theories of justice. Procedural justice theory makes a crucial distinction between the interactions police officers have with citizens and the outcomes of those interactions. Procedural justice refers to judgments about the fairness of the former, while *distributive* justice taps into fairness of the latter (Lind & Tyler, 1988; Tyler, 2000). Concerns about procedural fairness are also distinct from concerns about the efficiency of the police, which address issues of effectiveness in addressing crime and community conflict. While individuals are sensitive to outcome fairness and whether the police are doing their job, on average, their legal behavior is driven more by perceptions of procedural justice (Huq, Jackson, & Trinkner, 2016; Jackson et al., 2012; Tyler, 2006a). This is why researchers have been particularly drawn to procedural justice in attempting to understand public attitudes toward the police, as attitudes are a precursor to legal behavior and often result from perceptions of experiences with the police. Overall and particularly in western cultures, people seem to care more about how they are treated and the way decisions are made than they care about the actual decisions themselves (although it should be noted that fair procedures typically lead to fair outcomes; Tyler, 2006a). Indeed, as we detail below, a wealth of research has shown the positive effects on citizens' legal attitudes and behavior when they believe legal authorities behave in a procedurally fair manner.

Procedural Justice and Behavior

Although most individuals hold a philosophical understanding of the purpose and importance of law enforcement in society, one's specific experiences with police in the community also affect the way in which the police are viewed. One of the most important elements to consider in this matter is individuals' perceptions of fairness in police interactions. These perceptions of fairness shape the way individuals perceive the legitimacy and effectiveness of law enforcement in the community, and how they think about the law.

Over 30 years of research on procedural justice has shown that it is an essential component of a positive and mutually beneficial relationship between the community and the criminal justice system (e.g., Jackson, Bradford, Stanko, & Hohl, 2013; Jackson, Huq, Bradford, & Tyler, 2013; Thibaut & Walker, 1975; Tyler, 2006a). When the public believes the police are making unfair decisions and behaving in disrespectful ways, antagonism and distrust manifest on both sides. For example, many of the public protests and riots that have occurred in the United States over the last few years have resulted from a widespread belief, especially among minority communities that police officers are unfair and cannot be trusted (AP-NORC, 2015; Ekins, 2016; La Vigne, Fontaine, & Dwivedi, 2017; Trinkner & Goff, 2016).

Effective policing requires that citizens support the efforts of police. Unfair treatment undermines the ability of law enforcement to exert social control. For example, across two studies involving over 2000 participants, Sunshine and Tyler (2003) found that people were less likely to empower the police to use their power and authority to address community problems when they believed officers treated people unfairly. More recently, Tyler and Jackson (2014) have shown that procedurally just policing is associated with a greater acceptance of law enforcement's monopoly on the rightful use of force (see also Jackson, Huq, Bradford, & Tyler, 2013). Similarly, Murphy and colleagues (Hinds & Murphy, 2007; Murphy, 2009) found that procedural justice was a major indicator of public satisfaction with police services both when respondents were asked about police generally and when asked about specific encounters with police officers.

Outside of empowering the police, procedural justice has been linked to the propensity of citizens to actually follow the law. In his now landmark study of why people obey the law, Tyler (2006a) showed that contrary to popular opinion, citizen compliance is driven more by treatment concerns than instrumental concerns. In other words, people are more likely to follow the law to the extent that they feel the law behaves in a fair and respectful manner rather than the extent to which they believe they will be caught and punished for violating the law. This basic finding has been replicated dozens of times (see Bolger & Walters, 2019; Schulhofer, Tyler, & Huq, 2011; Tyler, Goff, & MacCoun, 2015; Tyler & Jackson, 2013; Walters & Bolger, 2019 for reviews). Procedurally just behavior then serves to motivate people to follow the law because they want to (i.e., voluntarily), rather than because they fear sanctions and punishments (which in itself is an inefficient means for the legal system to exert social control; see Garland, 2001; Trinkner & Tyler, 2016). This

reduces the strain on police resources to be everywhere at all times in order to ensure that people are complying (Tyler, 2009).

Increasingly, research has highlighted the beneficial effects of procedurally fair policing on other forms of prosocial behavior as well. Fair treatment and decision-making have been linked to the likelihood that citizens will cooperate with the police, for example, by reporting illegal activity, participating in neighborhood watches, and attending police–community meetings (Bradford, 2014; Hamm, Trinkner, & Carr, 2017; Murphy & Cherney, 2011; Tyler & Fagan, 2008). Other research has indicated the more general benefits for the community at large. For example, fair policing has been tied to increased social cohesion and more robust networks of informal social control (Nix, Wolfe, Rojek, & Kaminski, 2015). Tyler and Jackson (2014) recently showed that people are more willing to invest in their community economically (e.g., shop at neighborhood stores) and politically (e.g., vote in local elections) when they believe law enforcement is procedurally fair.

Psychological Mechanisms of Procedural Justice in the Formation of Legitimacy Attitudes

Procedural justice theory highlights two broad, mutually related mechanisms to explain the link between procedurally fair behavior and the beneficial outcomes discussed above. The first mechanism focuses on the way people view themselves, their social identity, and their place within society, while the second mechanism focuses on the way people view the position of law within society and the appropriate exercise of legal power.

One reason why procedural justice is important is because it gives people information about their group status, essentially telling them that they are an equal and valued member of society (Lind & Tyler, 1988; Tyler, 1997; Tyler & Lind, 1992). This increases social bonds and attachment leading to more respect for the group and pride in being considered a member (Tyler & Blader, 2003). Over time, people incorporate group values into their social identity, seeing group goals and norms as their own. Motivation to conform is driven not only by the need to maintain group status, but also through norm acquisition. Procedurally just behavior then serves an important socializing function in that it increases the likelihood that group norms of appropriate conduct will be internalized and followed (Trinkner & Cohn, 2014; Trinkner & Tyler, 2016; Tyler, 2006a; Tyler & Trinkner, 2018).

This perspective has profound implications for the legal system, particularly policing. For many people, police officers are the most tangible part of the system they will encounter (Skogan & Frydl, 2004). The legal system has long been noted as a socializing force within complex societies because it dictates appropriate behaviors for interpersonal interactions and conflict resolution between groups that might not have shared customs (Tapp & Levine, 1974; Trinkner & Tyler, 2016). Officers are a central piece of this function given their routine contact with citizens.

Fair treatment on the part of officers will drive the internalization of the behavioral codes of conduct that underlie the legal system and promote feelings of group membership. People will be motivated to conform because they want to rather than out of fear of punishment or sanctions.

On the other hand, unfair behavior breeds alienation and resentment between police officers and citizens (Delgado, 2008). Experiencing such treatment serves a functionally educative purpose, showing individuals that they are either an unwanted, unvalued, or lower status member of society (Justice & Meares, 2014). Perhaps unsurprisingly, such people are less bonded to society and less motivated to incorporate societal values about appropriate conduct compared to those who have historically received fair treatment (Anderson, 1999; Fagan & Tyler, 2005; Stewart & Simons, 2006; Tyler & Trinkner, 2018). Rather than promote law-abidingness, disrespectful treatment at the hands of the law can actually encourage rule-violating behavior (Sherman, 1993). These effects are not isolated solely to the individuals who experience them, as they are also vicariously transmitted throughout the community (Sampson & Bartusch, 1998; Tyler, Fagan, & Geller, 2014) and across generations (Wolfe, McLean, & Pratt, 2016).

The second mechanism linking procedural justice to compliance and cooperation focuses on individuals' perceptions of the legal authorities and their position in society as formal agents of social control. Procedurally, just behavior promotes the belief that the law and police officers are legitimate (Jackson, Bradford, Stanko, & Hohl, 2013; Tyler, 2006a). Generally speaking, legitimacy can be defined as the belief that the law and its agents are supposed to be in a position of authority within society and have the right to exercise power over citizens (Tyler, 2006b; Tyler & Jackson, 2013). When citizens view the law and legal authorities as legitimate, they are more likely to consent to their directives and accept their decisions.

When the public judge legal authority as legitimate, they feel it is their duty or responsibility as members of society to follow the law (French & Raven, 1959; Tyler, 2006b; Weber, 1968). This represents a content-free view of legitimacy in which people will suspend their own personal moral judgments and authorize legal authorities to determine what is acceptable and unacceptable behavior (Jackson, 2015; Kelman & Hamilton, 1989; Tyler & Jackson, 2013). This perspective on legitimacy is best expressed in Tyler's (1997, 2006a, 2006b) seminal work with police and the legal system.

More recent work in criminology has emphasized a second important dimension of legitimacy: a sense of shared normative alignment between legal authorities and citizens (Bottoms & Tankebe, 2012; Jackson et al., 2012; Jackson, Bradford, et al., 2013; Jackson, Huq, et al., 2013). Drawing from political science (Beetham, 1991), this work has argued that legitimacy represents a mutually negotiated contract between those that have power and those that do not. In this dialogic approach, power holders make claims about their rightful place in society as a source of formal social control. Citizens in return either recognize this authority or reject it. Legal authorities can strengthen these claims by demonstrating their fitness to hold power by behaving in ways that conform to societal expectations concerning the appropriate use of power (e.g., fair decision-making, respectful treatment, and recognition of due process). Such demonstrations promote the moral justification for the law to

hold power over the public by fostering a sense of shared values and normative alignment. When the public believes legal authorities share their values, they are more motivated to conform to those values by following the law, accepting legal decisions, and deferring to officer directives (Jackson, Bradford, et al., 2013; Jackson, Huq, et al., 2013).

When procedurally just policing is used effectively in practice, issues of inequity and disproportionality should theoretically disappear. Individuals should be treated with respect and equality, regardless of race/ethnicity, ideology, or socioeconomic status; they should be given a voice to express their perspective. In turn, increased public perceptions of the legitimacy of police authority should give rise to widespread compliance with police authority and reduction of illicit behaviors. When procedurally just policing is put into practice, with the proper training, support, and evaluation, it works well at achieving these goals (Hough, Jackson, Bradford, Myhill, & Quinton, 2010; Mazerolle, Antrobus, Bennett, & Tyler, 2013; Murphy, Mazerolle, & Bennett, 2014). As a result of this empirical support, procedural justice is increasingly gaining more traction among practitioners and politicians.

For example, the *President's Task Force on twenty-first Century Policing* (2015) reported that procedural justiceunderlies one of the fundamental pillars of effective policing: fostering the legitimacy of the law and building community trust in police. At the same time, the United States Conference of Mayors (2015) recommended that law enforcement should prioritize engaging with the public in a respectful and dignified way as a means to improve police–community relations. In response, police departments have begun to train their officers in the principles of procedural justice (Gilbert, Wakeling, & Crandall, 2016; Skogan, Van Craen, & Hennessy, 2015).

Yet, despite much progress and continued efforts toward procedurally just practices, public perceptions of police legitimacy and trust in police, particularly in certain communities, remain low (Jones, 2015). In practice, these policies and procedures have notoriously been difficult to implement and maintain on a large scale (MacQueen & Bradford, 2017; Mazerolle et al., 2014). In the next section, we review the historical and structural issues in policing and the legal system that help to perpetuate mistrust of the police, particularly in communities of color, which impede many of the potentially positive outcomes consistent with procedural justice theory (Engel & Whalen, 2010; Schatmeier, 2012; Tyler, 2011). We also provide a foundation for understanding the existing disparities in perceptions of the police, as well as the potential impact of police use of deadly force incidents, such as the shooting of Michael Brown in Ferguson, Missouri.

The Impact of Racial and Ethnic Disparities in Policing on Trust and Legitimacy

On average, far fewer Black Americans (30%) feel a great deal of confidence in the police than do White Americans (57%)—perceptions that have changed very little from before Ferguson (Norman, 2017). Even as overall public sentiment toward the police changes over time, the discrepancy between Black and White citizens remains

consistent (Maguire & Pastore, 2004; Walker, Spohn, & DeLone, 2012). There appears to be no single driving force explaining the systemic difference in perceptions of the police, but rather numerous interrelated factors that collectively change the way police are viewed by different groups of individuals. One of the most prominent and consistently identified factors is the racial and ethnic disparities in justice system involvement—an issue that is inherently problematic for the implementation of procedurally just policing practices and continues to be an ongoing challenge for all facets of the justice system.

Some communities and groups of individuals, mainly Black Americans and other racial and ethnic minorities, have historically experienced greater police contact and often report more instances of unfair treatment during that contact (Piquero, 2008). This disproportionate minority contact has perpetuated and exacerbated distrust of police and legal institutions in communities of color (Bradford, Jackson, & Stanko, 2009). This section of the chapter examines the historical relationship between racial and ethnic disparities and distrust in the police by exploring the underlying issues that create disparities, how disparate contact and treatment affect attitudes toward the police, and the influence of vicariously sharing experiences with others. Although we recognize that African Americans are not the only group of individuals who experience racial and ethnic disparities in the justice system, for the purpose of this chapter, we narrow our focus to the examination of experiences of the African American community in exploring the effect of Ferguson and other highly publicized police use of deadly force incidents.

Disproportionate Minority Contact

Disproportionality in the rate at which police interact with people of color, as compared to White individuals, is not a recent occurrence (Huizinga et al., 2007; Kirk, 2008; Piquero, 2008; Warren, Tomaskovic-Devey, Smith, Zingraff, & Mason, 2006). Black individuals make up less than 15% of the American population, yet represent almost 30% of all arrests, 40% of all inmates in prisons and jails, and over 40% of the population on death row (Hartney & Vuong, 2009). These disparities also extend into differences in decision-making that can be found at pretrial detention, court processing, sentencing, probation, and parole. As individuals move through the justice system, these disparities tend to widen, rather than narrow (Hartney & Vuong, 2009).

Many resources have been devoted to understanding the causes of racial and ethnic disparities (RED), and the juvenile justice system has taken specific steps to address disproportionate minority contact (DMC) at the juvenile justice level following the federal mandate put forth by the Office of Juvenile Justice Delinquency & Prevention (OJJDP) in the 1980s. The mandate to address DMC starts by: (1) identifying the extent of DMC, (2) assessing the causes of DMC, (3) developing a plan for intervention, (4) evaluating the effectiveness of planned interventions, and (5) monitoring DMC following intervention. Even though this mandate has been in

place for almost 30 years, rates of DMC in the juvenile justice system (Dillard, 2013; Feinstein, 2015) remains high, and complete implementation of the full five phases of the DMC mandate in many areas has been lacking (Peck, 2016). States remain at different phases of implementation—some having done little implementation while others prioritized implementing OJJDP recommendations (Dillard, 2013; Leiber & Rodriguez, 2011; Peck, 2016). Furthermore, evolving definitions and focus of the scope of DMC have hindered progress toward completing the mandate (Dillard, 2013).

Not much effort has been invested in addressing these disparities in the adult criminal justice system, where high levels of adult disproportionate encounters with police continue to be a pressing issue (Gase et al., 2016; Kirk, 2008; Morrow, White, & Fradella, 2017). In the adult system, disproportionate representation of minorities likely stems from a combination of multiple factors, including the nature of the offenses for which individuals are being charged, differences in policing policies and practices, variance in sentencing laws among the states and at the federal level, and racial biases (Hartney & Vuong, 2009). Further, disparities also abound when there is an unbalanced focus on specific geographic areas (i.e., hotspot policing) and socioeconomic groups.

Unsurprisingly, involvement in the justice system has many negative consequences, and with disproportionate representation of people of color at all levels of the system, the consequences of this involvement have historically affected these communities more than others (Kahn & Martin, 2016). System involvement often leads to fewer job prospects, lower earning capacity, disenfranchisement, and negative impacts on physical and mental health (Hartney & Vuong, 2009; Kirk & Wakefield, 2018). In addition, higher rates of incarceration in communities of color have long-lasting effects for families and children who lose important male figures (e.g., fathers, brothers, sons, uncles, and cousins) to incarceration. The vicarious experience of family members' incarceration and system involvement can leave a lasting impression affecting perceptions of the fairness and legitimacy of the justice system even for those who do not experience it directly (Buckler, Wilson, Hartley, & Davila, 2011; Rosenbaum, Schuck, Costello, Hawkins, & Ring, 2005; Wolfe et al., 2016). These impressions can have far-reaching consequences affecting not only distrust in the court and corrections, but also generalized distrust in all legal institutions and their agents (Rothstein & Stolle, 2008).

Disproportionate minority contact exists not only in the decisions that are made throughout the justice process, but also in *how* decisions are made at each of these stages. One such area is the disproportionality in outcomes that results when police make decisions to use deadly force (Kahn & Martin, 2016). Despite recent efforts to address issues of implicit bias and foster racially uniform citizen interactions with police, statistics show that Black individuals are almost three times more likely to be killed by police than White individuals (Buehler, 2017). These statistics have been further exemplified in the high-profile cases of Black men, women, and children who have died during or following police interactions. One key aspect that these statistics do not elucidate is the underlying mechanisms by which decisions to disproportionately arrest or use force occur. In the next section, we examine the

effects of implicit bias and associations on police decisions to engage with, arrest, or use force against people of color.

Implicit Bias and Policing

Despite clear patterns in disparate police contact with people of color, research has found that the vast majority of modern prejudicial behaviors do not occur explicitly, but rather implicitly (Dovidio, Kawakami, Smoak, & Gaertner, 2008; Fiske, 1998; Fridell, 2017). Implicit biases occur outside of individuals' conscious awareness yet exert influence over their decisions and behavior through learned associations. Most police officers do not exhibit overtly racist beliefs or intentionally discriminatory behavior; instead, discriminatory behavior likely stems, at least in part, from unconscious or implicit bias (Dovidio, Glick, & Rudman, 2008; Fridell, 2016). These implicit biases are created and perpetuated from stereotypes and learned associations, in this case between individuals of color and crime, that could unconsciously drive discriminatory behavior (Bertrand & Mullainathan, 2004; Fridell, 2016).

Police officers might form associations between Black individuals and criminal activity over time from repeated exposure to greater contact with Black communities, as demonstrated by the research illustrating racial and ethnic disparities in police contact (Glaser, 2014; Smith & Alpert, 2007). Officers, in turn, could become more suspicious of Black individuals, leading them to engage and interact with them more often than people of other racial groups, perpetuating disparities in contact. The increased level of contact presents greater opportunity for discovery of arrestable offenses. Additionally, the strengthening of implicit associations between Black individuals and crime increases the likelihood for arrest in highly discretionary situations, such as low-level offenses (e.g., traffic violations, loitering, trespassing) (Pickerill, Mosher, & Pratt, 2009) and automatic processing, such as decisions to use deadly force during identification of the presence of a weapon (Correll, Park, Judd, & Wittenbrink, 2002).

Of note, these associations are not specific to police officers, but extend to the general public, even in high-stakes use of force simulations. A number of studies investigating implicit bias in *shoot/don't shoot*[1] tasks have identified that participants, of all races and various occupations, were more likely to falsely identify a non-dangerous tool in the hands of a Black individual as a weapon, than they were to correctly identify a weapon in the hands of a White individual who was actually holding one (Correll, Park, & Judd, 2007). It is to be noted that police officers perform better on these tasks than laypersons, and this resistance to the influence of bias is thought to be a function of experience and training (Correll, Hudson, Guillermo, & Ma, 2014).

Although police are better equipped than laypersons, through training and experience, to make these types of decisions, performance on these tasks overall suggests a culturally held association of Black individuals with danger and perpetration of crime. Moreover, Black individuals are often associated with differences in

physical characteristic that could play a role in the actions police take when interacting with Black individuals. There has been much research reflecting that Black people have been dehumanized in American culture, and studies have indicated the existence of an implicit association of Black people with animals, such as apes (Goff, Eberhardt, Williams, & Jackson, 2008). Goff and colleagues found that White participants primed with the word ape before watching a tape of a Black or a White suspect being beaten by police were more likely to find the police officers' use of force justified when the individual being beaten was Black (Goff et al., 2008). Studies have also shown that Black individuals are often perceived as *super*-human, and thus viewed as more invincible and tolerant of pain compared to white individuals (Waytz, Hoffman, & Trawalter, 2015), indicating that Black individuals may be viewed as requiring the use of greater force to subdue them. This belief fallacy also holds true for Black youth, who have been viewed as older and less innocent than same-age White counterparts, and these "adult-like" qualities make them appear as more deserving of greater use of police force (Goff, Jackson, Di Leone, Culotta, & DiTomaso, 2014).

Combined, these implicit biases and associations that influence decisions and behaviors suggest that police are more likely to engage in use of force, deadly or otherwise, against people of color. Although there is a substantial body of research to support this conclusion, other research explicitly refutes this assumption. Such research on the counter-bias—an explicit attempt to diffuse implicit bias—suggests that some individuals who are acutely aware of increased scrutiny over biased behavior will show preferential treatment toward groups for which known biases exist (James, James, & Vila, 2016; James, Klinger, & Vila, 2014). James et al. (2016) found that officers have become more resistant to use force against minority suspects due to increased coverage of police use of force incidents in the media. Although these studies combined leave the field mixed on the current impact of implicit bias in police decisions, continued media coverage of police use of force shootings of Black individuals likely signals to the public that biases still exist and continue to influence police actions.

Even if police departments have made strides in training their officers to use procedurally just policing practices and those officers have effectively implemented those practices, the public sentiment toward police in Black communities is not likely to shift rapidly. Communities of color generally have greater cynicism toward the legal system overall, as illustrated by Carr, Napolitano, and Keating's (2007) work examining the reluctance of citizens in disadvantaged and minority neighborhood to call the police when crime is committed. Sampson and Bartusch (1998) suggest that this reluctance does not stem from a tolerance of crime, but rather cynicism toward the legal system driven by beliefs that legal institutions and their actors are illegitimate and incapable of keeping the public safe (Kirk & Papachristos, 2011). Given the entrenched traditions of not reporting crime to legal authorities in these highly cynical neighborhoods, it might be an uphill battle for police to create opportunities for positive interactions and to reverse perceptions of ineffective police responses to crime. In the interim, individuals' existing perceptions and past experiences not only affect the perceptions of those who have experienced them

firsthand, but also serve as lessons to other members of communities, including those of the next generations—a process known as intergenerational transmission of attitudes through the sharing of vicarious experiences.

The Challenge of Shared Experiences

Vicarious experiences are those that are gained through the sharing of other individuals' experiences (Rosenbaum et al., 2005; Tyler et al., 2014), either by direct observation, media reporting, or by deliberate sharing of personal experiences (Brunson & Weitzer, 2011). These vicarious experiences can have a profound effect on perceptions of the police, and often provide a foundation for expectations of treatment for those who do not have previous experiences of their own (Rosenbaum et al., 2005; Tankebe, 2010). Tankebe (2010) found that vicarious experiences of police corruption consistently predicted public confidence in the police, while direct experiences were not significantly related. Similarly, Rosenbaum et al. (2005) showed that direct experiences with police in the past year did not significantly change attitudes toward the police, but vicarious experiences did influence these attitudes.

Experiences shared by those in close social proximity with shared social identities are especially impactful (Hogg & Smith, 2007). Friends, family members, neighbors, and others become conduits of shared experience with police in the community. In the modern era, the sharing of interactions with the police transcends the realm of interpersonal face-to-face exchanges and extends into the online environment offered by social media. Unlike the mass media, which speaks to a general national audience, social media are platforms designed to facilitate communication and sharing of digital media through web- and app-based social networks. Experiences can be shared instantaneously, and encompass written, verbal, and visual media. The advent of social media and advancements in cellphone technology now make it possible to experience events from the perspective of those who were there and provide the ability to disseminate those experiences quickly and on a large scale.

The high availability of social media outlets has allowed for extensive sharing of the lives of individuals with others and the acquisition of vicarious experiences, particularly among younger generations, who are likely affected by vicarious experiences to a larger degree. Youth often have few of their own experiences from which to draw, making shared experiences an important source of information in forming their perceptions of the world (Hughes et al., 2006; Tyler et al., 2014). Yet, something more than merely the sharing of experience with youth occurs; older generations *teach* youth about the world by engaging in purposeful sharing of experience as part of the socialization of youth into society. This socialization process produces an intergenerational transmission of attitudes, including that of attitudes toward the police and legal system. Therefore, the messages that people of color

learn from their experiences are passed on to their children, further solidifying the lack of trust and belief in the systems around them.

In this next section, we explore the process by which attitudes toward the police are transferred from adults in a community to subsequent generations, with a particular focus on a practice unique to the Black community—*The Talk*—and how this practice may have important implications in the post-Ferguson era.

Intergeneration Transmission of Legal Attitudes: A New Perspective on Legal Socialization

Legalsocialization is the process by which individuals form their understanding of and attitudes toward the law and legal system (Cohn & White, 1990; Tapp & Levine, 1974; Tyler & Trinkner, 2018). Traditionally, legal socialization has been broadly conceptualized in two ways: the development of legal reasoning ability (Levine & Tapp, 1977; Tapp & Kohlberg, 1971) and the formation of attitudes through interactions with legal authorities (Fagan & Tyler, 2005; Piquero, Fagan, Mulvey, Steinberg, & Odgers, 2005; Trinkner & Cohn, 2014). However, socialization is more than the acquisition of reasoning about the law and the accumulation of incidental encounters with legal authorities. Socialization is also an active process by which parents and other elders teach youth about the world around them, how it functions, and how they fit into it (Dohmen, Falk, Huffman, & Sunde, 2012; Ljunge, 2014). To do so, parents and others draw heavily from their own experiences and conceptualizations of the world, resulting in the *intergenerational transmission* of knowledge and attitudes (Akers & Jennings, 2009; Burt, Simons, & Gibbons, 2012; Pratt, Turner, & Piquero, 2004). For children and young adolescents, who have yet to gain their own experiences from which to draw and whose reasoning ability is early in its development, these "lessons" likely comprise a considerable proportion of their understanding of a topic and might function as a foundation of knowledge (Sargeant & Bond, 2015). Unfortunately, this aspect of the socialization process has largely been overlooked by legal socialization researchers (Tyler et al., 2014; Wolfe et al., 2016), despite its prominence in other developmental literatures.

Intergenerational legal socialization is shaped through dialogue between youth and their parents, caregivers, or other role models. However, past experiences play an important role in the way individuals conceptualize the world and these experiences act as a lens, helping them to explain their circumstances in a way that makes sense. Thus, adults have different experiences from which to draw, and consequently, will create different styles and content of dialogue to share with children. These conversations focus on many different topics, ranging from prosocial and antisocial behavior (Akers & Jennings, 2009; Burt et al., 2012; Pratt et al., 2004), to personal and societal values (Grønhøj & Thøgersen, 2009), and reflect beliefs and attitudes (Tyler et al., 2014; Wolfe et al., 2016). Wolfe et al. (2016) found that intergenerational transmission of legal attitudes, including perceptions of the legitimacy

of legal actors, affects youths' formation of these attitudes. Parents' and others' experiences and perceptions are passed down to the next generation as they are socialized into society, producing children who share similar understanding and views of the world.

From this perspective, the experiences of different cultures and groups of people will be reflected in the conversations they have with their children. For example, people of color use their experiences with racism, stereotyping, and prejudice to help define the way they interpret the systems around them and the depth of the trust they place in these systems. They also use these experiences to teach their children what to expect in the world in an attempt to prepare and protect them (Thomas & Blackmon, 2015). This process is known as *racial socialization*, the process through which families (i.e., parents/guardians, extended family, siblings and other close family friends) teach their children about the social meaning of ethnicity and race (Brown, Tanner-Smith, Lesane-Brown, & Ezell, 2007). Black families, in particular, have used these experiences as a platform from which to speak to their children about what to do when they come into contact with authority figures, like the police, making racial socialization and legal socialization inherently linked.

Black families have learned to adapt to the reality that their children will likely experience prejudices in many aspects of their lives, and in response to this, Black families prepare their youth to face these challenges using pointed and frank conversations. These conversations are known in many Black communities as *The Talk*. Facilitated by parents or parental figures, *The Talk* has no culturally prescribed script. It happens at different stages for youth, ranging from very young to when children begin to enter adolescence—although the practice seems to be more prevalent during the adolescent years—and may be conducted in different ways (Hughes, Hagelskamp, Way, & Foust, 2009). The one thing all Talks have in common, however, is that they are seen by these parental figures as a duty they have to provide their children with the skills to cope with and address racism (Dow, 2016).

The Talk is something particularly distinctive in Black families, who often enter into these conversations in an attempt to educate their children about surviving police contact (Whitaker & Snell, 2016). These conversations attempt to protect children against future acts of discrimination and prejudice by communicating the reality of racism and often the lack of self-efficacy in their capacity to change these realities (Bell & Nkomo, 1998; Brunson & Weitzer, 2011). They are somber conversations, often structured around parents' personal examples of past experiences and their vicarious experiences of harms that have come to others. While *The Talk* is understandably difficult for many parents, educating children about prejudices and speaking about the threat to their children's lives when faced with authority figures who are expected to protect them, is particularly difficult.

The Talk is considered to be unique to the Black experience. White families do not discuss race or experiences with police in the same way Black families do (Whitaker & Snell, 2016). While Black parents take on the responsibility of racial socialization of their children, teaching their children how to navigate race, White parents are more likely to discuss race broadly, such as promoting color-blind

perspectives—the perspective that race should not factor into decision-making (see Hughes et al., 2006). When these conversations happen, White parents are concerned with using them as opportunities to teach their children about racism and the importance of not engaging in discriminatory practices, but the content of their conversations are not often about what a child can do to keep themselves safe when encountering an authority figure, like a police officer (Brown et al., 2007). Black parents are also likely to engage in *The Talk* with their children following highly publicized racially charged events, but Black parents compared to White parents find it essential to have these conversations *before* their children are faced with these types of occurrences because of the fear that their children will not be prepared, or know how, to keep themselves safe (Thomas & Blackmon, 2015).

These perceptions are seemingly reinforced when incidents, such as the shooting of Michael Brown in Ferguson, occur and the mechanisms that are intended to institute justice, including the lack of indictments for officers involved in the deaths of unarmed Black men, appear to be ineffective in the public's eye. For the remainder of this chapter, we will discuss the impact and implications of the shooting of Michael Brown in Ferguson, Missouri and other similar incidents on public perceptions of the police—both in White communities and in communities of color—and their effect on perceptions and responses of the police in the face of heightened scrutiny.

Attitudes Toward the Police and Police Responses in the Post-Ferguson Era

Disproportionalities in the rate at which Black individuals have been killed by the police, as compared to their White counterparts, have precipitated the perception that police and the public care less about marginalized people—that they *matter* less—propelling the *Black Lives Matter* movement (Carney, 2016). Fueled in part by recent media coverage, these trends have become a major focus of social concern. This oversaturation of evidence insinuating that people of color are targets of police aggression serves to operate on the formation of individuals' attitudes and belief systems, leading to an increase in feelings of distrust toward the police and a lack of belief in police legitimacy (Tyler et al., 2015). This current state of affairs has been deemed a crisis of policing (Tyler et al., 2015), and has led to a widening of the chasm between police and civilians (Hall, Hall, & Perry, 2016). However, there are clear distinctions across different communities in how these events have shaped public attitudes toward the police. This next section examines the differential effect of Ferguson on communities of color and their trust in police, as well as some mechanisms of socialization that black families have developed to educate their children about interactions with the police—a practice known as *The Talk*, as described above.

Trust in Police Post-Ferguson

The media covered dozens of police shootings of Black men in the months following the death of Michael Brown and the protests that erupted in response. Moreover, most grand juries have declined to indict the police officers involved in these shootings and convictions continue to be exceedingly rare, fueling anger and feelings of injustice in African American communities across the nation (Tolliver, Hadden, Snowden, & Brown-Manning, 2016; Turner-Owens & McQuillan, 2015). But how have these incidents affected widespread public attitudes toward the police? Trust and confidence in police in the African American community have historically been low compared to the overall population (Jones, 2015); however, following the shooting of Michael Brown, the barrage of similar cases of police use of deadly force against young Black men and the limited indictments of police involved in these shooting deaths have reduced trust and confidence even further (Morin & Stepler, 2016).

Kochel (2015) noted that following Ferguson, public perceptions of aggressive policing tactics became more common while trust in and perceptions of police engaging in procedurally just practices decreased; however, this change was only noted in African American respondents. For instance, Kochel (2017) found that African American St. Louis residents' perceptions of police use of practices consistent with procedural justice, trust in police, and police effectiveness sharply declined immediately after the police officer shooting of Michael Brown in Ferguson, while perceptions of police engaging in misconduct increased compared to levels prior to the shooting. While non-Black citizens showed little difference in their perceptions of the police and policing practices prior to and following Ferguson, African American citizens showed a marked decline in overall positive perceptions of police (Kochel, 2015, 2017). This effect, however, was short-lived, and perceptions of the police have become more positive over time in these communities, returning roughly to where they were prior to the shooting. This might, at least in part, be due to the limited effect media coverage has on long-term attitude formation and maintenance (Kochel, 2017;Weitzer, 2002 ; Weitzer & Tuch, 2006).

Whether the perceived changes in public perceptions of police procedural justice was the result of actual changes in procedurally just policing practices following Ferguson or changes in perception of fair treatment due to shifts in public sentiment toward the police, is unknown. Regardless of the cause, media attention is often short-lived, and continuing to foster qualitatively just decision-making and interpersonal treatment will make strides in recovering public trust.

Media coverage of police violence and deadly use of force has an immediate impact on the public's trust in police (Weitzer, 2002; Weitzer & Tuch, 2006). Following a highly publicized event, public trust in the police overall tends to decline. Regardless of the initial influence, the overall effect of media exposure is generally limited in terms of the long-term effect, as issues fall out of the public's awareness once the news media move on to other topics and events (Kochel, 2017). This occurs, at least in part, because of citizens' proximity to the event. Proximity,

in this case, has multiple dimensions. Having close physical proximity to an incident is associated with less favorable attitudes toward the police, including lower perceptions of procedural justice, police legitimacy, and police effectiveness, compared to those who live farther away (Kochel, 2017). However, as Kochel (2017) noted, physical proximity is not necessarily the driving factor in this relationship.

What seems to matter more than physical distance is the concept of social proximity. In other words, if a shooting incident happens in a certain neighborhood, individuals in that neighborhood might be affected to a greater degree because of their social connection or perception of common group membership to the individual involved, not necessarily because of their physical distance from where the incident took place. Race plays a large part in measuring social proximity and creating in-group comparisons. Instead of producing contrasting social comparisons, seemingly random or uncontrollable events tend to create social identification of in-group members, where the perception becomes that of *if it happened to someone like me, it could happen to me too* (Frieswijk, Buunk, Steverink, & Slaets, 2004; Lockwood, 2002). From this social identification and assessment of the likelihood of such encounters to reoccur, those disproportionately affected inevitably become less trusting and more fearful of the police. In this way, the mass media and social media might feed perceptions of distrust and fear of police, providing a sense of widespread and frequent police use of deadly force against Black citizens. In other words, the appearance of vast numbers of cases from various parts of the nation might remove the ability for downward social comparisons or contrasts by eliminating other potential causal factors (e.g., dangerous neighborhoods, bad people, corrupt police, uncommon accidental events), leaving few commonalities, the most obvious of which is race.

The idea that social identification creates a *Ferguson Effect* throughout the African American community is not well supported by research examining media exposure; in fact, White citizens seem to be affected to a greater degree by media coverage of police use of deadly force cases than Black citizens (Callanan & Rosenberger, 2011). In part, this may be due to perpetuation and reinforcement of existing attitudes toward the police for Black citizens by the media coverage of police shootings of unarmed Black men (Weitzer & Tuch, 2006). However, there are other, more influential, factors at play affecting Black individuals' perceptions of the police that have been identified, namely, personal experience. As illustrated in the procedural justice section, there is a vast body of literature linking personal experience with police and attitudes toward the police, in that these experiences largely affect perceptions of police legitimacy and trust (Bradford et al., 2009; Jackson, Bradford, et al., 2013; Jackson, Huq, et al., 2013; Thibaut & Walker, 1975; Tyler, 2006a; Trinkner & Goff, 2016). However, individuals do not necessarily need to experience these interactions first-hand for them to influence their attitudes; they can also happen vicariously through the sharing of experiences by others.

The "Talk" Post-Ferguson

An important element of the socialization inherent in *The Talk* is the provision of skills to help keep children safe when faced with potentially dangerous encounters with police. Much of this talk involves instructing children how to navigate these types of encounters in a way that deescalates the potential for the encounter to turn aggressive or violent (Brunson & Weitzer, 2011). Parents instruct their children to be respectful to authority figures, even when they are considered to be in the wrong, to answer questions directly, and to avoid confrontation (Thomas & Blackmon, 2015). Children are instructed not to "talk back," to make sure they take their hands out of their pockets, and to make sure not to make any sudden movements. They are trained not to make themselves *look* any more threatening, in the hopes that it will help ensure that they will return home safely following that encounter.

The recent rise in the visibility of images of Black individuals being killed by the police—sometimes accompanied by graphic video footage of the actual killings taking place, as was the case of Alton Sterling and Philando Castile, who were killed within 1 day of each other in July 2016 (in Baton Rouge, Louisiana, and St. Paul, Minnesota, respectively)—serves as vivid testaments to the reality of these dangers. While painful, many parents feel as if they have little choice but to socialize their children to these realities, and often share their own personal experiences of having been discriminated against, racially profiled, or even injured by police (Thomas & Blackmon, 2015). Although many parents also utilize vicarious experiences to teach these lessons, parents who have had personal experiences with racism or prejudice are more likely to racially socialize their children, and these conversations often include messages of mistrust and preparation for bias (Hughes et al., 2006; Thomas & Blackmon, 2015; Brunson & Weitzer, 2011). These negative experiences help sculpt the way children view the world and contribute to the formation of their attitudes and beliefs.

While not a police encounter, the 2012 death of Trayvon Martin became a symbol of the effects of racism in America because many believed that Trayvon was perceived as "dangerous" purely because he was an unfamiliar Black male, wearing a hoodie, who did not react or respond in the way his assailant demanded (Thomas & Blackmon, 2015). It resonated with many Black parents, who may have had sons that looked and acted like Trayvon did; sons who were simply going to the store to buy snacks on a summer night. Trayvon's decision to wear a hoodie—an innocuous item of clothing that on a black child, was seen as a threat—was made an integral part of why Trayvon was represented by the media to be a "thug," and thus more deserving of George Zimmerman's suspicion and aggression. This scared many parents into speaking to their children about the way they dress (Whitaker & Snell, 2016). Appearing nonthreatening, even in the way they dressed, began to become an even more integral element of *The Talk* following these events, and forced on Black teens and adolescents a greater responsibility to manage how they were perceived by others (Thomas & Blackmon, 2015). This was especially the case for young, Black males.

It is not a coincidence that the majority of police killings involve the deaths of black males (Dow, 2016). Black males are viewed in society as more dangerous, more threatening, and more likely to be criminals compared to White males (Dow, 2016; Waytz et al., 2015). Thus, while parents have *The Talk* with their Black children regardless of gender, parents indicated a special need for this conversation with their Black sons (Thomas & Blackmon, 2015; Whitaker & Snell, 2016). Although parents believe that Black girls and Black women in America face a specific set of difficult challenges, they express fears that the world is exponentially more dangerous—and sometimes even more deadly—for Black boys and men (Dow, 2016). The intersections of racial identity, class, age, and gender leave many parents feeling especially powerless in their capacity to protect their sons from the dangers inherent in being Black boys in America (Brooms & Perry, 2016).

For many parents, *The Talk* places them in a tenuous position. On the one hand, teaching one's child to "fall in to line," or to avoid dressing or acting like the "type" of Black person who would be seen as dangerous to police, feeds into stereotypes and does little to fight back against institutionalized racism. On the other hand, for many Black parents, teaching a child to adapt to these unpleasant realities might be viewed as the lesser of two evils and a proactive approach to keeping their child(ren) safe. Parents are left with an unpleasant reality; while *The Talk* may be an important tool to help keep Black children safe, it also reinforces perceptions that they must live in fear; *The Talk* also might contribute to internalization and feelings of low self-worth (Brooms & Perry, 2016; Dow, 2016).

With the historical experiences of racism, prejudice, discrimination, and violence that have contributed to the formation of Black parents' attitudes and beliefs toward legal authority figures, it is no surprise that parents often believe that they have little ability to push back or fight against these systemic problems, if it means putting their children's lives at stake. Thus, in the post-Ferguson era, it is likely *The Talk* will continue to happen—and might happen more often and with more urgency—as tensions continue to rise and Black individuals continue to die at the hands of the police.

Reactions from the Blue Line: Policing After Ferguson

While the events in Ferguson have affected the civilian population in different ways and to varying degrees, the police have also felt the effects of these incidents, both from a cultural and an institutional perspective. In response to the rise of the *Black Lives Matter* movement and in reaction to negative publicity, police across the U.S. have stood together in solidarity under *#BlueLivesMatter*—the police's polarizing countermovement. In the wake of the shooting in Ferguson and other cities, the police have faced increased criticism, distrust, and hostility from the populations they serve, sparking what the media have called the "War on Cops." Some have suggested that this war on cops has resulted in a spike in police officer deaths while serving in the line of duty; however, there is little empirical evidence to support this

claim (Maguire, Nix, & Campbell, 2016). The perception still lingers that increased hostility and the potential for the targeting of police officers—such as the shooting of a group of officers in Dallas, Texas in 2016 where five officers were killed nine more and injured—has jeopardized the safety of police officers. In this section, we examine the immediate effects of highly publicized police use of deadly force on police officer perceptions, police procedures, and policing efforts to increase accountability and public confidence.

Procedurally Fair Policing in the Wake of Ferguson

Despite the federal and administrative pressure to promote procedurally just policing practices (The President's Task Force on twenty-first Century Policing, 2015; United States Conference of Mayors, 2015), reform has been slow, short-lived, and difficult to accomplish in the current policing and political climate (Alpert, McLean, & Wolfe, 2017). The benefits of embracing procedurally just practices could have a profound effect on police–community relations, easing existing tensions, and cultivating positive communication and cooperation; however, Ferguson and other incidents involving police use of deadly force have affected policing organizations. Police have become sensitive to the public focus on police use of force cases in the media and the resulting negative press. In some cases, this added pressure has dampened police morale and weakened police willingness to partner with the community—an essential piece to building trust (Wolfe & Nix, 2016). Not all police have felt this *Ferguson Effect*. In fact, strong policing leadership that practices organizational justice and sustained police perceptions of self-legitimacy have been important mitigating factors in reducing the negative impact of media on policing practices in the community (Nix et al., 2015; Nix & Wolfe, 2017).

Importantly, there has not been a widespread Ferguson Effect on policing practices (Nix et al., 2015; Shjarback, Pyrooz, Wolfe, & Decker, 2017. Crime rates across the nation have remained relatively stable (Pyrooz, Decker, Wolfe, & Shjarback, 2016), and police officers' resolve to engage with the community in lieu of negative publicity is robust, leaving opportunity for continued integration of procedural justice-informed policing practices. However, procedurally just practices do not directly address the looming issue of disproportionality in police contacts, even if those contacts become less adversarial. Additional considerations are required to understand and change attitudes stemming from disparate contact and treatment.

De-Policing After Ferguson

Although the rate at which police are targeted has not appeared to change, there is some fear that the public anti-police sentiment, combined with the negative media attention on police and policing practices, has caused a decline in the active policing

of communities, a practiced termed *de-policing*. De-policing is the result of police disengagement from the community it serves, in this case, due to fear of scrutiny or retaliation, leading to diminished active policing in the community. De-policing has important implications for police–community relations, public perceptions of the police, and ultimately, crime. Police departments that become disengaged from the community fail to adequately address the needs of the community and are viewed as less effective (Rushin & Edwards, 2016; Shjarback et al., 2017). If citizens begin to view the police as ineffective, incapable, or unwilling to perform their duties, then perceptions of the legitimacy of police and trust in their responsiveness to crime will diminish (; Kochel, Parks, & Mastrofski, 2013; Tankebe, 2008). Crime rates are likely to increase as well, not only because police refrain from actively investigating crime, but as procedural justice research would suggest, also because people become less willing to cooperate with police (Murphy, Hinds, & Fleming, 2008) and obey laws (Papachristos, Meares, & Fagan, 2012; Tyler, 2006a).

Research is mixed on whether there is indeed a de-policing movement and what effect, if any, police disengagement has had on police effectiveness and police–community relations (Shjarback et al., 2017). Shjarback et al. found that the number of traffic stops in Missouri fell following the shooting of Michael Brown, suggesting some effect on local policing. In addition, Wolfe and Nix (2016) demonstrated that some, but not all, police were less willing to engage in community partnerships, also supporting the idea of a de-policing movement underway.

There is evidence that some localized areas and police departments have indeed engaged in less active policing following Ferguson and other shootings (Pyrooz et al., 2016; Shjarback et al., 2017); however, de-policing has not been seen as a widespread or long-lasting movement toward fundamental changes in policing practices. For example, researchers have found little evidence of a nationwide spike in crime rates that would suggest that communities, overall, are suffering from lack of adequate policing (Shjarback et al., 2017). In certain urban centers, where racial tensions are high, violent crime rates have increased (Pyrooz et al., 2016), although the cause of this increase is unclear. The biggest issue facing the institution of policing following Ferguson is not a shift in active policing practices or an explosion in the crime rate, but rather the public image of police.

Across the nation, people watched protests erupt in Ferguson, Baltimore, New York, and other cities in reaction to the shooting deaths of Black men and decisions of grand juries not to indict and the justice system not to prosecute the police who shot them. The images plastered on the nightly news and all over social media depicted police clad in militarized gear, standing as an adversarial, occupying force in stark contrast to protesting citizens. These images echoed the public sentiment in these communities, a perception of *us* against *them,* and demonstrated that the militarization of the police is a far cry from efforts toward community policing initiatives and procedurally fair interactions.

The Militarization of Police

Over many decades, the police have slowly integrated military-style procedures and equipment into their repertoire of policing tools (Campbell & Campbell, 2010; Kraska, 2007; Paul & Birzer, 2004). From the Vietnam protests of the 1960s through Reagan's war on drugs in the 1980s and into the war on terror in the current century, police departments have acquired military-grade equipment and incorporated military tactics (Paul & Birzer, 2004). This slow integration of military equipment, strategies, and tactics has changed the nature of police work, and in some cases, the image of policing.

Historically, the U.S. has attempted to separate policing from military operations, drawing distinctions between the enforcement of civil laws and military engagement with foreign entities (Hall & Coyne, 2013). In the 1970s, the opportunity for expanded domestic use of military forces arose following the McArthur ruling (*United States v. McArthur*, 1976) over military cooperation with local and state police during the government's confrontation with Native Americans at Wounded Knee, South Dakota in 1973. In *United States v. McArthur* (1976), it was found that military cooperation with the police was lawful and not in violation of the Posse Comitatus Act as long as the military served in an advisement role (Longley III, 2007). This ruling eventually paved the way for expansion of military-style policing in the U.S.

Kraska (2007) describes four dimensions that indicate police militarization. The first is material, meaning the acquisition of military equipment and weaponry. The second is cultural and occurs when police language, uniforms, beliefs, and values reflect those of the military forces. Third is the inclusion of military-style organizational structures and procedures, such as special forces divisions (e.g., SWAT, special response teams). The last indicator is the use of operations informed by military practices. Many of these dimensions have some degree of overlap with domestic policing regardless of the state of militarization, such as the use of hierarchical command structures and formalized training protocols. However, over the past few decades, many of the distinguishing features between police and military operations have blurred, leaving the modern policing forces indistinguishable from that of the military at times (Campbell & Campbell, 2010; Hall & Coyne, 2013).

Although the historical precedents and evolution of police militarization have been documented in the literature, there has been little inquiry into the effect of militarized policing on public perceptions of police. Militarized policing, by definition, is at odds with the push toward community policing models and procedural justice-informed practices. Perhaps in the days after 9/11, a highly militarized police force evoked feelings of safety and security, but in the current climate, militarized police instead likely conjure perceptions of an oppressive, occupying force against democratic freedoms. The presence of militarized police may serve as a visual cue that serious and violent crime is prevalent, in the same way that the presence of security measures increases public perceptions of the frequency and severity of crime (Bachman, Randolph, & Brown, 2011; Brown, 2006). Given the rate at

which police militarization has expanded and the recent negative press police have received depicting militarized officers, more research focusing on the effect of the police militarization movement on public trust and confidence in police is direly needed.

Police Use of Body Cameras

In light of the national attention around police use of force cases, police have sought ways to restore public perceptions of police accountability and trust in police. In response to these incidents, many departments have chosen to address concerns about policing practices and police officer safety by making procedural and technological changes in the way policing is conducted. The most substantial of these changes has been the mass institution of police worn body cameras (Culhane, Boman IV, & Schweitzer, 2016).

In an attempt to increase police accountability and decrease instances of police use of force and assaults against officers, many police departments have begun issuing body worn video cameras to police officers (Ariel et al., 2016a). Body cameras worn by police officers create both audio and visual recordings, and the officers who wear them are often required to be actively recording whenever officers engage in encounters with citizens. In theory, body cameras were meant to deter police and citizens from engaging in behaviors or actions that could result in sanctions, because they were aware they were being recorded and their actions could be observed by others later (Ariel, Farrar, & Sutherland, 2015). Body cameras would provide increased transparency of police encounters, provide evidence to aid arrests and prosecutions, and reduce citizen complaints and false reports of officer misconduct. In reality, the use of body cameras has resulted in mixed findings.

Culhane et al. (2016) found that individuals interpreted a shooting by police as less justifiable shortly after Ferguson compared to before. One year later, participants in a similar study were more likely to find a shooting justifiable when presented with video evidence compared to the same case without video evidence (Culhane & Schweitzer, 2017), suggesting that any immediate sensitizing effect of Ferguson may have been short-lived. Overall, it appears that the vast majority of the public polled in post-Ferguson surveys supports the use of body cameras in policing to promote transparency (Sousa, Miethe, & Sakiyama, 2017), but little is known about how transparent police encounters become as a function of using body cameras. Police officers are receptive to and supportive of the use of body cameras in policing (Jennings, Fridell, & Lynch, 2014; Jennings, Lynch, & Fridell, 2015). However, the actual implementation of body cameras in policing requires large investment of funds, additional police officer training, and procedural changes that might inhibit some departments from lending complete support. One study of the use of body cameras in the Phoenix police department noted that only approximately 13–42% of police encounters with citizens were recorded by body camera devices. Further, body camera recordings presented new logistical difficulties,

particularly in transferring video evidence to the courts (Katz, Choate, Ready, & Nuño, 2014).

While most citizens (Sousa et al., 2017) and police (Jennings et al., 2014, 2015) agree that the use of body cameras is generally a good idea with the potential for numerous benefits to both law enforcement and the community, the effect of body cameras on police use of force, assaults against police, and citizen complaints remains murky. Some analyses have found that citizen complaints against officers and police use of force declined significantly with the institution of body cameras (Ariel et al., 2015). Others have found no effect at all or a more nuanced effect of body camera use (Ariel et al., 2016a, 2016b). Research on body camera use in policing is relatively new and more exhaustive examinations of their effectiveness in reducing police use of force and citizen complaints are undoubtedly underway. Yet, there is little literature focused on public perceptions of police use of body cameras outside of favorable opinion surveys. With the mass institution of body camera programs in police departments, public perceptions of police interactions are sure to change as they experience police use of these devices. Whether they will serve as a reflection of police transparency, as intended, or reinforce negative associations, as with the presence of added security measures, remains to be seen. At the very least, body camera use is particularly noteworthy within the context of the Ferguson discussion, as it is one facet of policing that has been directly affected by police use of force cases. This is likely an area ripe for future research on police interactions, given the vast amount of qualitative data that video recordings can provide, with a plethora of available material given the widespread application of body cameras in police departments in such a short time.

Conclusion

The shooting of Michael Brown in Ferguson, Missouri, as well as other cases of police use of deadly force against Black males, has changed the way the public views police and how police work is conducted. The effect of these cases has disproportionately affected African American communities, further deepening rifts long present in police relations with these communities. Although the media have moved on to other issues and the conversations around police use of force have diminished, the effect of Ferguson is not likely to wear off for Black Americans and is revived whenever there is another use of force incident, as evidenced by the continued conversations about the police between Black parents and their children. In turn, the police have largely acknowledged the criticisms and negative publicity from the media and have taken measures to address issues of transparency in police work and to improve police–community relations, such as via community policing. However, police–community relations might only be repaired and trust in the police increased by engaging in procedurally just policing practices and promoting more positive interactions with police in all communities.

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Problem-Solving Courts in the United States and Around the World: History, Evaluation, and Recommendations

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Problem-solving courts, sometimes referred to as specialty courts, have been developed in many jurisdictions around the world. These courts tend to fall into two broad categories: Some courts commonly address specific social *issues* thought to be underlying causes of crime, such as drug use, mental health issues, prostitution, and gambling addiction. Other problem-solving courts exist for special groups of *people*, such as veterans, juveniles, and families experiencing domestic violence. Because various societies and countries differ in their social mindsets toward crime (e.g., attributions), their goals (e.g., deterrence, incapacitation, and rehabilitation), and their reasons for adopting problem-solving courts (e.g., practical or philanthropic), it is no surprise that they might differ in the psychological and justice principles that underlie the development and procedures of problem-solving courts. With such differences among courts, it is important to conduct detailed evaluations to determine which components of courts make them more or less effective. While there are many published evaluations which examine the effectiveness of these courts, there has not been an attempt to synthesize these results and identify what components (e.g., the design or justice components) make these courts effective. It is important to note that there are several other types of courts that are "different" from traditional courts (e.g., juvenile delinquency courts, bankruptcy courts). These courts, while important, are not classified as problem-solving courts because their focus is not to help solve the underlying issue that caused a person to commit a

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crime; instead, their focus is to punish the person for breaking the law. Consequently, this chapter will focus on courts whose motivation *is* to help solve the underlying issue that caused a person to commit a crime.

The purpose of this chapter is to review the history and development of problem-solving courts in the United States and abroad, followed by a review of the various justice and psychological principles (e.g., restorative justice) that are sometimes components of such courts. Next, the chapter presents a thorough and detailed synthesis which will reveal the rigor and results of existing evaluations. By analyzing many types of courts, we can gain a more thorough understanding as to whether each type of court, in general, is working. Additionally, we provide general observations as to whether some of the program components might be bigger contributors to courts' outcomes than others. Based on this synthesis, we make suggestions for the design and evaluation of future courts, for example, by using justice principles and psychological theory in the courts—and how researchers can measure these in their evaluations.

History and Development of Problem-Solving Courts

While the term "problem-solving court" is relatively new, the general idea of using the court system to "help" justice-involved individuals has existed for many decades. For instance, in 1899, Illinois passed the Juvenile Court Act, which formed a juvenile court designed to protect and rehabilitate juveniles; however, this therapeutic focus was quickly replaced by a more adversarial and punitive system (Gatowski, Dobbin, & Summers, 2013; Lederman, 2013). Shortly after, in 1910, New York City's Women's Night Court was developed to address the problem of prostitution and related ills (e.g., spread of disease; Quinn, 2008). Although the Women's Court generally focused on reforming such women—especially those who were young or first-time offenders—there were still many punitive aspects to the Court (e.g., jail time). The Women's Court faced both criticism and applause from the public and legal officials for attempting to address a social issue through the court system. Ultimately, the Women's Court was not particularly successful at minimizing these social issues (e.g., prostitution), although it remained open until 1967 (Quinn, 2008). Perhaps early attempts at problem-solving through the court system were unsuccessful in part because they largely lacked the public support, technology, community infrastructure, funding, and medical and social science needed to help offenders alter their behavior and situation. By 1989, these elements had evolved such that a problem-solving court had more promise of success.

Since the 1989 adoption of the first drug court in Florida (see Goldkamp, White, & Robinson, 2001; Terry, 1999 for discussions), there have been more than 3100 problem-solving courts created in the United States (U.S. Department of Justice, 2017). As a whole, problem-solving courts have been created to meet the needs of various populations (e.g., veterans) and to address various social issues (e.g.,

homelessness) that might contribute to crime (Kondo, 2000; Meekins, 2006; Russell, 2009). For instance, mental health courts were developed because people experiencing mental illness often received punitive sanctions rather than treatment that might improve their life and prevent future crime (Kondo, 2000). The novel idea of using courts to help offenders caught on, and problem-solving courts were soon a multi-country phenomenon.

Although problem-solving courts have a fairly short history, it is not a simple history to depict. Even with a rather narrow definition of problem-solving, a complete summary would require descriptions of dozens of types of courts (e.g., drug courts, homeless courts), which have countless caveats (e.g., various participants, methods, and philosophies used) both within the United States and abroad. Indeed, there are many articles (Berman & Feinblatt, 2001; Kaplan, Miller, & Wood, 2018) and books (Nolan, 2009; Wiener & Brank, 2013) that provide more details about the intricacies and differentiations among courts. Most notably, a 2019 analysis compared "specialized court programs" to drug court programs (Kaiser & Rhodes, 2019). The courts were similar in many ways: the services they provide, staff training, and procedures. They differed on many aspects: inclusion of felony offenders, whether charges were dismissed after the program and whether participants began the program after adjudication. The current study compares types of courts on other aspects, specifically the justice principles and psychological principles on which they rely, that will be discussed later.

Because a comprehensive review of all courts—and their similarities and differences—is beyond this chapter's scope, this section offers only an overview of the history and development of common problem-solving courts within the United States and around the world (see also Kaplan et al., 2018).

Problem-Solving Courts in the United States

The first widely recognized problem-solving courts in the United States were drug courts that arose in the late 1980s and early 1990s after the "War on Drugs" caused prison over-crowding and a revolving door of repeat offenders (see Goldkamp et al., 2001 for a discussion). Judges could not maintain their over-burdened dockets; something had to be done. Soon after Miami-Dade County, Florida, opened the first drug court in 1989, many other jurisdictions across the United States followed suit (see Kaplan et al., 2018 for review).

An early offshoot of drug courts was a type of problem-solving court that dealt with offenders accused of Driving while Intoxicated (DWI). The first DWI court was formed in New Mexico in 1995 (Ronan, Collins, & Rosky, 2009). Like traditional drug courts, DWI courts address underlying problems that contribute to offending. Other offshoots addressed juveniles (Volk, 2014), prisoners who are reentering society (Huddleston & Marlowe, 2011), and parents who were unable to pay child support (Lee, 2012).

About the same time as the drug courts were being developed, court administrators developed a Homelessness Court in San Diego, California in 1989 (Binder & Horton-Newell, 2014). Currently, ten states have homeless courts, which provide assistance with issues related to mental health, employment, life-skills, substance abuse, and legal issues (Lopez, 2017).

In the early 1990s, community courts began to address the needs of communities that were experiencing a variety of "quality of life" crimes such as shoplifting, prostitution, and graffiti (Karafin, 2008; Lee et al., 2013; Sviridoff et al., 2002). The Midtown Community Court in New York led the way in 1993, fueled by then-mayor Giuliani's "tough on crime" approach (Gruber, Cohen, & Mogulescu, 2016). While the primary goal of the court was to reduce crime, it had secondary goals of restitution and rehabilitation (Gruber et al., 2016). Currently, community courts handle a variety of issues including landlord-tenant disputes, anger management, counseling, and treatment for mental health and substance abuse (see Kaplan et al., 2018 for details).

While community courts addressed prostitution among other issues, problem-solving courts eventually arose to deal with this issue specifically (Sanchez & Miller, 2009). The Hartford Community Court has a Prostitution Protocol Program in which a social service counselor leads discussion on topics ranging from emotions and self-esteem to goal setting (Johnstone, 2001; Justice Education Center, 2002). It also has a similar program for "Johns" (i.e., customers of prostitutes), in which a single class educates these men about health risks and risks for the community associated with prostitution. These programs help both prostitutes and Johns through sexually transmitted infection testing and drug treatment, among other services (Johnstone, 2001). Generally, prostitution courts provide services to help prostitutes leave the profession (Sanchez & Miller, 2009; Wolf, 2011), deter men from seeking prostitutes' services (Johnstone, 2001), or generally prevent recidivism (Muftic & Updegrove, 2019).

Domestic violence courts became popular in the mid-1990s after the passage of the Violence Against Women Act in 1994 (Cleveland, 2010). Even before the Act was developed and passed, the country was beginning to consider such violence as a public health crisis rather than a private family matter and, as such, President Reagan developed a task force to investigate family violence (Gruber et al., 2016). The Brooklyn, New York, courts led the way for domestic violence courts by closely monitoring offenders and offering services for victims, including job training, counseling, and housing. Such courts can also handle civil restraining orders, criminal adjudications, divorce, and/or child custody cases.

Another social issue receiving attention in the late 1990s was that of child support noncompliance. Starting in 1997 in Jackson County, Missouri (Macoubrie & Hall, 2010), these "father's courts" emphasize employment, vocational, and educational training, which address some of the reasons parents had difficulty paying child support. Some programs also integrate parenting classes to help participants develop skills needed for successful co-parenting (Lee, 2012). As with many other problem-solving courts, mental health and substance abuse treatment is often a core component (Lee, 2012).

In the early 2000s, elder abuse gained national attention. Consequently, elder protection courts, which originated in Alameda County, California, in 2001, were created to identify, investigate, and manage cases of elder abuse (Keilitz, Uekert, & Jones, 2012). The Contra Costa County Superior Court in California started a task force to connect numerous services for elders; the resulting elder court manages many issues including tenant–landlord disputes, elder abuse, and small claims. Counselors provide emotional support, and the courts are sensitive to elders' needs (e.g., financial, physical needs).

In 2008, one of the first "hybrid" courts was developed to meet the needs of veterans who returned home from serving in the armed forces. The Buffalo, New York, Veteran Treatment Court combined treatment for mental illness and substance abuse (Russell, 2009). Veterans courts often provide peer mentoring and a variety of services to assist with housing, employment, and finances.

Other modern courts include animal courts, which began with the Animal Welfare Court in Tucson, Arizona, in 2012 (Animals and Society Institute, n.d.; Pierce, 2016). Along with traditional sanctions, judges in such courts can require participants to complete intervention treatment programs designed to address behavior related to animal abuse and neglect.

In 2012, President Obama's speech at the Clinton Global Initiative addressed the issue of human trafficking as modern-day slavery (Gruber et al., 2016). This speech reflects the recent attention sex trafficking has received in the public and legal spheres; in response to this increased attention, human trafficking courts have been developed. In 2013, a New York State judge deemed the state's new Human Trafficking Intervention Court as a "revolutionary" (Gruber et al., 2016) way to eliminate human trafficking and prostitution. While the court technically prosecutes women for their crimes, the court recognizes that many such women are in fact victims and thus deserve services rather than or in addition to punishment.

This long (and incomplete) list shows that, as courts have evolved, they have become more specialized and increasingly have recognized the complexity of the social issues they attempt to address. Other "hybrid" courts include those specifically designed for the complex needs of juvenile prostitutes (Gruber et al., 2016) and veterans with substance abuse and mental health issues (Russell, 2009). Courts have recently recognized the link between prostitution, domestic violence, and trafficking (i.e., all these are similar because of the power imbalance between the victim and the person who controls the victim; Gruber et al., 2016). Such cases are particularly complex because the line between offender and victim is blurred. For instance, a prostitute technically has broken the law, but perhaps only because she is under the control of a pimp. And reflecting situational complexity, a domestic violence victim might also be a perpetrator of violence. Perhaps the most complex problem-solving courts are dependency courts, which are a special branch of the juvenile or family court system (Gatowski et al., 2013). These courts help families experiencing child abuse and neglect by providing a range of services designed to resolve underlying issues in the family (e.g., anger management, substance abuse, and parenting skills).

As this review indicates, problem-solving courts began with a simple idea: Reduce recidivism by helping offenders recover from their drug addiction. The

evolution that followed has been remarkable in its breadth and complexity. This evolution did not stop within the US; as discussed next, problem-solving courts became a phenomenon that has since appeared in many countries all over the world.

Problem-Solving Courts Around the World

Countries around the world have developed problem-solving courts (Nolan, 2009), either independently or modeled after U.S. courts. While many drug courts in other countries are similar to those in the United States, others are quite different (i.e., they might have different methods and serve different populations; Nolan, 2009). Further, some problem-solving courts in other countries are generally not found in the United States (Miller, 2019). For instance, Italy has special courts to address the issues of illegal immigrants. While the United States has specific federal courts that deal with immigration issues, they are not problem-solving courts, as they do not focus on the well-being of those in the courts (Miller, 2019).

In many countries, including the United States, native populations (often called Aboriginal or Indigenous populations) are overrepresented in the criminal justice system (Pfeifer et al., 2018). While the United States has few, if any, problem-solving courts that focus on the well-being of these populations, many other countries do. These are likely the most common type of problem-solving courts not found in the United States. Within the United States, Native Americans have their own jurisdictions, typically called "Tribal Courts." These courts, however, are general jurisdiction courts and not problem-solving courts. While there are Tribal Wellness Courts in the United States that focus on the substance abuse issues of those in the court (http://www.wellnesscourts.org), these courts are quite different from the Aboriginal courts of other countries. In Canada, the First Nations Court began in 2000, followed by the Aboriginal Youth Courts in 2010 (Pfeifer et al., 2018). The Supreme Court of Canada ruled in *R. v. Gladue* ([1999]1 S.D.R. 688) (n.d.) that courts can consider alternative sentences which reflect the culture of Aboriginal offenders. While not mandating problem-solving courts, the Supreme Court made it possible for the court system to address the special social issues faced by such populations.

Canada, along with Australia and New Zealand, also has Aboriginal courts, which are often a mix of "official" (i.e., Canadian law) and traditional Aboriginal legal processes (Nolan, 2009; Pfeifer et al., 2018; Richardson, Thom, & McKenna, 2013). Some Aboriginal courts deal with only one group of Aboriginal people, while other courts deal with a mix of Aboriginal peoples, especially in countries with a variety of Aboriginal groups and cultures living in close proximity. Others, like the Koori Children's Courts in Australia, focus on Indigenous juveniles in the justice system (Pfeifer et al., 2018). This Court addresses youth crime through culturally appropriate responses that consider traditions and values while addressing the culture-related issues that might contribute to crime.

Within New Zealand, there are about a dozen problem-solving courts designed to address the overrepresentation of young Māori offenders (Richardson et al., 2013). These courts often take place in a tribal setting rather than a typical courthouse. Judges speak the Māori language and encourage youth to admit and take responsibility for their crimes in front of elders and their ancestors. Such procedures rely on cultural concepts of accountability, pride, and genealogy.

As these examples illustrate, some countries have courts to address social issues not often found in the United States. Other countries have no special courts for a variety of reasons (Miller, 2019), including the country's (1) inability to provide the funding, resources, or employees required to have problem-solving courts; (2) belief that judges are not qualified or that it is not the courts' role to help offenders; or (3) belief that other issues (e.g., drug cartels) are more pressing and deserving of legal attention. Perhaps most importantly, some countries do not have problem-solving courts because legal leaders believe that such courts would provide unequal justice because only some defendants would receive "help." Relatedly, some countries provide rehabilitation to *all* defendants, and thus there is nothing "special" about receiving treatment, education, or other rehabilitation services (Miller, 2019).

Perhaps the biggest difference between problem-solving courts in the United States and other countries is not in the *types* of courts, but the *delivery and methods* of such courts. As problem-solving courts have spread beyond the United States, they have been modified in many instances. Nolan (2009) lists a variety of differences between U.S. and foreign problem-solving courts. First, U.S. and foreign courts differ in the roles that legal actors play; for instance, English judges play a smaller role in supervision because probation officers there are more heavily involved than in the United States. Second, the way judges interact with court participants can differ; for instance, judges in Scotland, England, and Ireland are more business-like and less emotionally expressive than in the United States. Third, countries differ in treatment options. For instance, English courts are more likely to use methadone treatment, while U.S. courts are more likely to rely on social support treatments such as Alcoholics Anonymous. Finally, countries differ in the philosophies and beliefs that underlie problem-solving courts. For example, courts differ as to whether they believe that domestic violence is a learned behavior to be addressed by education (e.g., in Canada) or an illness to be addressed through treatment (e.g., in the United States; although treatment can sometimes include both drug and behavioral treatments). Such cultural differences can explain nuances in the delivery of problem-solving courts around the world (see also Karafin, 2008, for global comparisons).

As this review illustrates, there are a variety of problem-solving courts both in the United States and abroad. What began as a thoughtful attempt to reduce recidivism and addiction among nonviolent drug users has become a widespread phenomenon. Just as problem-solving courts vary in the populations (e.g., prostitutes, veterans) and social issues (e.g., homelessness) that they address, so too do they vary in the way they are implemented and evaluated, as discussed next.

How Problem-Solving Courts and Their Evaluations "Work"

Some problem-solving courts are formal, state-certified courts (e.g., Dolan, 2019). Others are informal grass-roots courts started by one or more judges in a particular jurisdiction. There is no national or international certification or requirements to implement a problem-solving court. Thus, there is great variety in how the courts are implemented. There are generally two ways problem-solving courts can be incorporated into criminal court: as a diversionary program or as part of a sentence post-conviction. There are also a variety of ways to evaluate a problem-solving court (Wood, Miller & Kaplan, 2018). These discussions will help lay the foundation for our later analyses.

How Courts "Work"

Some problem-solving courts are diversionary programs in which a defendant has been charged with one or more criminal offenses, but has not yet been convicted. Once charges are filed, a defendant will be screened or selected by a criminal courtroom workgroup to determine his eligibility for a specific problem-solving court. If selected for participation, the defendant will be expected to successfully complete the problem-solving court. If he does, the prosecutor will drop charges. If he does not successfully complete the problem-solving court, prosecution of the charges will continue.

Other problem-solving courts are part of an alternative sentence for a defendant after his conviction. In such cases, the defendant has been convicted through either a criminal trial or entering a guilty plea. The criminal courtroom workgroup determines the defendant's eligibility for participation in a problem-solving court. If selected for participation, he will be expected to successfully complete the problem-solving court in lieu of serving his prison sentence. If the defendant fails to successfully complete the problem-solving court, he likely will be required to fulfil his suspended prison sentence.

How Courts Are Evaluated

There are a variety of ways to evaluate the success of a problem-solving court. The Maryland Scientific Methods Scale (SMS; Farrington, Gottfredson, Sherman, & Welsh, 2002) lists the common types of research designs, from least to most rigorous: (1) a pre-and-post court assessment of a treatment group or a cross-sectional comparison of a treatment group and a nontreatment group. Neither design would use control variables; (2) a pre-and-post court assessment of a treatment group or a

cross-sectional comparison of treatment group and nontreatment group *with* control variables; (3) a nontreatment comparison group utilized with an adequate control of differences across the comparison group and treatment group through regression or matching, but important differences remain; (4) a quasi-experimental design that allows for the assumption that treatment is the only difference between the nontreatment comparison group and treatment group; (5) a randomized controlled trial. Evaluations of problem-solving courts thus differ in the rigor of their methodology.

Problem-solving courts also differ in their outcome measures. The most common measurement is whether the defendant has recidivated and committed more crimes. The length of this measurement period can vary from months to years. The definition of recidivism can also vary from including even minor crimes to only including serious crimes or crimes similar to the original offense. Some courts have other outcome measures too, such as mental health outcomes or community outcomes. As this brief review illustrates, there is great variety in the way courts are used and evaluated within any particular justice system. As discussed next, they also vary in the underlying principles that guide them.

Justice Foundations of Problem-Solving Courts Around the World

Both within the United States and around the world, problem-solving courts use a variety of justice principles as guiding beliefs about how to help those who come before them. For instance, many problem-solving courts utilize the notion of therapeutic jurisprudence, which is a focus on how the law and legal system can affect the well-being of people involved (Wexler, 2000). This section will discuss the most common justice principles found within problem-solving courts (i.e., therapeutic jurisprudence, procedural justice, restorative justice). This section concludes with a discussion of the conflicts that can exist between justice principles as applicable to problem-solving courts.

Adversarial Process

The United States and other common law countries such as Canada and Australia use the adversarial process to settle public disputes (Harrell, Castro, Newmark, & Visher, 2007; Newmark, Rempel, Diffily, & Kane, 2004). This adversarial process puts the prosecution and defense at odds with one another and works on the assumption that the truth will be revealed as the result of their competition in court. Judges play a somewhat passive role of referee, ensuring that the prosecution and defense follow the laws and procedures of due process. In comparison, other countries such as France, Germany, and Italy use the inquisitorial process. The inquisitorial

process puts the judge in charge of the investigation of the truth and relies less on due process principles. An inquisitorial process is less formal than the adversarial one, with fewer legal hurdles (e.g., hearings) due to less focus on due process.

The resulting punishments from the traditional adversarial process in the United States tend to be punitive in nature. Some of the most commonly used sanctions in the traditional criminal court involve the intense monitoring of the defendant's behavior. This can be done through incarceration, intensive supervision by probation/parole departments, use of technology to track whereabouts and behavior, and periodic alcohol and drug testing to ensure compliance with abstinence.

When problem-solving courts were developed, some of these common sanctions found their way into their programming (Berman & Feinblatt, 2001). Traditionally, this type of monitoring would begin as part of a sentence once a defendant was convicted through criminal case processing. However, through the use of diversionary programs like problem-solving courts and the expansion of pretrial programs, this intensive monitoring has been implemented *prior* to convictions, sometimes soon after arrest and charging decisions. Such monitoring can ensure public safety, while allowing defendants to remain in their communities to receive necessary treatment, continue their schooling and employment, and retain ties to supportive family and friends. While retaining traditional criminal court processes has its purposes, the unique combination of principles within problem-solving courts makes it imperative to understand how the remnants of the traditional process might relate to program outcomes (e.g., recidivism). Although many of the traditional, punishment-focused adversarial components are a part of problem-solving courts, what makes such courts unique is the inclusion of less punitive principles such as therapeutic jurisprudence and restorative justice (Berman & Feinblatt, 2001), as discussed next.

Therapeutic Jurisprudence

In some cases, the legal system is well situated to facilitate healing in those who come before the court (Wexler, 2000). Therapeutic jurisprudence, which focuses on how the law and legal system can affect someone's psychological and emotional well-being (Wexler, 2000), can help guide the court. By necessity, the law is a social force that drives behavior—it prescribes that certain behaviors are legal or illegal, and that certain consequences shall befall those who break the law (Wexler, 2000). Consequences for lawbreaking should, according to this principle, be therapeutic whenever possible; people should receive the help and treatment they need rather than only be harshly punished (Wexler, 2000). This does not preclude retributive responses (e.g., prison) when necessary, but simply emphasizes that legal actors such as judges should recognize how their actions affect others and should strive to limit harm.

Some problem-solving courts adhere to these principles, although this varies among jurisdictions and countries (Hora, Schma, & Rosenthal, 1999; Winick, 2013). For instance, therapeutic jurisprudence is commonly found in drug courts;

indeed, some posit that therapeutic jurisprudence is the theoretical foundation for effective drug courts (Hora et al., 1999). Due to the War on Drugs, traditional courts harshly punished those who were charged with drug-related offenses; consequently, a large number of drug users ended up in jail or prison for relatively minor offenses (Hora, 2002). Because mass incarceration comes with a heavy financial toll on the government, there has been a push to find ways to reduce incarceration rates (Cole, 2011). Judges and other practitioners in drug courts began to realize that, while incarceration was reducing the number of offenders on the street, it did little to reduce recidivism (i.e., incarceration did not address the root cause of the behavior; Hora, 2002). By adopting therapeutic jurisprudence as a guiding principle of drug courts, practitioners can attempt to address the root causes of drug-related behaviors. More specifically, by keeping therapeutic jurisprudence in mind, practitioners are able to determine what services or treatment programs (e.g., substance abuse counseling) might be appropriate for their participants (Hora et al., 1999). Rather than focusing on punitive consequences (e.g., incarceration), the focus in some drug courts is on providing therapeutic consequences for breaking the law (e.g., providing services and therapy).

Therapeutic jurisprudence is also used in other types of problem-solving courts (e.g., mental health courts; Kondo, 2000; Lurigio & Snowden, 2009). Because people with mental illness are often incarcerated in large numbers, just as those with drug offenses are, there has been a push to reduce this over-incarceration by providing therapeutic services to those with mental illness (Kondo, 2000). Furthermore, this principle is not only utilized by problem-solving courts within America but also by problem-solving courts around the world. For instance, drug courts in Scotland often use therapeutic jurisprudence to help reduce drug-related offenses (McIvor, 2009).

While some courts view therapeutic jurisprudence as a benefit to their court and those they serve, there are some court practitioners who have reservations about the use of therapeutic jurisprudence in problem-solving courts (Nolan, 2009). One of the major concerns with the use of therapeutic jurisprudence in courts is that judges are not trained to be social workers or counselors; instead, judges are trained to be legal fact finders and are often constrained by the law (Nolan, 2009). Without adequate training in areas such as social work or psychology, the concern is that judges will not be able to adequately help participants in problem-solving courts or might inadvertently cause more harm than good (Nolan, 2009). Thus, while therapeutic jurisprudence is often used in a variety of different problem-solving courts (e.g., drug and mental health courts), some court practitioners might prefer to utilize other justice principles such as procedural justice.

Procedural Justice

Procedural justice is the notion that people should be treated with both dignity and respect by the legal system (Thibaut & Walker, 1975). According to the literature, procedural justice can be either objective (i.e., focused on how the decision-making

process can be made fairer) or subjective (i.e., focused on whether a procedure enhances *perceptions* of fairness; Lind & Tyler, 1988). Procedural justice emphasizes that participants in the legal system should (1) feel as though they have a voice in their case, (2) be treated with dignity and respect, and (3) be treated equally (Hinds & Murphy, 2007; Tyler, 2004). The use of procedural justice in problem-solving courts can lead to more compliance with services (see Winick, 2013 for discussion).

A variety of different problem-solving courts utilize procedural justice. Dependency courts are often highly encouraged to utilize procedural justice principles when dealing with the families that come before them. For instance, the *Resource Guidelines: Improving Court Practices in Child Abuse and Neglect Cases,* published by the National Council of Juvenile and Family Court Judges, advocates that a "best practice" for dependency courts is to engage in early and active engagement of court participants (see Gatowski et al., 2013). More specifically, judges are encouraged to refer to the participant by name (e.g., Mr. Smith) rather than by a nondescriptive title (e.g., you or the parent) to make participants feel as though they are treated with dignity and respect. Furthermore, judges are encouraged to ask simple questions (e.g., "Do you have any questions?") in order to make people feel as though they had a voice in their case—that they were able to speak up and discuss their concerns.

While dependency courts often utilize procedural justice, they are not the only problem-solving courts to do so. Another type of problem-solving court that utilizes these concepts of procedural justice is domestic violence court. For instance, an evaluation of a domestic violence court in South Carolina demonstrated that the court utilized these concepts. Court participants were often spoken to directly by the judge, given the opportunity to discuss their concerns about the case with the judge, and were addressed by name (Gover, Brank, & MacDonald, 2007). When procedural justice techniques were used, participants had more positive perceptions of the court process; the use of procedural justice techniques also related to a reduction in recidivism (Gover et al., 2007).

Procedural justice can also be utilized in mental health courts because stigmatized groups (e.g., people with mental illness) might be especially sensitive to issues of procedural justice (Watson & Angell, 2007). Many mental health court judges interact with court participants differently from judges in traditional courts; they tend to make more eye contact with participants, invite participants to approach the bench, shake hands with participants, and directly speak with participants (see Watson & Angell, 2007 for discussion). Use of such procedures is often beneficial, as they are associated with a reduction in recidivism and increase positive attitudes about the court process (Watson & Angell, 2007).

Finally, procedural justice occurs in drug courts around the world, such as Scottish drug courts (McIvor, 2009). Participants are often treated with respect and dignity by those involved in their case. For instance, participants who experience setbacks in their cases (e.g., they are unable to attend a treatment session) are often shown leniency; indeed, those involved in the participant's case often make allowances to try and help the participant stay on track with his services (McIvor, 2009).

Furthermore, participants have the opportunity to explain why they experienced a setback in their case; these explanations are then taken into account by court personnel when determining if the participant should receive a sanction for the setback. This use of procedural justice could make participants more willing to comply with future orders (McIvor, 2009). Even so, the connection between procedural justice and recidivism is unclear, with at least one study finding no such relationship (see Atkin-Plunk, Peck, & Armstrong, 2019).

One potential drawback of procedural justice is that its use should begin at the start of the case (e.g., beginning with social workers and police). If procedural justice is not used early on in the case, it is possible that participants might not feel as though they have been treated with dignity and respect, regardless of the judge's actions. A well-meaning judge can utilize procedural justice, but a participant might not comply with services simply because procedural justice was not used from the beginning of their interaction with the legal system.

While the use of procedural justice can be beneficial in problem-solving courts, some court personnel have begun to acknowledge that it is equally important to try to restore the relationship between the offender, victim, and community whenever possible. Thus, the use of a justice principle known as restorative justice can be equally as important.

Restorative Justice

While the legal system can be therapeutic (i.e., therapeutic jurisprudence), there is also the potential for the legal system to be restorative (i.e., restoring relationships between the offender, victim, and community). This notion is known as restorative justice. Broadly speaking, restorative justice is an approach to reparation that focuses on healing and accountability (Poulson, 2003). This justice principle encourages perpetrators to take accountability for their actions (e.g., allowing the offender to apologize to the victim; Jehle & Miller, 2007) and encourages victims, and in some instances communities, to be active participants in the legal process (e.g., speaking with the offender so the offender can see the harm he has caused; Poulson, 2003). Restorative justice views crime as a violation of the relationship between two people, or an offender and his community, and not necessarily a violation of the law. Consequently, the focus is on mending the relationship between victim, offender, and community (see Latimer, Dowden, & Muise, 2005; Saulnier & Sivasubramaniam, 2018 for discussions).

Restorative justice is commonly found in courts that serve communities that value close social bonds. In New Zealand, restorative justice is often found in youth courts in the form of family group conferences (Reisig, 1998). A family group conference (FGC), which is often arranged by someone referred to as a "justice coordinator," includes the following participants: the youth, the youth's family, the victim, a police officer and, when appropriate, community representatives, and drug court representatives (Reisig, 1998). The conference is meant to determine what

compensation is appropriate for the victim while also encouraging the youth to accept responsibility for his actions (Reisig, 1998). Moreover, the Australian youth justice system also utilizes restorative justice through justice conferencing (see Blagg, 1997; Stewart, Hayes, Livingston, & Palk, 2008). Conferencing is designed to help juvenile offenders take steps to directly repair the harm they have caused (Blagg, 1997; Stewart et al., 2008).

Another type of problem-solving court that utilizes restorative justice is community court. Community courts, which are designed to address "quality of life" crimes such as prostitution and shoplifting, often sentence participants to community restitution (i.e., restitution is used to restore the harm their crimes caused the community; Sanchez & Miller, 2009; Sviridoff et al., 2002). In these courts, the community helps the offender identify, and take responsibility for, his problematic behavior while also working to ensure the relationship between community and offender is mended.

While there can be value in the use of restorative justice in problem-solving courts, there is also the potential for pitfalls. One major pitfall is that judges and other court personnel might not be properly trained in restorative justice practices; this lack of training might lead to unintended consequences (e.g., inattention to the principles or guidelines of restorative justice; Umbreit, Vos, Coates, & Lightfoot, 2005). For instance, if judges are not properly trained in restorative justice practices, they might not understand that having both the participant (i.e., the defendant) and the victim participate in mediation might be traumatic for the victim. A well-meaning judge might attempt to reconcile the two parties and restore any harm that has been caused; however, if the victim is not ready to face the person that has harmed him, the victim can be re-traumatized (Umbreit et al., 2005).

While restorative justice attempts to determine what offender behaviors are problematic, not all communities might agree that a certain behavior is problematic. Thus, community sentiment, as discussed next, can be a driving force in determining whether an offender is deserving of punishment for a particular behavior.

Community Sentiment

Within society, people can have differing opinions, perceptions, and attitudes toward a variety of topics. While *individual* sentiment toward a specific topic (e.g., whether it is acceptable to use drugs during pregnancy) can influence legal outcomes (e.g., how a juror votes), it is important to understand how *community* sentiment can also play a role in the legal realm. Community sentiment is broader than just one person's attitudes or perceptions of an issue; instead, community sentiment represents a collective attitude or perception of an issue (Miller & Chamberlain, 2015). Generally speaking, a community can be the general public, a specific section of the public most affected by the legal action (e.g., drug users' sentiment toward the court's procedure), or a particular group (e.g., court personnel's sentiment toward the problem-solving court). In general, community sentiment represents how an

entire community (or sub-community) perceives criminals and crimes; these collective perceptions can, in turn, determine how courts respond to lawbreakers.

Community sentiment has often been a driving force behind not only the punishment that criminals receive but also legislative reforms meant to affect punishment decisions. For instance, until 2005, the United States allowed offenders to be sentenced to death for crimes committed as juveniles (Lane, 2005). For numerous years before the abolition of the juvenile death penalty, research consistently demonstrated that the public did not favor this form of punishment for juveniles (Boots, Heide, & Cochran, 2004; Finkel, Hughes, Smith, & Hurabiell, 1994; Vogel & Vogel, 2003). In making their decision to abolish the juvenile death penalty, the court cited the "national consensus" against the juvenile death penalty as one reason for abolishing the practice (Lane, 2005). Just as community sentiment can drive judicial decisions such as abolishing the juvenile death penalty, it can also drive judicial decision-making in problem-solving courts.

Community sentiment plays an especially crucial role in community courts. Community courts attempt to address local community problems and often try to build relationships between the court and community members (Karafin, 2008). What is determined to be a community "problem" can differ from one community to the next as this determination is often based on community sentiment. For instance, if community sentiment is negative toward prostitution, then this will be considered a problem and dealt with accordingly; if the community does not consider something to be a problem (e.g., marijuana use), then it will not be dealt with. Furthermore, community sentiment can potentially play a role in other types of problems-solving courts, such as drug courts or domestic violence courts. Judges who are elected officials might feel pressured to base their decisions on community sentiment especially during an election year. For instance, community sentiment in the United States is often negative toward drug users. If it is an election year, it is possible that judges might be more punitive in drug courts so as to appeal to their constituency—if they feel that community sentiment favors retribution over the rehabilitation provided in drug courts.

While community sentiment is negative toward drug users in the United States, other countries have not labeled drug use a problem worthy of legal action (Miller & Herron, 2020); therefore, because the community has relatively ambivalent attitudes toward those who use drugs, the legal system is less likely to punish drug users. For instance, within Mexico there is much more of a concern about drug cartels than drug users. Because community sentiment is negative toward drug cartels, but relatively ambivalent toward drug users, the legal system focuses much more heavily on prosecuting people involved with the cartels than those who simply use what the cartels are selling (Miller & Herron, 2020).

Community sentiment can be extremely useful when determining whether a behavior is viewed as problematic; it can also be helpful in determining the punishment an offender should receive. There are, however, concerns about the use of community sentiment in the legal system. Community sentiment can often times be positive toward ineffective legislation (e.g., sex offender registries; see Armstrong, Miller, & Griffin, 2015, for a discussion). Because people have positive attitudes

toward legislation such as sex offender registries, this type of legislation is often implemented without empirical evidence validating its success (Armstrong et al., 2015). This is concerning because lawmakers will be hesitant to change a law people endorse regardless of its effectiveness or possible unintended consequences.

These concerns regarding community sentiment also apply to problem-solving courts. If community sentiment is positive toward a specific problem-solving court that has shown little effectiveness in reducing recidivism or helping offenders, lawmakers might be hesitant to enact changes to this problem-solving court for fear of upsetting the public. Furthermore, if a judge in a drug court understands that community sentiment is negative toward drug users, they might be more punitive toward the offender and not offer appropriate services. This effectively undermines drug courts—the offender is not receiving help and services because of community sentiment. While community sentiment can sometimes be useful for judicial decision-making, it can also create conflicts with the other justice principles discussed in this part of the chapter.

Conflicts Present Between Justice Principles

Most of the justice principles discussed in this section (e.g., therapeutic jurisprudence, procedural justice, restorative justice) can, and do, work well together. For instance, the use of restorative justice can potentially be a form of therapeutic jurisprudence—by restoring the relationship between the victim and offender, or offender and community, the court does not create more harm to the offender but rather potentially promotes the offender's emotional and psychological well-being.

There can, however, be conflicts between community sentiment and some of these justice principles. For instance, community sentiment tends to be negative toward women who use drugs during pregnancy, which can lead to legal actions against these women (Miller & Thomas, 2015). These harsh punishments can oppose therapeutic jurisprudence principles—these harsh sentences are not therapeutic in nature (e.g., they do not offer the services or therapy offenders need), and they do not increase the psychological or emotional well-being of the offender.

There can also be conflicts between community sentiment, procedural justice, and restorative justice. It is possible that communities believe that certain offenders (e.g., offenders with drug charges or who commit domestic violence) do not deserve to be treated with dignity and respect by the court. This view opposes procedural justice principles that advocate that offenders be treated with dignity and respect and be given a voice at their trial. Furthermore, communities might be hesitant to reintegrate, or restore, their relationship with the offender because of negative opinions of the offender and their crimes. For instance, family group conferences, which occur in youth court in New Zealand, can include a community representative (Reisig, 1998). If the community has a negative perception of the offender, they are unlikely to participate in this conference and thus will not engage in restorative

justice. Thus, numerous conflicts can exist between community sentiment and justice principles such as therapeutic jurisprudence, procedural justice, and restorative justice. While justice principles are often guiding principles of problem-solving courts, these courts can also utilize a variety of different psychological principles to guide the types of services and consequences the offenders experience.

Psychological Foundations of Problem-Solving Courts Around the World

Just as some problem-solving courts in the United States and around the world utilize justice principles as guiding beliefs, some also use psychological theories. These psychological principles can help predict and explain why problem-solving courts work and why judges offer certain services and programs to those who come before them. To be sure, most courts do not explicitly use psychological theories, but are still affected by psychological principles that contribute to the success of such courts. What follows is a discussion of the most common psychological theories that relate to problem-solving courts (e.g., rational actor model, social support, and operant conditioning).

Operant Conditioning

According to operant conditioning, receiving a reward for a behavior increases the likelihood that the behavior will be repeated. If, however, behavior is followed by something unpleasant (e.g., a negative consequence), then this will decrease the frequency of this behavior (see Boza, 2007 for a discussion). For instance, teachers might incentivize students' appropriate behavior (e.g., taking turns or speaking kindly) by promising a reward (e.g., giving the children snacks) for good behavior; teachers might punish bad behavior (e.g., pushing) by putting children in time-out or taking away privileges.

Problem-solving courts often use operant conditioning, although it is rarely referred to by this name. Instead, courts might have incentives and sanctions, such as those that occur in drug courts. Drug courts often punish bad behavior by taking away privileges (e.g., creating a curfew for juveniles); these courts often incentivize good behavior by offering rewards (e.g., offering gift cards or other desirable things). There are problems, however, with the use of operant conditioning in problem-solving courts. To be effective, sanctions should come directly after, or in close proximity, to the behavior they are intended to punish (Boza, 2007). Furthermore, sanctions should be used consistently (Boza, 2007). In other words, two people should receive the same sanctions for the same behaviors; sanctions should also always be applied every time a negative behavior occurs. Even if all these

conditions are met, rewards might not be effective globally, as something (e.g., a gift card) that is a highly motivating reward for one person might not be perceived as such to another person.

The concern with operant conditioning arises because there is little evidence that these standards are adhered to in problem-solving courts (Boza, 2007). For instance, judges have wide discretion in determining the sanctions and incentives provided to court participants; there is no set script prescribing what punishment or reward should be given based on a specific behavior. This could lead to inconsistent sanctions and incentives, thereby making the use of operant conditioning ineffective. Thus, it is necessary that sanctions and incentives are determined as early in the case as possible and are consistently applied throughout the entirety of the case.

Social Support

Social support is defined as the perception, or experience, that an individual is loved, cared for, and is a part of a social network of mutual assistance and obligations (Taylor, 2010). Much of the literature on social support has demonstrated that it is a critical factor in determining health outcomes. For instance, social support promotes psychological adjustment to chronic illnesses (Taylor, 2007); a lack of social support is also associated with a risk for morbidity and mortality (House, Landis, & Umberson, 1988). Given the vast research linking social support to health outcomes, it is possible that social support is also important in other areas of life such as recidivism in offenders.

Once an offender is incarcerated, they often experience a loss of social contact and therefore social support (Cochran, 2014). This lack of familial or community ties means that offenders often have little access to certain necessities after their incarceration that can help reduce recidivism (e.g., housing and monetary support; see Cochran, 2014 for discussion). Furthermore, offenders who have little social support are more likely to experience isolation and loneliness (Cochran, 2014). These negative emotions and lack of resources can encourage recidivism.

Because social support is a critical component in ensuring that offenders do not recidivate (Cochran, 2014), many problem-solving courts utilize social support as part of their services. For instance, problem-solving courts often offer family counseling or family engagement services (Henggeler, McCart, Cunningham, & Chapman, 2012). These services allow offenders to remain close to family members and friends during their treatment, thereby strengthening social ties and increasing the likelihood the offender will successfully complete treatment and not recidivate.

As these last two sections demonstrate, there are a variety of justice principles and psychological theories that are utilized by problem-solving courts. While there are benefits associated with the use of some of these principles (e.g., the use of therapeutic jurisprudence can help reduce re-traumatization of victims), there can be drawbacks (e.g., judges are not trained social workers or psychologists and could incorrectly apply therapeutic jurisprudence). What justice principles or

psychological theories are applied depends in large part on the type of problem-solving court (e.g., community courts might be more likely to utilize restorative justice than drug courts). The next section describes our analysis, which was designed (in part) to determine how such justice and psychological principles are incorporated into problem-solving courts.

Methodology

In the current study, we collected previously published evaluations of problem-solving courts in order to make conclusions as to the cumulative success of the courts. We coded each evaluation's outcomes (i.e., whether the drug court was "successful"). We also coded whether each court contained program components described above (e.g., therapeutic jurisprudence, operant conditioning). By analyzing many courts, we can gain a better understanding as to whether each type of court, in general, is working. And we can make some general speculations (provided in the discussion) as to whether some of the program components might be bigger contributors to courts' successful outcomes than others.

Selection of Evaluations

We used three criteria to identify usable evaluations. First, the evaluation had to be focused on a problem-solving court. Typically, this was determined by whether the study self-identified itself as addressing a type of problem-solving court. Studies that focused only on stand-alone programs (e.g., substance abuse treatment programs or batterer intervention programs) were not included in the analysis. Some studies included multiple jurisdictions of a problem-solving court. If this was the case, then each jurisdiction's court was included as a separate problem-solving court since there were often differences in how each court operated. Second, the study had to include enough of a description of the problem-solving court to determine whether the court used the components of interest (e.g., therapeutic jurisprudence). Third, the study had to include an evaluation of the effectiveness of the problem-solving court. This often included an assessment of recidivism rates but could also include court-specific assessments such as mental health outcomes, victim safety, or community satisfaction.

The search for evaluations was conducted separately for each type of problem-solving court. The names of each type of problem-solving court were used as the keywords in searches in the following databases: NCJRS, Criminal Justice Abstracts, and PsycINFO, and Google Scholar. In addition, the eligible evaluations were searched to find references to other potential evaluations listed in the literature review and references sections. This search process continued until the results began repeatedly referencing already discovered evaluations.

Due to the large number of evaluations for adult drug treatment courts, there was an additional criterion used to narrow down the sample. The Maryland Scientific Methods Scale (SMS), described in the literature review above, was used to assess the methodological rigor of each evaluation, with level one being the least rigorous and level five being the most rigorous (Farrington et al., 2002). The evaluations for adult drug treatment courts had to at least reach level three on the SMS (meaning there was a comparison group utilized and an adequate control of differences across the comparison group and treatment group that was documented in the study) in order to be included in the analysis. There are also too many juvenile drug treatment courts to include in the current study. Therefore, juvenile drug treatment courts were eliminated from the analysis if they were classified as a level one on the SMS.[1]

Because there are far fewer evaluations of the other types of problem-solving courts, we determined that using such a criterion for their inclusion would severely limit the number of evaluations included. Therefore, a limiting criterion was not applied to the other problem-solving courts. However, the methodological rigor of each evaluation was assessed and provided in the tables to account for these differences in the quality of the evaluations.

Outcomes

After selecting evaluations to include in our analysis, we coded the Outcome(s) reported in each evaluation. These included Recidivism Outcomes, Mental Health Outcomes (for mental health and veterans courts), Community Outcomes (for community courts), and Victim-Oriented Outcomes (for domestic violence courts).

Although there are many possible outcomes of a problem-solving court (e.g., whether the person was able to maintain suitable housing and a job), we chose recidivism as the main outcome of interest for our analysis because it is arguably the most important outcome for criminal courts. Each evaluation adopted its own definition of recidivism; they differed on the follow-up timeframe and whether they considered technical violations, as well as specific re-offenses. For our purposes, we considered "Recidivism Outcome" to be any outcome directly related to re-offending.

We categorized each evaluation's Recidivism Outcome as "Neutral" (e.g., no difference between the problem-solving court and the comparison court or no change from pre- to post-court involvement), "Positive" (e.g., the problem-solving court group had lower recidivism than the comparison court group or there was less recidivism in the post-court involvement timeframe than in the pre-court

[1] Limiting the sample to only those evaluations that were at least level 3 (as we did with adult drug courts) limited the sample such that it reduced the variability in outcomes and factors (e.g., there would then be no courts that did not use a "high" level of adversarial process). It would also eliminate the evaluation with the largest sample size and the only juvenile drug court from outside the United States.

involvement timeframe), "Negative" (e.g., the problem-solving court group had higher recidivism than the comparison court group or there was an increase in recidivism pre- to post-court involvement), or "Mixed" (e.g., a mixture of positive, negative, and/or neutral outcomes).

In mental health courts and veterans courts, an additional evaluation outcome is included: improvement in the offender's mental health (Honegger, 2015). Some evaluations of mental health treatment courts tried to identify changes in the psychiatric symptoms of the offenders and whether they used emergency psychiatric services. Similarly, veterans treatment courts are typically assessed by mental health outcomes. Mental health outcomes included the frequency of experiencing PTSD symptoms; alcohol use and drug use; and improvements in social functioning, relationships, and sleep. We coded each Mental Health Outcome as "Neutral," "Positive," "Negative," or "Mixed" similarly to the codings for Recidivism Outcomes mentioned just above. For example, a "Positive" coding was used if the problem-solving court group had improved mental health outcomes compared to the comparison court group or if there was an improvement in mental health from pre- to the post-court involvement.

Similarly, Victim-Oriented Outcomes were measured in domestic violence courts. Such outcomes might include increased victim reporting or the victim's perception of safety, support, and satisfaction with the court process. These Outcomes were coded as "Neutral," "Positive," "Negative," or "Mixed," similarly to Recidivism and Mental Health Outcomes.

Finally, Community Outcomes were measured in community courts. Such outcomes included increased community satisfaction, increased perceptions of safety in their community, and completion of community service hours by the participants. These were also coded as "Neutral," "Positive," "Negative," or "Mixed."

A final measure is Rigorous Research Design. "Rigorous" was defined as a 3 or higher on the SMS scale. In the Discussion section, a table summarizes the number and percentage of rigorous studies for each court type.

Classification of Program Components

In addition to coding for Outcome, we coded whether each problem-solving court contained any of the following components: adversarial process, therapeutic jurisprudence, procedural justice, restorative justice, community sentiment, operant conditioning, and social support. The first six tables in the Results section contain the data from the six most often evaluated court types. If a component was not included in a table, it was not present in any of the evaluations for that type of problem-solving court.

The program components were defined as follows: when classifying a problem-solving court as having an **Adversarial Process** component, the court had to incorporate at least one element of the traditional adversarial criminal court process (Harrell et al., 2007; Newmark et al., 2004). The most common way that the traditional adversarial process was utilized in the courts was through intensive

supervision by probation/parole departments. Such supervision was a common element of all problem-solving courts, regardless of whether the court was used as a diversionary program or a post-conviction program. Another common element of the traditional adversarial process was a condition to abstain from alcohol and drug use and comply with weekly testing. If a court only utilized intensive supervision, then this was classified as a "low" presence of the adversarial component. If a court added additional elements, then this was classified as a "high" presence of the adversarial component.

When classifying a problem-solving court as having a **Therapeutic Jurisprudence** component, the court had to incorporate treatment for the offender that was related to the type of problem-solving court, such as a substance abuse, mental health, or batterer intervention program. It could also increase offender access to social services such as healthcare, housing, education, vocational training, or employment. If a court included treatment only, this was classified as a "low" presence of the Therapeutic Jurisprudence component. If a court also attempted to increase offender access to social services, this was classified as a "high" presence of the Therapeutic Jurisprudence component.

The problem-solving court was classified as having a **Procedural Justice** component (coded yes/no) if the court incorporated one-on-one contact between the judge and the offender that allowed for personal connection, explanation of process, and provision of a voice to the offender.

Classification of a problem-solving court as having a **Restorative Justice** component required the court to incorporate one of the following elements: victim advocacy (e.g., having a victim advocate present during proceedings or providing assistance to victims such as accessing healthcare or housing), offender accountability, or service to the community. If a court included one of these elements, then it was classified as having a "low" presence of the restorative justice component. If a court included two of these elements, then it was classified as having a "medium" presence, and if a count included all three of these elements, then it was classified as "high."

A court was considered to have a **Community Sentiment** component (coded yes/no) if it incorporated input from the community regarding the problems the community needed to address and how to address those problems.

A problem-solving court was considered to use an **Operant Conditioning** component (coded yes/no) if it incorporated the use of rewards and sanctions as a method of changing an offender's behavior. Sanctions include a judge giving an offender a short jail term as a result of a positive drug test; rewards include a reduction in number of required court appearances as a result of successfully attending all treatment sessions.

When classifying a problem-solving court as having a **Social Support** component (coded yes/no), the court had to incorporate an element of peer or family support as part of the program. For example, some courts required participation in Alcoholics or Narcotics Anonymous, a peer mentor, or family counseling.

If a particular component was not addressed in the evaluation's description of the court, it was coded as absent. It is possible that a problem-solving court did utilize

one of these program components, but this component was not described in the evaluation. Unfortunately, the current study could not account for such omissions. The tables of analyses in the Results section, with findings for each type of problem-solving court, show the frequency of each component for each problem-solving court (if a particular component is not listed, it was because that component was not present).

Classification of Research Design

We categorized each evaluation as to its Research Design according to the Maryland Scientific Methods Scale (SMS) (Farrington et al., 2002). We used the following definitions: (1) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with no control variables; (2) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with control variables; (3) a nontreatment comparison group utilized and an adequate control of differences across the comparison group and treatment group through regression or matching, but important differences may remain; (4) quasi-experimental design that allows for the assumption that treatment is the only difference between the nontreatment comparison group and treatment group; (5) randomized controlled trial.

Results

The first purpose of this analysis was to assess how many courts were successful. The second purpose was to determine the sophistication of the evaluations for each type of court, as determined by the type of research design (e.g., randomized controlled trial) used in the evaluations. The third purpose was to determine how frequently each type of court used each of the program components (e.g., various justice and psychological principles such as procedural justice and operant conditioning) discussed above. The final purpose was to assess the proportion of courts that were successful, broken down by program components (e.g., the success rate for the courts that used procedural justice components). Although we can assess the percentage of courts that use a component and are successful, we are unable to test whether that component actually *caused* the court to be successful. Nor can we make any meaningful statistical comparisons between courts that did and did not use a particular component because of low sample size. Thus, we report only the descriptive statistics and patterns that emerge. This analysis is a first step in determining if some components might contribute to a court's success more than other components. This section details findings separated by type of problem-solving court.

Adult Drug Treatment Courts

Adult drug treatment courts are the most common type of problem-solving court. As of 2015, there were approximately 1558 adult drug treatment courts operating in the United States (National Institute of Justice, 2015). Drug courts are also the most popular problem-solving court to be adopted internationally, with drug courts in countries including Australia, Bermuda, Canada, Jamaica, New Zealand, South Africa, and the United Kingdom (Berman & Feinblatt, 2005). Due to the prevalence of adult drug treatment courts around the world, they are also the most commonly *evaluated* type of problem-solving court. As a result, the current analysis was limited to those evaluations of adult drug treatment courts that used a quasi-experimental design, a matched sample, or an experimental design.

The criteria used to screen participants for eligibility in an adult drug treatment court varied across jurisdictions. However, typically, court participants are those offenders who are alcohol and/or substance dependent and charged with a drug offense or other criminal offense influenced by their substance abuse (Huddleston & Marlowe, 2011). The majority have few previous felony convictions, and their current charges are typically either property or drug offenses (Mitchell, Wilson, Eggers, & MacKenzie, 2012). Most courts do not accept offenders who currently or previously committed violent offenses (Belenko, 1998). Drug court participation typically lasts 12–18 months and upon successful completion, participants "graduate" from the drug court (Myer & Buchholz, 2016).

In the evaluations we included, the most commonly evaluated Outcome measure was a reduction in recidivism, which was typically defined as either a new arrest or a new conviction. Out of the 21 adult drug treatment courts analyzed, 15 of the courts reported Positive Outcomes (i.e., reductions in recidivism), three others found Neutral Outcomes (e.g., no significant differences), one had a Negative Outcome, and the remaining two had Mixed Outcomes. Thus, as to the first purpose of this study, adult courts appear to be successful, with 17 out of 21 (81%) finding either Positive or Mixed Outcomes (see Discussion section).

The second purpose of this study was to determine the rigor of the evaluations for each type of court. Three adult drug court evaluations used the most rigorous Research Design (i.e., randomized controlled trial). Six used the next most rigorous (i.e., quasi-experimental design), and twelve used the third most rigorous (nontreatment comparison group with controls). We only sampled adult drug court cases that fit these criteria; we excluded less rigorous evaluations. Thus, these data merely represent how many more rigorous studies there are compared to other courts.

To address the third and fourth purposes of the study, we coded each evaluation as to whether it utilized each of the program components (e.g., procedural justice). The results of this analysis are in tables, with each table summarizing a different type of problem-solving court. Table 1 provides a summary of the effectiveness of adult treatment programs.

Table 1 Summary of studies that evaluated the effectiveness of adult drug treatment courts

Evaluation author	Location	AP	TJ	PJ	RJ	OC	SS	Research design	Recidivism outcome(s)	Findings
Goldkamp and Weiland (1993) $n = 627$	Dade County, FL	High	High	Yes	No	Yes	No	3	Neutral	Drug treatment court participants did not significantly differ from the comparison group in rearrest rates during the follow-up period
Deschenes, Turner, and Greenwood (1995) $n = 630$	Maricopa County, AZ	High	High	Yes	Low	Yes	Yes	5	Mixed	Drug treatment court participants did not significantly differ from the comparison group in rearrest rates during the follow-up period; drug treatment court participants had significantly lower rates of technical violations during the follow-up period
Granfield, Eby, and Brewster (1998) $n = 300$	Denver, CO	High	Low	Yes	No	Yes	No	3	Neutral	Drug treatment court participants did not significantly differ in rates of revocation or rearrest from the comparison group during the follow-up period
Vito and Tewksbury (1998) $n = 290$	Jefferson County, KY	High	High	Yes	Low	Yes	Yes	3	Positive	Drug treatment court participants were significantly less likely to have a new felony conviction than the comparison group during the follow-up period
Miethe, Lu, and Reese (2000) $n = 602$	Las Vegas, NV	High	High	Yes	No	Yes	Yes	3	Negative	Drug treatment court participants had significantly higher rearrest rates than the comparison group during the follow-up period
Peters and Murrin (2000) $n = 89$	Okaloosa County, FL	High	High	Yes	No	Yes	Yes	3	Positive	Drug treatment court participants were significantly less likely to be arrested than the comparison group during the follow-up period; drug treatment court participants had significantly fewer arrests during the follow-up period

(continued)

Table 1 (continued)

Evaluation author	Location	AP	TJ	PJ	RJ	OC	SS	Research design	Recidivism outcome(s)	Findings
Brewster (2001) $n = 245$	Chester County, PA	High	High	Yes	No	Yes	No	3	Positive	Drug treatment court participants had significantly lower rates of rearrests than the comparison group during program participation
Goldkamp et al. (2001) $n = 1009$	Clark County, NV	High	High	Yes	No	Yes	No	3	Positive	Drug treatment court participants had significantly lower rates of rearrests than the comparison group during the follow-up period
Goldkamp et al. (2001) $n = 1092$	Multnomah County, OR	High	High	Yes	No	Yes	No	3	Neutral	Drug treatment court participants did not have significantly lower rates of rearrests than the comparison group during the follow-up period
Harrell, Roman and Sack (2001) $n = 397$	Brooklyn, NY	High	High	Yes	Low	Yes	No	3	Positive	Female drug treatment court participants were significantly less likely to be rearrested than the comparison group after entering the program; female drug court participants were significantly less likely to be rearrested than the comparison group during the follow-up period
Spohn, Piper, Martin, and Davis-Frenzel (2001) $n = 711$	Douglas County, NE	High	Low	Yes	No	Yes	No	3	Mixed	Drug treatment court participants were significantly less likely to be rearrested than the comparison group during the follow-up period; drug treatment court participants were significantly more likely to be rearrested than the diversion program comparison group during the follow-up period; drug treatment court participants had significantly longer periods of time until their rearrest than the comparison group during the follow-up period; drug treatment court participants had significantly shorter periods of time until their rearrest than the diversion program comparison group during the follow-up period

Truitt, Rhodes, Hoffman, and Seeherman (2002) $n = 735$	Escambia County, FL	High	High	Yes	Low	Yes	Yes	4	Positive	Drug treatment court participants were significantly less likely to be rearrested for felonies than the comparison during the follow-up period
Truitt, Rhodes, Hoffman, and Seeherman (2002) $n = 2109$	Jackson County, MO	High	High	Yes	Low	Yes	No	4	Positive	Drug treatment court participants were significantly less likely to be rearrested for any new offense and for felony offenses than the comparison group during the follow-up period
Gottfredson, Najaka and Kearley (2003) $n = 235$	Baltimore City, MD	High	Low	Yes	No	Yes	No	5	Positive	Significantly fewer drug treatment court participants were rearrested during the follow-up period than the comparison group; drug treatment court participants had significantly lower number of arrests than the comparison group during the follow-up period
Shanahan, Lancsar, Haas, Lind, Weatherburn, and Chen (2004) $n = 468$	New South Wales, Australia	High	High	Yes	No	Yes	No	5	Positive	Drug treatment court participants had significantly lower frequency of drug offending than the comparison group during the follow-up period; drug treatment court participants had significantly longer times until their first theft offense and first drug offense than the comparison group during the follow-up period

(continued)

Table 1 (continued)

Evaluation author	Location	AP	TJ	PJ	RJ	OC	SS	Research design	Recidivism outcome(s)	Findings
Galloway and Drapela (2006) $n = 95$	Mariner County, WA	High	High	Yes	No	Yes	No	3	Positive	Drug treatment court participants were significantly less likely to be rearrested than the comparison group during the follow-up period; drug treatment court participants were significantly less likely to be re-convicted than the comparison group during the follow-up period
Krebs, Lindquist, Koetse, and Lattimore (2007) $n = 475$	Hillsborough, FL	High	High	Yes	No	Yes	Yes	4	Positive	Drug treatment court participants were significantly less likely to be rearrested than the comparison group during the follow-up period
Somers, Currie, Moniruzzaman, Eiboff, and Patterson (2012) $n = 360$	Vancouver, Canada	Low	High	Yes	No	No	No	4	Positive	Drug treatment court participants were significantly less likely to commit any new offense than the comparison group during the follow-up period; drug treatment court participants were significantly less likely to commit any new drug-related offense than the comparison group during the follow-up period
Koetzle, Listwan, Guastaferro, Kobus (2015) $n = 133$	Ada County, ID	High	High	Yes	No	Yes	No	3	Positive	Drug treatment court participants were significantly less likely to have new charges filed than the comparison group during the follow-up period

Hamilton et al. (2016) *n* = 355	Spokane County, WA	High	High	Yes	Low	Yes	Yes	4	Positive	Drug treatment court participants had significantly lower odds of committing a new offense, being returned for revocation, and being re-convicted than the comparison group during the follow-up period
Myer and Buchholz (2018) *n* = 126	Midwestern State	High	High	Yes	No	Yes	Yes	4	Positive	Drug treatment court participants were significantly less likely to have a new conviction than the comparison group during the follow-up period; drug treatment court participants had significantly longer periods before a new conviction than the comparison group during the follow-up period

AP adversarial process, *TJ* therapeutic jurisprudence, *PJ* procedural justice, *RJ* restorative justice, *OC* operant conditioning, *SS* social support
Research design = (1) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and non-treatment group with no control variables, (2) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with control variables, (3) a nontreatment comparison group utilized and an adequate control of differences across the comparison group and treatment group through regression or matching, but important differences may remain, (4) quasi-experimental design that allows for the assumption that treatment is the only difference between the nontreatment comparison group and treatment group, (5) randomized controlled trial

All but one of the adult drug treatment courts included a high level (i.e., multiple components) of the Adversarial Process, including intensive supervision, abstaining from alcohol and/or substances, and undergoing regular drug and alcohol testing (Mitchell et al., 2012). The remaining court had a low level. Thus, as to the third purpose of the study, we found that the Adversarial Process component was very frequent (100%). As to the fourth purpose, we found that this component was associated with success, as 17 out of the 21 (81%) had either Positive or Mixed Outcomes (see Discussion section).

Similarly, the Therapeutic Jurisprudence component appeared in all 21 (100%) adult drug treatment courts that were included in the study—with 18 at a high level. Therapeutic jurisprudence is typically implemented through the use of substance abuse treatment, including counseling. Most adult drug treatment courts also incorporated access to social services such as mental health treatment, educational assistance, housing and employment assistance, and increased access to healthcare services. Also, we found that this component was associated with success, as 17 out of the 21 (81%) had either Positive or Mixed Outcomes.

All 21 adult drug treatment courts included in the analysis (100%) also included the Procedural Justice component. All incorporated one-on-one contact between the judge and the offender. Many of the evaluations of these courts touted the relationships that are built between the judges and offenders, with judges knowing the names of the offenders and the stories of their families and struggles with substance abuse. This one-on-one contact also allows the offender to provide their own voice to the process, leaving them with a greater degree of satisfaction with the process. Thus, as to the third purpose of the study, we found that the Procedural Justice component was very frequent (100%). As to the fourth purpose, we found that this component was associated with success, as 17 out of the 21 (81%) had either Positive or Mixed Outcomes.

Only six evaluations (29%) incorporated a Restorative Justice component; all did so at a low level. Most focused on offender accountability as opposed to victim assistance or community service. Despite its relative infrequency, we found that this component was associated with success, as all six that included Restorative Justice components (100%) had either Positive or Mixed Outcomes.

None of the adult drug courts used the Community Sentiment component.

All but one adult drug court (20/21; 95%) implemented rewards and sanctions as reflected by the Operant Conditioning component. Courts used rewards (e.g., gift cards) and sanctions (e.g., a weekend in jail or community service) to mold participants' behaviors. We also found that this component was associated with success, as 16 out of the 20 (76%) had either Positive or Mixed Outcomes.

The Social Support component only appeared in eight courts (8/21; 38%). Social support was implemented most often through the requirement of participation in social support groups such as Narcotics Anonymous and Alcoholics Anonymous. The Social Support component was associated with success, as 7 out of the 8 (88%) had either Positive or Mixed Outcomes.

Juvenile Drug Treatment Courts

In 2011, it was estimated there were 460 juvenile drug treatment courts operating in the United States (SAMHSA, n.d.). In addition to receiving substance abuse treatment, juvenile drug treatment courts often put emphasis on strengthening their family relationships and education. As with adult courts, juvenile drug treatment courts are typically assessed by whether there are reductions in recidivism among the offenders.

Out of the 14 juvenile drug treatment courts analyzed, only six reported Positive Outcomes (i.e., reductions in recidivism), five others found Neutral Outcomes (e.g., no significant differences), one had a Negative Outcome, and the remaining two had Mixed Outcomes. Thus, as to the first purpose of the study, juvenile courts appear to be only moderately successful, with 8 out of 14 (57%) finding either Positive or Mixed Outcomes (see Discussion section).

As for purpose two of this study, the Research Designs used in juvenile drug courts were only moderately rigorous. None used the most rigorous design. Only four were at the next level of rigor (i.e., quasi-experimental design). Seven were moderately rigorous (i.e., nontreatment comparison group), and three were even less rigorous (i.e., pre-post assessment/cross-sectional comparison with control). Thus, 79% were at least moderately rigorous as being a level "3" or higher on our Research Design scale. This, however, was intentional, given that we sampled only juvenile drug court cases that were over a level 1. Thus, these data are only useful in as much as it represents how many more *rigorous* studies there are compared to other courts (since all rigorous studies are included for each court type).

Table 2 lists each juvenile drug court program included in the analysis. The Adversarial Process component included the use of intensive supervision and regular drug and alcohol testing. It was implemented in 13 of the 14 juvenile drug treatment courts (93%), with all 13 at a "high" level. Although the Adversarial Process component was very frequent, it was only moderately associated with success, as only 8 out of 13 (62%) had either Positive or Mixed Outcomes.

Therapeutic Jurisprudence components were also in each of the courts examined in the analysis (100%), all but two at a "high" level. This component was included through the use of substance abuse treatment, counseling, and increasing access to social services, similarly to adult courts. It was only moderately associated with success, as only 8 out of 14 (57%) had either Positive or Mixed Outcomes.

All 14 juvenile drug courts (100%) included the Procedural Justice component. The one-on-one contact between the judge and offenders that is synonymous with all types of drug treatment courts was routine in each of the juvenile drug treatment courts—similarly to adult courts. Despite its high frequency, this component was only moderately associated with success, as only 8 out of 14 (57%) had either Positive or Mixed Outcomes.

In half of the juvenile drug courts (50%), the Restorative Justice component—typically in the form of offender accountability—was included through the use of community service or victim restitution. This component was included at a "low"

Table 2 Summary of studies that evaluated the effectiveness of juvenile drug treatment courts

Evaluation author	Location	AP	TJ	PJ	RJ	OC	SS	Research design	Recidivism outcome(s)	Findings
O'Connell, Nestlerode, and Miller (1999) $n = 490$	Delaware Counties, DE	High	High	Yes	No	Yes	Yes	3	Positive	Drug treatment court participants were significantly less likely to have a new arrest than the comparison group at nine months of follow-up
Rodriguez and Webb (2004) $n = 318$	Maricopa County, AZ	High	Low	Yes	No	Yes	Yes	3	Positive	Drug treatment court participants were significantly less likely to have a subsequent incident of delinquency than comparison group
Thompson (2004) $n = 85$	Eastern Central Judicial District, ND	High	High	Yes	Low	Yes	No	2	Negative	No significant differences between the drug treatment court participants and comparison group in new arrests for class A misdemeanor or higher, new convictions for class A misdemeanor or higher, and new felony convictions; comparison group was significantly less likely to have a new arrest for a substance use violation than the drug treatment court participants
Thompson (2004) $n = 85$	Northeast Central Judicial District, ND	High	High	Yes	Low	Yes	No	2	Mixed	No significant differences between the drug treatment court participants and comparison group in new convictions for class A misdemeanor or higher, new felony convictions, and new arrests for a substance use violation; drug treatment court participants were significantly less likely to have a new arrest for class A misdemeanor or higher

Carey, Waller, and Marchand (2006) $n = 113$	Clackamas County, OR	High	High	Yes	No	Yes	Yes	3	Positive	Drug treatment court participants were significantly less likely to have a new referral or new arrest than the comparison group at fifteen months and twenty-four months after program entry
Crumpton, Carey, Mackin, Finigan, Pukstas, Weller, Linhares, and Brekhus (2006) $n = 195$	Hartford County, MD	High	High	Yes	No	Yes	Yes	3	Positive	Drug treatment court participants had significantly fewer new arrests and fewer days on probation than the comparison group
Anspach, Ferguson, and Phillips (2003) $n = 210$	Maine	High	High	Yes	No	Yes	Yes	4	Positive	Drug treatment court participants were significantly less likely to be arrested for any new offense, an alcohol or drug-related offense, and a violent offense than the comparison group
Searle and Spier (2006) $n = 982$	Christchurch, New Zealand	No	High	Yes	No	Yes	Yes	2	Neutral	No significant differences between the drug court participants and two comparison groups in rates of new offenses at six and twelve months of follow-up
Kralstein (2008) $n = 345$	Suffolk County, NY	High	High	Yes	Low	Yes	Yes	4	Neutral	No significant differences between the drug court participants and comparison group in rearrest rates

(continued)

Table 2 (continued)

Evaluation author	Location	AP	TJ	PJ	RJ	OC	SS	Research design	Recidivism outcome(s)	Findings
Mackin, Lucas, Lambarth, Waller, Herrera, Carey, and Finigan (2010a) *n* = 198	Anne Arundel County, MD	High	High	Yes	Low	Yes	Yes	3	Neutral	No significant differences between the drug court participants and comparison group in rearrest rates during the follow-up period
Mackin, Lucas, Lambarth, Waller, Herrera, Carey, and Finigan (2010b) *n* = 245	Baltimore County, MD	High	High	Yes	Low	Yes	Yes	3	Positive	Drug court participants were significantly less likely to be rearrested than the comparison group at six, twelve, eighteen, and twenty-four months of follow-up
Mackin, Lucas, Lambarth, Waller, Herrera, Carey, and Finigan (2010c) *n* = 100	St. Mary's County, MD	High	High	Yes	Low	Yes	Yes	3	Neutral	No significant differences between the drug court participants and comparison group in rearrest rates during the follow-up period

Picard-Fritsche and Kralstein (2012) $n = 147$	Nassau County, NY	High	High	Yes	No	Yes	Yes	4	Mixed	No significant differences between drug court participants and comparison group in rearrest rates up to two years after the case filing; drug treatment court participants were significantly less likely to have a rearrest for a violent charge than the comparison group up to two years after the case filing
Bolan Consulting (2016) $n = 390$	King County, WA	High	Low	Yes	Low	Yes	Yes	4	Neutral	No significant differences between drug court participants and comparison group in conviction rates after 18 months

AP adversarial process, *TJ* therapeutic jurisprudence, *PJ* procedural justice, *RJ* restorative justice, *OC* operant conditioning, *SS* social support
Research design = (1) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with no control variables, (2) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with control variables, (3) a nontreatment comparison group utilized and an adequate control of differences across the comparison group and treatment group through regression or matching, but important differences may remain, (4) quasi-experimental design that allows for the assumption that treatment is the only difference between the nontreatment comparison group and treatment group, (5) randomized controlled trial

level in all seven courts. It was not, however, strongly associated with success, as only 2 out of 7 (29%) had either Positive or Mixed Outcomes.

None of the courts used a Community Sentiment component.

In regards to the inclusion of psychological principles, the Operant Conditioning component was accounted for in each of the juvenile drug courts (100%) through the use of rewards and sanctions. This component was only moderately associated with success, as only 8 out of 14 (57%) had either Positive or Mixed Outcomes.

The Social Support component was implemented through the presence of family and/or peers. This often took the form of family counseling or group peer counseling. While the component was quite frequent (it was in 12 of the 14 (86%) evaluations), it was only somewhat associated with success, as 7 out of the 12 (58%) had either Positive or Mixed Outcomes.

Domestic Violence Courts

According to Labriola, Bradley, O'Sullivan, Rempel, and Moore (2009), there are more than 208 domestic violence courts operating in the United States. Internationally, estimates report more than 50 domestic violence courts in Canada (Quann, 2007) and 100 domestic violence courts in the United Kingdom (Crown Prosecution Service, , 2008). However, domestic violence courts have often lacked a set of common goals, policies, and practices across different jurisdictions (Cissner, Labriola, & Rempel, 2013; Labriola et al., 2009). Domestic violence courts have roots in the problem-solving court philosophy, but victim advocacy also played a role in their development. Therefore, while the vast majority of domestic violence courts report victim safety, offender accountability, and deterring future violence as "extremely important" goals, there is less agreement on the importance of rehabilitating offenders (Labriola et al., 2009). These differences are reflected in the analysis of their justice and psychological principles, as seen in Table 3 (which lists each of the studies included in the analysis).

Out of the 10 domestic violence courts analyzed, two did not report Recidivism Outcomes. Of the eight courts that did report, three reported Positive Recidivism Outcomes, and the remaining five had Mixed Recidivism Outcomes. For Victim-Oriented Outcomes, eight of the 10 evaluations reported Positive Outcomes, and two reported Mixed Outcomes. Thus, as to the first purpose of the study, domestic violence courts appear to be very successful, with all finding either Positive or Mixed Outcomes for both Recidivism and Victim-Oriented Outcomes.

When evaluating the rigor of the Research Designs, we found that domestic violence courts were most often evaluated using low-rigor designs. Three had the lowest level of rigor (pre-post assessment with no control). Two had the next lowest level (i.e., pre-post assessment with control), and five had the third least rigorous method (i.e., nontreatment comparison group with control). Thus, only 50% had a moderate level of rigor or higher (as scored by a "3" or higher on the SMS scale).

Four of the ten domestic violence courts implemented a low level of components of the traditional Adversarial Process, while another two reported a high level. Thus,

Table 3 Summary of studies that evaluated the effectiveness of domestic violence courts

Evaluation author	Location	AP	TJ	PJ	RJ	OC	Research design	Victim-oriented outcome(s)	Recidivism outcome(s)	Findings
Dawson and Dinovitzer (2001) $n = 474$	Toronto, Ontario	No	No	No	Med	No	2	Positive	Not reported	Victim cooperation most significant factor in prosecution going forward; victim cooperation significantly more likely with victim/witness assistance program or when videotaped statement provided
Gover, MacDonald, and Alpert (2003) $n = 400$	Lexington County, SC	Low	Low	Yes	High	Yes	3	Positive	Mixed	Majority victims rated experience as good or excellent; county domestic violence arrest rates significantly increased after domestic violence court established; domestic violence court participants were less likely to be rearrested than the comparison group during eighteen-month follow-up
Cook, Burton, Robinson, and Valley (2004) $n = 50$	Cardiff, United Kingdom	No	No	Yes	High	Yes	1	Positive	Positive	Victim satisfaction increased; number of victims refusing to make a complaint decreased; reduced case processing time; recidivism rates decreased for domestic violence court participants
Cook, Burton, Robinson, and Valley (2004) $n = 50$	West London, United Kingdom	No	Low	Yes	High	Yes	1	Positive	Not reported	Number of hearings reduced; reduced case processing time

(continued)

Table 3 (continued)

Evaluation author	Location	AP	TJ	PJ	RJ	OC	Research design	Victim-oriented outcome(s)	Recidivism outcome(s)	Findings
Cook, Burton, Robinson, and Valley (2004) $n = 50$	Wolverhampton, United Kingdom	No	No	Yes	High	Yes	1	Positive	Positive	Victim reporting rates increased; victims reported increased confidence and support; recidivism rates decreased for domestic violence court participants
Newmark et al. (2004) $n = 229$	Kings County, NY	High	Low	Yes	High	Yes	3	Mixed	Mixed	Increased prosecution rates for less serious cases; domestic violence court participants had significantly fewer new charges for nonviolent felonies than the comparison group; probation violation rates were comparable across the two groups; increased case processing times
Harrell, Newmark, Visher, and Yahner (2007) $n = 593$ victims $n = 197$ participants	Dorchester County, MA	High	Low	Yes	High	Yes	3	Mixed	Mixed	Increased contact between prosecution and victims; victims reported moderately high levels of safety and well-being; victims not more likely to contact victim services; domestic violence court participants more likely to attend BIP than the comparison group; no significant difference in rearrest rates between domestic violence court participants and comparison group

Harrell, Newmark, Visher, and Yahner (2007) *n* = 622	Milwaukee County, WI	Low	Low	Yes	High	Yes	2	Positive	Positive	Victims reported moderately high levels of safety and well-being; domestic violence court participants were less likely to be rearrested for domestic violence than the comparison group at twelve-month follow-up
Harrell, Newmark, Visher, and Yahner (2007) *n* = 441 victims *n* = 186 participants	Washtenaw County, MI	Low	Low	Yes	High	Yes	3	Positive	Mixed	Victims significantly more likely to contact victim services; increased contact between prosecution and victims; victims reported moderately high levels of safety and well-being; domestic violence court participants more likely to attend BIP than the comparison group; no significant differences in rearrest rates between the domestic violence court participants and comparison group
Tutty and Koshan (2013) *n* = 6407	Calgary, Alberta	Low	High	No	High	Yes	3	Positive	Mixed	Victims more likely to appear in court proceedings, domestic violence court participants significantly less likely to have new domestic violence charges filed than the comparison group; domestic violence court participants more likely to breach orders than the comparison group

AP adversarial process, *TJ* therapeutic jurisprudence, *PJ* procedural justice, *RJ* restorative justice, *OC* operant conditioning
Research design = (1) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with no control variables, (2) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with control variables, (3) a nontreatment comparison group utilized and an adequate control of differences across the comparison group and treatment group through regression or matching, but important differences may remain, (4) quasi-experimental design that allows for the assumption that treatment is the only difference between the nontreatment comparison group and treatment group, (5) randomized controlled trial

as to the third purpose of the study, we found that the component was somewhat frequent (60%). As to the fourth purpose, we found that this component was associated with success, as all of these courts had either Positive or Mixed Outcomes for both Recidivism and Victim-Oriented Outcomes.

In addition, mandatory batterer intervention programs (BIP) were commonly used as an element of the Therapeutic Jurisprudence component, while providing other forms of treatment or access to social services to the offenders was less common. This is likely a reflection of the lack of agreement in offering rehabilitative services to offenders in these courts. Six of the courts used a "low" level of Therapeutic Jurisprudence components, while another one used a "high" level. Overall, the component was frequent, as 7 out of the 10 (70%) courts used this component. All seven reported Victim-Oriented Outcomes and six of the seven reported Recidivism Outcomes. This component was associated with success, as all evaluations had either Positive or Mixed Outcomes for both Recidivism and Victim-Oriented Outcomes.

A Procedural Justice component is common in domestic violence courts in the form of one-on-one interaction between the judge and offender. The Procedural Justice component was frequent (8 out of 10 courts; 80%).Seven of those eight reported Recidivism Outcomes and all eight reported Victim-Oriented Outcomes. Additionally, this component was associated with success, as all had either Positive or Mixed Outcomes.

Use of a Restorative Justice component included victim advocacy and facilitating victim access to services such as housing referrals, counseling, and safety planning. While some domestic violence courts also focused on offender accountability, this was less common. Nine courts had a high level, while one had a medium level of Restorative Justice components (100% total). Eight reported Recidivism Outcomes and all 10 reported Victim-Oriented Outcomes. This component was associated with success, as all had either Positive or Mixed Outcomes for both Recidivism and Victim-Oriented Outcomes.

The Community Sentiment component was not found in any court.

An Operant Conditioning component was included in 9 out of the 10 courts (90%), in the form of rewards and sanctions for the offender during their program. Of those nine courts, eight reported Recidivism Outcomes and all reported Victim-Oriented Outcomes. The Operant Conditioning component was associated with success, as all had either Positive or Mixed Outcomes for both Recidivism and Victim-Oriented Outcomes.

The Social Support component was not found in any of the domestic violence courts.

Mental Health Treatment Courts

Mental health courts try to increase participants' access to mental health services such as counseling, case managers, and psychopharmacology. There are approximately 337 mental health treatment courts operating in the United States (Strong,

Rantala, & Kyckelhahn, 2016). Participants in mental health treatment courts are diverse in terms of the conditions and subsequent treatment needed.

All of the 13 mental health courts reported Recidivism Outcome, with six of the courts reporting Positive Outcomes (i.e., reductions in recidivism), one reporting a Neutral Outcome (e.g., no significant differences), and the remaining six reporting Mixed Outcomes. Ten of the studies reported Mental Health Outcome: eight Positive, one Negative, and one Neutral. Thus, as to the first purpose of the study, mental health courts appear to be successful, with 12 out of 13 (92%) finding either a Positive or Mixed Recidivism Outcome. Mental health courts appear to be somewhat successful in the Mental Health Outcome realm as well, with eight (80%) reporting Positive Mental Health Outcomes (Table 4).

The Research Designs of mental health courts varied greatly, with five using the least rigorous method, one using the most rigorous methods, and the others in between. Only 54% of the evaluations used a moderate or higher Research Design.

While offenders in mental health treatment courts are placed under intensive supervision, this was typically the only element of the traditional Adversarial Process component that was included in the courts, if it was included at all. Seven courts used a low level, and one used a high level of the Adversarial Process. Thus, as to the third purpose of the study, we found that the component was somewhat frequent (8 out of 13; 62%). As to the fourth purpose, we found that this component was associated with success, as all eight that used Adversarial Process components had either Positive or Mixed Recidivism Outcomes. For Mental Health Outcomes, only four courts using the Adversarial Process included Mental Health Outcomes in the assessment. Three of these four courts were associated with success for mental health as well, having either Positive or Mixed Mental Health Outcomes.

The Therapeutic Jurisprudence component included offering mandatory mental health treatment and increased access to social services like stable housing and healthcare. Eight incorporated a high level and the other five incorporated a low level of Therapeutic Jurisprudence. Thus, the component was very frequent (100%) and quite successful as well, as 12 out of 13 (92%) had either Positive or Mixed Recidivism Outcomes. This component was somewhat less associated with success for Mental Health Outcomes, as 8 of the 10 (80%) that reported such outcomes reported Positive Mental Health Outcomes.

The Procedural Justice component was included in all 13 courts analyzed (100%) in the form of the one-on-one interaction between judges and offenders. This component was associated with success, as 12 out of 13 (92%) had either Positive or Mixed Recidivism Outcomes. This component was associated with success for mental health as well. Out of the ten that reported Mental Health Outcomes, eight reported Positive Mental Health Outcomes.

There were no instances of the Restorative Justice component or the Community Sentiment component in any of the mental health courts.

In regards to psychological principles, the Operant Conditioning component was present in most of the courts in the form of rewards and sanctions: 9 out of the 13 (69%). Further, we found that this component was associated with success, as 8 out of the 9 (89%) had either Positive or Mixed Recidivism Outcomes. This component

Table 4 Summary of studies that evaluated the effectiveness of mental health courts

Evaluation author	Location	AP	TJ	PJ	OC	Research design	Mental health outcome(s)	Recidivism outcome(s)	Findings
Trupin and Richards (2003) $n = 77$	King County, WA	No	High	Yes	No	3	Positive	Mixed	Mental health court participants had increased mental health treatment referrals, increased mental health treatment hours, decreased booking rate, and improved functioning after entering the program; mean charge severity for new offenses increased for comparison group but not for mental health court participants; mental health court participants and comparison group both had an increased length of stay in jail
Trupin and Richards (2003) $n = 147$	Seattle, WA	No	High	Yes	No	2	Positive	Mixed	Mental health court participants had increased treatment referrals, but a significant increased length of stay in jail after entering the program; mental health court participants had significant decrease in booking rate but not for comparison group
Teller, Ritter, Salupo Rodriguez, Munetz, and Gil (2004) $n = 87$	Akron, OH	Low	High	Yes	Yes	1	Positive	Mixed	Mental health court participants had their number of hospitalizations decrease over time after entering the program; mental health court participants more likely to spend time in jail after enrolled, but rates decreased as program progressed

Boothroyd, Mercado, Poythress, Christy, and Petrila (2005) $n = 121$ Christy, Poythress, Boothroyd, Petrila, and Mehra (2005) $n = 211$	Broward County, FL	No	High	Yes	No	3	Neutral	Mixed	Mental health court participants had no significant changes in symptoms and self-reported aggressive and violent behavior; mental health court participants spent significantly fewer days in jail than the comparison group; no differences in likelihood of arrest, median number of arrests, and time from release to rearrest between the mental health court participants and the comparison group
Cosden, Ellens, Schnell, and Yamini-Diouf (2005) $n = 235$	Unidentified	Low	High	Yes	Yes	5	Positive	Mixed	Mental health court participants had significant reduction in psychological distress and substance abuse and greater improvement in their quality of life when compared to nonparticipants; small percentage of mental health court participants had increased involvement in criminal activity, but most had a reduction in days in jail when compared to nonparticipants
Herinckx, Swart, Ama, Dolezal, and King (2005) $n = 368$	Clark County, WA	No	Low	Yes	Yes	1	Positive	Positive	Mental health court participants received more hours of case management and medication management, had fewer days of inpatient treatment, had more days of outpatient treatment and fewer hours of crisis services after enrollment; mental health court participants significantly reduced their number of arrests and number of probation violations after enrollment

(continued)

Table 4 (continued)

Evaluation author	Location	AP	TJ	PJ	OC	Research design	Mental health outcome(s)	Recidivism outcome(s)	Findings
Eckberg (2006) *n* = 191	Hennepin County, MN	Low	Low	Yes	Yes	1	Negative	Mixed	Mental health court participants had more visits to the ER after enrollment; mental health court participants had significantly lower number of convictions, but did not have significantly lower number of new charges after enrollment
Moore and Hiday (2006) *n* = 265	Southeastern U.S.	Low	High	Yes	Yes	2	Not reported	Positive	Mental health court participants had a rearrest rate about half of the comparison group; mental health court participants had less severe rearrests when compared to nonparticipants
O'Keefe (2006) *n* = 37	Kings County, NY	No	High	Yes	Yes	1	Positive	Neutral	Mental health court participants had fewer hospitalizations and significantly improved their cognition, depressed moods, and living conditions after enrollment; no significant difference in recidivism or homelessness for mental health court participants

Evaluation Author	Location	AP	TJ	PJ	RJ	OC	Research design	Mental health outcome(s)	Recidivism outcome	Findings
McNiel and Binder (2007) *n* = 340	San Francisco, CA	Low	Low	Yes	No	Yes	4	Not reported	Positive	Mental health court participants remained in community for a longer period without any new charges and without any new violent crime charges when compared to nonparticipants
Ferguson, Hornby, and Zeller (2008) *n* = 436	Anchorage, AK	Low	Low	Yes	No	Yes	3	Positive	Positive	Mental health court participants had fewer psychiatric hospital visits when compared to nonparticipants; mental health court participants were less likely to commit new felonies, violent crimes, and drug-Norelated crime when compared to nonparticipants; mental health court participants had longer times between release and recidivism and fewer incarcerations when compared to nonparticipants
Frailing (2010) *n* = 364	Washoe County, NV	High	High	Yes	No	Yes	1	Positive	Positive	Mental health court participants spent fewer days in the hospital in the year after graduation when compared to nonparticipants; mental health court participants reduced their positive drug and alcohol tests when compared to nonparticipants; mental health court participants served significantly fewer days in jail during enrollment and after graduation when compared to nonparticipants
Hiday, Wales, and Ray (2013) *n* = 1095	District of Columbia	Low	Low	Yes	No	No	3	Not reported	Positive	Mental health court participants were significantly less likely to be arrested, had fewer arrests on average, and had longer time until recidivism when compared to nonparticipants

AP adversarial process, *TJ* therapeutic jurisprudence, *PJ* procedural justice, *RJ* restorative justice, *OC* operant conditioning
Note: Rows with two citations indicate that the same court program was evaluated twice and published separately. We consider this one "evaluation"
Research design = (1) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with no control variables, (2) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with control variables, (3) a nontreatment comparison group utilized and an adequate control of differences across the comparison group and treatment group through regression or matching, but important differences may remain, (4) quasi-experimental design that allows for the assumption that treatment is the only difference between the nontreatment comparison group and treatment group, (5) randomized controlled trial

was associated with success for mental health as well. Out of the 9, seven reported Mental Health Outcomes, and six had Positive Mental Health Outcomes.

There was no inclusion of the Social Support component in any court.

Veterans Courts

There are over 400 veterans treatment courts in the United States (Tsai, Finlay, Flatley, Kasprow, & Clark, 2018). Approximately 1.5 million members of the U.S. military served in or around active combat in Iraq and Afghanistan and that 300,000 of these veterans suffer from traumatic brain injury (TBI), post-traumatic stress disorder (PTSD), substance abuse, and/or mental health disorders (Hawkins, 2009–2010). Studies also estimate that more than 700,000 veterans are in the correctional system (McCaffrey, 2013; Mumola & Noonan, 2008), resulting in the creation of such courts to treat a combination of needs, including treatment for substance abuse, mental health symptoms, sexual trauma, and psychological issues (Douds, Ahlin, Howard, & Stigerwalt, 2017).

Despite the high number of veterans courts, only four evaluations could be found that fit the inclusion criteria for this study. As to the first purpose of this study, three of the four veterans courts analyzed reported Positive Recidivism Outcomes, while the other had a Negative Recidivism Outcome. Two of the studies reported Mental Health Outcomes: one had Mixed and one had Positive Outcomes. Thus, the courts seem fairly successful, albeit with a small sample size.

Three out of four evaluations used the lowest-rigor Research Designs (pre-post comparison with no control). The other used a moderate rigor Research Design (i.e., nontreatment comparison group with control).

The adversarial process was incorporated into three of the four veterans courts (2 "low" and 1 "high"; 75% total) through the use of intensive supervision, and one of the four courts incorporated the additional component of drug testing. Thus, as to the third purpose of the study, the Adversarial Process component was used frequently (75%). As to the fourth purpose, this component was associated with success, as all three (100%) had Positive Recidivism Outcomes. Similarly, two evaluations reported Mental Health Outcomes, one with Mixed and one with Positive Outcomes (Table 5).

A high degree of the Therapeutic Jurisprudence component was incorporated into all four veterans courts (100%) through the use of mandatory substance abuse treatment and/or mental health treatment and through improving access to education, employment, housing, and social services for participants. The component was moderately successful, as 3 out of the 4 (75%) had Positive Recidivism Outcomes. Similarly, two evaluations that used therapeutic jurisprudence components reported Mental Health Outcomes: one with Mixed and one with Positive Outcomes.

Procedural Justice was included in veterans courts in the form of the one-on-one interaction between judges and offenders for all courts analyzed (100%). Further, the Procedural Justice component was associated with success, as 3 out of the 4

Table 5 Summary of studies that evaluated effectiveness of veterans treatment courts

Evaluation author	Location	AP	TJ	PJ	OC	SS	Research design	Mental health outcome(s)	Recidivism outcome(s)	Findings
Smith (2012) $n = 133$	Anchorage, AK	No	High	Yes	Yes	No	1	Not reported	Negative	Over three-year follow-up period, 45% of veteran treatment court graduates reoffended, 31% of failed veteran treatment court participants reoffended, and 41% of opt-outs from the veteran treatment court participants reoffended
Slattery, Tascha-Dugger, Lamb, and Williams (2013) $n = 83$	Colorado Springs, CO	High	High	Yes	No	Yes	1	Mixed	Positive	Veteran treatment court participants significantly decreased their clinical level PTSD symptoms, severity of PTSD symptoms, and alcohol use and drug use after enrollment; veteran treatment court participants had significant improvement in social functioning, but not in relationships or psychosis; ten veteran treatment court graduates had no new charges one year after graduation
Knudsen and Wingenfeld (2014) $n = 86$	Large Midwestern City	Low	High	Yes	Yes	Yes	1	Positive	Positive	Veteran treatment court participants had significant decreases in PTSD symptoms, significant improvements in recovery orientation, sleep, family relations, substance abuse, depression, emotional well-being, self-harm, overall energy, social connectedness, social functioning, emotional limitations, relationships, and general health; nine veteran treatment court participants out of eighty-six were rearrested at twelve months

(continued)

Table 5 (continued)

Evaluation author	Location	AP	TJ	PJ	OC	SS	Research design	Mental health outcome(s)	Recidivism outcome(s)	Findings
Hartley and Baldwin (2016) $n = 285$	Large Urban County	Low	High	Yes	Yes	No	3	Not reported	Positive	Mental health court participants were significantly less likely to be rearrested than the comparison group up to thirty-six months after beginning program

AP adversarial process, *TJ* therapeutic jurisprudence, *PJ* procedural justice, *OC* operant conditioning, *SS* social support
Research design = (1) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with no control variables, (2) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with control variables, (3) a nontreatment comparison group utilized and an adequate control of differences across the comparison group and treatment group through regression or matching, but important differences may remain, (4) quasi-experimental design that allows for the assumption that treatment is the only difference between the nontreatment comparison group and treatment group, (5) randomized controlled trial

(75%) had Positive Outcomes. Two evaluations that used this component reported Mental Health Outcomes, one with Mixed and one with Positive Outcomes.

The Restorative Justice and Community Sentiment components were not included in the programming of any veterans court.

The Operant Conditioning component, in the form of rewards and sanctions, was used in three of the four courts in the analysis (75%). This component was somewhat less associated with success, as two out of the three (67%) had either Positive or Mixed Outcomes. Only one evaluation that used operant conditioning reported a Mental Health Outcome; it was a Positive Outcome.

The Social Support component was incorporated into two of the four (50%) veterans courts through the involvement of a mentor who has also served in the military (Russell, 2009). The mentor is a volunteer who has experience with mental health issues and the criminal justice system and can provide the participants with guidance and encouragement. The Social Support component was associated with success, as both courts had Positive Recidivism Outcomes; 1 also had Mixed and 1 had Positive Mental Health Outcomes.

Community Courts

There are roughly 37 community courts in the United States (Lang, 2011). Such courts aim to develop a working relationship with the local community to understand and target the concerns of those living in the neighborhood. Community courts have a much lower level of intensity compared to other types of problem-solving courts; therefore, there are some clear differences between community courts and other courts regarding their use of justice and psychological principles, as seen in Table 6.

All of the five evaluations of community court programs reported Positive Recidivism Outcomes. All three of the evaluations that reported Community Outcomes reported Positive Outcomes. Thus, as to the first purpose of the study, the courts appear to be successful.

As to the second purpose of the study, the Research Designs varied. Two were at the moderately low level of rigor (i.e., pre-post test with control), two were at a moderate level (i.e., nontreatment groups with control, and one at the moderately high level (i.e., quasi-experimental).

All but one of the community courts (80%) examined incorporated the Adversarial Process component, including using intensive supervision and payment of fines. However, these community courts included fewer aspects of the adversarial process compared to other types of problem-solving courts. This is partly a reflection of the less serious nature of the offenses being addressed by these courts. This component was associated with success, as all four (100%) had Positive Recidivism Outcomes. Three of the four reported Community Outcomes; all three were Positive Outcomes.

Therapeutic Jurisprudence components were also included in each of the community courts (100%), such as increasing access to social services, housing,

Table 6 Summary of studies that evaluated effectiveness of community courts

Evaluation author	Location	AP	TJ	PJ	RJ	CS	OC	Research design	Community outcome(s)	Recidivism outcome(s)	Findings
Eckberg (2001) *n* = 405 community members *n* = 133 participants and nonparticipants	Hennepin County, MN	Low	Low	Yes	High	Yes	Yes	2	Positive	Positive	Community members reported higher perceptions of safety in their community; community court participants had increased compliance with community service when compared with nonparticipants
Sviridoff et al. (2001) *n* = 562 community members	Midtown Community Court, NY	Low	High	Yes	Med	Yes	Yes	2	Positive	Positive	Community members reported overall improvement in quality of life; arrests for non-felony offenses decreased in the Midtown Community Court jurisdiction compared to other jurisdictions; community court participants more likely to complete their community service compared to nonparticipants
Katz (2009) *n* = 22,753	Bronx, NY	Low	High	Yes	Med	Yes	Yes	3	Not reported	Positive	Community court participants had an increased use of alternative sanctions, reduced number of jail sentences, and reduced number of days served in jail when compared to nonparticipants

Ross et al. (2009) $n = 300$	Yarra, Melbourne, Australia	No	High	Yes	High	Yes	Yes	3	Not reported	Positive	Community court participants had reductions in residential burglaries, commercial burglaries, and motor vehicle thefts when compared to nonparticipants; community court participants had reductions in new convictions, increased compliance with community service, and completed more hours of community service when compared to nonparticipants
Lee et al. (2013) $n = 3127$ participants and nonparticipants Moore (2004) $n = 1169$ community members	Red Hook Community Justice Center	Low	High	Yes	Med	Yes	Yes	4	Positive	Positive	Community members reported increased perceptions of safety, approval of criminal justice agencies, and the community court; community court participants were more likely to have alternative sanctions and less likely to have sentence to jail when compared to nonparticipants; community court participants were significantly less likely to commit a new offense when compared to nonparticipants; decreases in misdemeanor and felony arrests in the court jurisdictions

AP adversarial process, *TJ* therapeutic jurisprudence, *PJ* procedural justice, *RJ* restorative justice, *CS* community sentiment, *OC* operant conditioning
Note: Rows with two citations indicate that the same court program was evaluated twice and published separately. We consider this one "evaluation"
Research design = (1) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with no control variables, (2) a pre-and-post assessment of treatment group or cross-sectional comparison of treatment group and nontreatment group with control variables, (3) a nontreatment comparison group utilized and an adequate control of differences across the comparison group and treatment group through regression or matching, but important differences may remain, (4) quasi-experimental design that allows for the assumption that treatment is the only difference between the nontreatment comparison group and treatment group, (5) randomized controlled trial

healthcare, mental health treatment, substance abuse treatment, and education or vocational training. Four courts were at the high level and one at the low level. Additionally, this component was associated with success, as all five (100%) had Positive Outcomes. Similarly, three of the five reported Community Outcomes; all three were Positive Outcomes.

Procedural justice was also present in each of the community courts through the inclusion of the one-on-one interaction between the judge and the offender. The component was associated with success, as all (100%) had Positive Recidivism Outcomes and the three that reported Community Outcomes all reported Positive Outcomes.

The Restorative Justice component was implemented in 100% of community courts through the use of community service, restitution to victims, and victim–offender mediation. As to the third purpose of the study, we found that the component was very frequent (100%), with two at the high level and three at the medium level. As to the fourth purpose, we found that this component was associated with success, as all five (100%) had Positive Recidivism Outcomes. Similarly, three of the five reported Community Outcomes; all three were Positive Outcomes.

All five community courts included Community Sentiment components. Since community courts want to improve the quality of life in the neighborhoods surrounding them, they work closely with members of the community to ensure their concerns are being addressed. This often took the form of citizen surveys, town-hall meetings, and door-to-door canvassing of residents and businesses. This component was associated with success, as all five (100%) had Positive Recidivism Outcomes and the three that reported Community Outcomes all reported Positive Outcomes.

As with other courts, the Operant Conditioning component was incorporated through the use of rewards and sanctions for the offender's behavior, but another unique component of community courts was their focus on using community service to achieve restorative justice. Many of the offenders in community courts were sentenced to hours of community service to serve the specific requests of those living in the area as opposed to spending time in jail as their punishment. All five courts included Operant Condition components (100%), and all five (100%) had Positive Outcomes. All three that reported Community Outcomes reported Positive Outcomes.

Social Support was not used in any of the five community courts.

Family Dependency Treatment Courts

Evaluations of family dependency treatment courts are not as common as other types of problem-solving courts; therefore, there was no analysis completed for these courts. However, a few general observations can be made. Family dependency treatment courts serve parents who experience alcohol and/or substance abuse and who are also involved in civil child abuse or neglect proceedings (Ashford, 2004). Similar to adult drug treatment courts, such courts combine the typical Adversarial

Process, Therapeutic Jurisprudence, Procedural Justice, and Operant Conditioning components to assist offenders. In regards to the Therapeutic Jurisprudence component, such courts not only provide substance abuse treatment to parents, but they also provide parenting skills and coping skills that promote future stability to the family unit.

Evaluations show promising outcomes for family dependency treatment courts. A four-year, quasi-experimental study of four family dependency treatment courts evaluated the effectiveness of the program by comparing outcomes to nonparticipants (Green, Furrer, Worcel, Burrus, & Finigan, 2007). Three out of the four courts reported that parents in the program attended twice as many treatment sessions and were twice as likely to successfully complete the program when compared to nonparticipants. In addition, the study found that within these three courts, children were significantly more likely to be reunited with their families (Green et al., 2007). Another set of studies found similar results among parents participating in family dependency treatment courts and also found that such parents had significantly fewer criminal arrests over a 4-year period when compared to nonparticipants (Carey, Sanders, Waller, Burrus, & Aborn, 2010a; Carey, Sanders, Waller, Burrus, & Aborn, 2010b). Lastly, a study found that a family dependency treatment court resulted in a 58% reduction in foster care costs for the county (Crumpton, Worcel, & Finigan, 2003). While such results are promising for the future of family dependency treatment courts, more research is necessary to determine the consistency of such findings and other outcome measures.

DUI/DWI Courts

The creation of DUI/DWI courts was a response to promising results of drug treatment courts and a desire to apply similar procedures and practices to another population of offenders with similar needs. Their purpose is to assist and treat offenders who are experiencing alcohol abuse and who have been charged with driving while intoxicated—often multiple times (Huddleston & Marlowe, 2011). As of 2012, there were 183 DUI/DWI courts operating in the United States (Strong et al., 2016). There is also a collection of drug and DUI/DWI hybrid courts that accept both drug and DWI offenders (Cavanaugh & Franklin, 2012).

DUI/DWI courts resemble drug treatment courts. Elements of the traditional Adversarial Process were retained in the form of intensive supervision and drug and alcohol testing. Therapeutic Jurisprudence took the form of mandatory outpatient alcohol treatment and counseling, as well as mandatory attendance at Alcoholics Anonymous for an element of Social Support.

There is limited research on the effectiveness of DUI/DWI courts; however, there are a few evaluations with promising results. An evaluation of four DWI courts in Idaho found that offenders in the program had significantly lower rates of new convictions when compared to offenders who were eligible to participate but opted out of the program (Ronan et al., 2009). Furthermore, if DWI court offenders were

charged with a new offense, they were less likely to be charged with a serious offense or multiple offenses when compared to the other offenders not receiving treatment. However, several other studies of DUI/DWI courts have failed to find any significant differences in recidivism rates between participants and nonparticipants (Bouffard & Richardson, 2007; Bouffard, Richardson, & Franklin, 2010; Cavanaugh & Franklin, 2012; MacDonald, Morral, Raymond, & Eibner, 2007). The lack of promising findings of reduced recidivism rates for DUI/DWI courts might have hindered their development in other jurisdictions.

Reentry Courts

Reentry courts are another more recent innovation in problem-solving courts; therefore, there are fewer courts in existence compared to other types of courts and little evaluation of their effectiveness. Reentry courts address another important population of offenders in the criminal justice system: the approximately 870,500 people under parole supervision across the United States (Kaeble & Cowhig, 2016). Many of these offenders experience alcohol and substance abuse, mental illness, a lack of educational or vocational training, unemployment, poverty, and lack of access to social services (Wolf, 2011). Due to the needs of the parolee population and the previous lack of assistance provided to them upon reentering their communities, recidivism rates are high. In order to reduce recidivism among this group, reentry courts offer services similar to those of other problem-solving courts. Often, the difference is only one of timing. Whereas most problem-solving courts offer services in lieu of prison time, reentry courts offer services after the offender has served some of his prison sentence. Both types of court have the consequence of the offender going to (or back to) prison if they fail to complete the court program. Many reentry court programs are open to a wide variety of offenders who are being released; others are designed only for those who have re-offended after release.

Reentry courts assist parolees with their reentry into the community by helping them to find employment, housing, and treatment services. Such services improve their overall functioning, using multiple elements of therapeutic jurisprudence in their programming (Hamilton, 2016). However, the Adversarial Process component of the intensive supervision of offenders is a major component of reentry courts, since the offender population is still under parole supervision. Components of Procedural Justice and the use of graduated sanctions and rewards (Operant Conditioning) are also included in such courts.

The most extensive evaluation of a reentry court was conducted by the Center for Court Innovation on the Harlem Parole Reentry Court (Hamilton, Hsieh, Campagna, Abboud, & Koslicki, 2016). Participants in the reentry court were significantly less likely to be rearrested for misdemeanors during their first year and for drug-related offenses during their first 2 years. These participants were also significantly less likely to be re-convicted compared to nonparticipants. However, due to the intensity of supervision in the court, participants were also more likely to have their parole

revoked and be returned to incarceration (Hamilton, 2016). In addition, the study found that participants who began the program with a high school diploma or GED, prior drug treatment, prior experience on parole, and marriage or cohabitation were more likely to successfully complete the reentry court program.

As this review indicates, there are many evaluations of the various types of problem-solving courts. The evaluations vary in their rigor and outcome measures, but all have the same goal: to assess whether these courts are working. The courts themselves differ in the components they use; this allows for the discussion of whether some components contribute more toward a court's success than other components. Such discussion is provided next.

Discussion

Using only the six types of courts which could be analyzed, some general conclusions can be drawn to address the general purposes of this study. The first purpose of this analysis was to assess how many of these courts were successful. "Success" was operationalized as either Positive or Mixed Recidivism Outcomes. Recidivism was chosen because it was the only measure that was common among all courts (e.g., Mental Health Outcomes were only measured in two types of courts). The overall average success rate for all courts was 82%. Success rates for individual courts ranged from 57% (juvenile drug courts) to 100% (community courts and domestic violence courts; see Table 7). However, this conclusion should be taken with caution because comparing two types of courts is a bit like comparing apples and oranges. Each type of court has different purposes, samples, research designs, and components. Our own sampling procedures were different for different types of courts (i.e., we could not feasibly include all adult drug court evaluations, so we included only the 21 most rigorous. Yet, we included all of the four existing veterans courts' evaluations). These and other limitations are discussed below. Despite these limitations, the overall take-home message is that these courts seem to be successful by the measures chosen in the evaluations and this study. Further research is needed, however to determine how the less-successful courts (e.g., juvenile drug courts) might be changed to become more successful, perhaps by adopting the more successful components studied here. For instance, the juvenile drug courts might consider incorporating more components of Restorative Justice. This was infrequently used in juvenile courts—yet when it was used in *adult* courts, it was very successful.

The second purpose was to determine the level of rigor of each court type evaluation. Adult drug court evaluations were all at least moderately rigorous, but this is because the great number of existing evaluations required us to limit our sampling to only rigorous evaluations. Thus, the percentage is less important than the absolute value. Even so, the finding that there were 21 rigorous evaluations suggests that adult drug courts are being evaluated at a very high rate and in a very sophisticated manner. In contrast, there is only one (out of four) rigorous evaluation of veterans courts and three (out of five) rigorous evaluations of community courts. While we limited the sample for juvenile and adult drug courts (because there were so many),

Table 7 Comparison of recidivism success rate across type of problem-solving courts

	Overall recidivism success rate	AP Total used (Success rate)	TJ Total used (Success rate)	PJ Total used (Success rate)	RJ Total used (Success rate)	CS Total used (Success rate)	OC Total used (Success rate)	SS Total used (Success rate)
Adult drug treatment courts	17/21; 81%	21/21; 100% (17/21; 81%)	21/21; 100% (17/21; 81%)	21/21; 100% (17/21; 81%)	6/21; 29% (6/6; 100%)	0/21; 0%	20/21; 95% (16/20; 76%)	8/21; 38% (7/8; 88%)
Juvenile drug treatment courts	8/14; 57%	13/14; 93% (8/13; 62%)	14/14; 100% (8/14; 57%)	14/14; 100% (8/14; 57%)	7/14; 50% (2/7; 29%)	0/14; 0%	14/14; 100% (8/14; 57%)	12/14; 86% (7/12; 58%)
Domestic violence courts	8/8; 100%	6/10; 60% (6/6; 100%)	7/10; 70% (7/7; 100%)	8/10; 80% (7/7; 100%)	10/10; 100% (8/8; 100%)	0/10; 0%	9/10; 90% (8/8; 100%)	0/10; 0%
Mental health treatment courts	12/13; 92%	8/13; 62% (8/8; 100%)	13/13; 100% (12/13; 92%)	13/13; 100% (12/13; 92%)	0/13; 0%	0/13; 0%	9/13; 69% (8/9; 89%)	0/13; 0%
Veterans treatment courts	3/4; 75%	3/4; 75% (3/3; 100%)	4/4; 100% (3/4; 75%)	4/4; 100% (3/4; 75%)	0/4; 0%	0/4; 0%	3/4; 75% (2/3; 67%)	2/4; 50% (2/2; 100%)
Community courts	5/5; 100%	4/5; 80% (4/4; 100%)	5/5; 100% (5/5; 100%)	5/5; 100% (5/5; 100%)	5/5; 100% (5/5; 100%)	5/5; 100% (5/5; 100%)	5/5; 100% (5/5; 100%)	0/5; 0%
Average success rate	53/65; 82%	46/55; 84%	52/64; 81%	52/64; 81%	21/26; 81%	5/5; 100%	47/60; 78%	16/22; 73%

Note: Success is defined as having Positive or Mixed Recidivism Outcomes
Note: Includes courts with both "high" and "low" amount of this component

we included every available evaluation for four types of courts: domestic violence, mental health, veterans, community. None of these types had more than ten or more than 54% rigorous evaluations. Three types of courts (DWI, reentry, and family) did not even have enough evaluations to make any meaningful analysis. This indicates that some types of courts (adult and juvenile drug courts) are being frequently and rigorously evaluated—but the other courts are not.

The third purpose was to determine how frequently each type of court uses the program components (e.g., various justice and psychological principles such as Procedural Justice and Operant Conditioning) discussed above. The most commonly used component was Procedural Justice, which was used in all courts except 20% of the domestic violence courts. The second most used component was Therapeutic Jurisprudence, which was used in all of the courts of each type except for domestic violence courts (which had a 70% rate). The least commonly used component was Community Sentiment, which was only used in community courts.

The fourth purpose of the analysis was to assess the proportion of courts that were successful, broken down by program components (e.g., the success rate for the courts that used Procedural Justice components). This can help guide courts as to what components they should include or avoid. The component with the highest success rates was the Community Sentiment component. But, because this was used in only one type of court, this is not an accurate comparison to other components. Other types of courts could, however, consider using this component—and evaluate whether it increases the success of their court. The next most successful component was the Adversarial Process component, followed by Therapeutic Jurisprudence and Procedural Justice. All three were used frequently in almost every court type. Thus, if one general conclusion can be made, it would be that these components are the ones that should be included in problem-solving courts. However, because of the inherent differences in types of courts, care should be taken to determine that each component is actually beneficial in any particular court—hence the importance of evaluation. Simply put, components that "work" in one type of court might not work in a different court. The least successful component was Social Support, but only half of the types of courts used Social Support components at all. This is not to say that problem-solving courts should not use social support components, but merely that they should carefully evaluate whether such efforts are actually beneficial. The sections below address the findings related to each justice and psychological component, across all types of courts.

Adversarial Process

In reviewing each type of problem-solving court, it is evident that elements of the Adversarial Process found in traditional criminal courts have found their way into problem-solving courts frequently. Many of the problem-solving courts utilized intensive supervision through probation and parole services to monitor program participants, and therefore most of the courts that were analyzed ranked at least a "low" on the adversarial component. This presents some difficulty in determining

what impact the adversarial process component might have on outcomes compared to a traditional court (which has *primarily* adversarial processes)—because there were so few courts that had no adversarial components. Thus, it is difficult to make recommendations as to whether courts should include this component.

Due to very small sample sizes, it is not possible to determine whether courts with a "high" amount of Adversarial Process were more successful than those with a "low" amount or none at all. However, a casual observation is that the Adversarial Process was *least* successful in adult and juvenile drug courts—two courts with very large proportion of "high" use of Adversarial Process. But, of course, there are many differences between drug courts and other courts (in addition to their differential use of the Adversarial Process) that could account for that observation. Thus, any suggestion that "low" amounts are more preferable is tenuous at best.

Indeed, there is reason to believe that more Adversarial Process is actually better than less. For both adult and juvenile courts, the adversarial component was consistently ranked as high due to the use of alcohol and drug testing, in addition to the typical elements found in low-ranking courts. The other types of problem-solving courts had more variation in the adversarial component, because addressing substance abuse was not always the main goal or purpose of the program. Research suggests that drug testing can have positive outcomes for participants when used within a drug treatment court. For example, within an adult drug treatment court, an increase in the number of days of drug testing reduced the frequency of participants using multiple drugs (Gottfredson, Kearley, Najaka, & Rocha, 2007). It is possible that participants with substance abuse issues in other types of problem-solving courts (e.g., domestic violence courts, mental health treatment courts, and veterans courts) could benefit from the use of drug and alcohol testing—that is, greater Adversarial Process. Despite the difficulties isolating the effects of the Adversarial Process component, the finding that this component was the second most successful of all the components analyzed, at an 84% success rate (behind community sentiment, which had a very low sample size), merits the suggestion that this component be regularly included in courts.

Therapeutic Jurisprudence

The implementation of components of Therapeutic Jurisprudence was consistent across all types of problem-solving courts included in the analysis—except domestic violence courts. When a therapeutic component was included in those courts, it was typically in the form of a mandatory batterer intervention program. Two evaluations found that the domestic violence court participants were significantly more likely to attend such programming compared to their control groups who were not in a special court (Harrell et al., 2007). In the one domestic violence court that did include multiple elements of Therapeutic Jurisprudence for the offenders, the Recidivism Outcomes were Mixed (Tutty & Koshan, 2013.). On one hand, the participants were significantly less likely to have new charges of domestic violence compared to the control group, but they were also more likely to breach court orders.

For all the other types of courts, the Therapeutic Jurisprudence component was found in every court that was evaluated. This is hardly surprising, given that Therapeutic Jurisprudence and its concepts were the foundation of many of the early problem-solving courts (Wexler, 2000; Winick, 2013). Success rates for all court types that used this component was fairly high at 81%, which would be no surprise for those who believe that rehabilitation and other therapeutic approaches are better than punishment-only approaches at reducing recidivism (Haney, 2020). Even so, it is difficult to know what this number means, because there are so few courts that did *not* use the component (and all of those were domestic violence courts) that any comparison is of little meaning. Even so, it seems that Therapeutic Jurisprudence principles are valuable components of problem-solving courts and thus should be included.

Procedural Justice

The implementation of Procedural Justice components was consistent across all types of problem-solving courts; therefore, it is difficult to make inferences about the relationship between procedural justice and the outcomes of those courts based on the analysis alone. However, results from a few studies support the notion that Procedural Justice components likely relate to successful court outcomes (e.g., reduced recidivism), as would be predicted by the general Procedural Justice principles (Hinds & Murphy, 2007; Lind & Tyler, 1988; Thibaut & Walker, 1975; Tyler, 2004). Thus, including procedural justice in problem-solving courts is likely warranted.

Three separate studies of three different types of courts all found that Procedural Justice relates to increased satisfaction with court outcomes and processes. Gover, Brank, and MacDonald et al. (2007) interviewed victims and offenders in a domestic violence court. Both groups reported they had their voices heard throughout the process and were treated with respect, which was related to increased satisfaction with their case outcomes and the court itself. Similar positive results were found (although with different dependent variables) for mental health treatment court participants (Poythress, Petrila, McGaha, & Boothroyd, 2002) and drug court participants (McIvor, 2009). Therefore, evidence exists from evaluations of three different types of problem-solving courts that they can achieve the desired outcomes of procedural justice—and promote the success of a court.

While perceptions of the court process are important, perhaps more important are the actual behavioral outcomes (e.g., recidivism). Two studies have found that the use of procedural justice can have mediating effects on participant outcomes in two different types of problem-solving courts. First, a study conducted by Gottfredson and colleagues (2007) found that incorporating elements of procedural justice in an adult drug treatment court-mediated reductions in drug use and recidivism. Participation in the drug court increased the number of judicial hearings, which is the source of that one-on-one interaction between the judge and the offender that defines procedural justice. This increase in the number of judicial

hearings increased perceptions of procedural justice, which was then related to a reduction in the variety of new offenses committed by the participants (Gottfredson et al., 2007). Similar results were found in an evaluation of a mental health court (although using different dependent variables; Redlich & Han, 2014). These examples, and our analysis, suggest that including procedural justice components would be a positive addition to a problem-solving court.

Restorative Justice

The implementation of restorative justice components was not as common compared to the other justice principles. It was never used in mental health or veterans courts and was used in 50% or fewer of the two types of drug courts. In contrast, it was used in *all* community courts and domestic violence courts. When it was used, it achieved an 81% success rate. In domestic violence court evaluations, there was significantly increased victim reporting and participation; significantly improved victim's ratings of safety, confidence, and support; and increased satisfaction. In community courts, participants were significantly more likely to complete community service hours than comparison groups, spent fewer days in jail, were less likely to commit a new offense, and were less likely to receive a new conviction (Eckberg, 2001; Ross, Halsey, Bamford, Cameron, & King, 2009; Sviridoff et al., 2002). The community court and domestic violence court evaluations—all of which included Restorative Justice components—provide some evidence that restorative justice might be contributing to court success and thus courts should consider including them.

In comparison, even though participants in drug treatment courts, mental health treatment courts, and veterans treatment courts also have committed crimes that affect their community, there appears to be less focus on having these participants pay back the community for their actions. Instead, there is more focus on encouraging these offenders to work on their substance abuse problems, mental health, and personal well-being. This lack of restorative justice could also highlight the difficulty in identifying a specific victim in some types of offenses that brought an offender into veterans court (for example) compared to domestic violence and those quality-of-life offenses handled in community courts. Even so, Restorative Justice components seem to promote court success in our analysis and should be included in problem-solving courts.

Community Sentiment

Community Sentiment components were the rarest of all of the components included in the analysis, with community courts as the only type of problem-solving court using them. This justice principle is important to consider, however, because the community (both the public and the sub-community of court staff) must buy in to the underlying goals and procedures of the courts in order for courts to have the

resources and personnel to be successful (Miller, Blumenthal, & Chamberlain, 2015). While our data are limited, it does support this relationship, as 100% of the courts that included Community Sentiment components were successful (although this was a very small sample). Thus, a tentative suggestion would be for courts to seek ways to include community sentiment in their procedures.

It is possible that courts believe that the issues most problem-solving court participants experience (e.g., substance abuse, mental health issues, domestic violence, and combat-related trauma) are too personal, complicated, or emotional for the community to understand. Thus, courts are less likely to consider the community's desires as to the solutions to such problems. The broad community might not know much about problem-solving courts and might perceive them as being soft on criminals, rather than as an effective way to reduce recidivism (as the results here suggest they are). Thus, educating the public and court staff that implement problem-solving courts is an important step in promoting positive community sentiment that would promote the success of problem-solving courts.

Operant Conditioning

The implementation of components of Operant Conditioning was consistent across all types of problem-solving courts, ranging from 69% for mental health courts to 100% for juvenile drug courts and community courts. The analysis showed that the use of sanctions and rewards for participants is important, even though the courts that used them averaged a success rate of only 78%, the second lowest success rates. Notably, the success rates for courts using Operant Conditioning components were particularly low for juvenile drug courts (57%), veterans courts (67%) and adult drug courts (76%). Possibly, rewards are not always effective for these groups—which likely struggle with addiction—because the reward (e.g., a gift card) is quite small compared to the reward of using drugs/alcohol. Similarly, the punishment associated with Operant Conditioning components might not be particularly effective because these courts also tended to have high levels of Adversarial Process components which, to some extent, are a form of punishment. Thus, there might be limits to how much punishment and reward is effective, especially when combined with other components. Due to the mixed results, more research is necessary to determine whether operant condition should be used in each type of court.

Social Support

Social Support components were not as common as other components. Only juvenile drug courts (86%) used them more than 50% of the time. In the adult and juvenile drug treatment courts, Social Support components were sometimes implemented through the use of Alcoholics/Narcotics Anonymous, but this was not consistent across all of the courts included in the analysis. A few adult drug treatment court

evaluations have found that social support contributes to positive outcomes for drug court participants. For example, drug court participants who spent their free time with their families as opposed to alone or with friends were significantly less likely to fail out of the drug court (Hickert, Boyle, & Tollefson, 2009). A more recent study assessed the impact of social support on the graduation rates of adult drug court participants in courts across Ohio. Adult drug treatment court participants who reported having social support had over three times the odds of graduating from the drug court (Baughman, Tossone, Singer, & Flannery, 2019).

Social support had varying success depending on the type of court. Juvenile drug courts using social support components had only moderate success (58%) while adult drug courts using social support components had greater success (88%). Both of the veterans courts that used a Social Support component were successful. Perhaps knowing that there are others in their situation (i.e., soldiers who have returned from war with problems) is very valuable—even more so than for people with drug problems who are not veterans. This raises the question as to whether people in certain situations (e.g., being a veteran) benefit more from social support than others do. As such, it is important for each type of court to assess whether social support will be beneficial—and thus no strong recommendation is possible based on this analysis.

Recommendations for Future Evaluations

The preceding sections have implications for how best to design problem-solving courts (e.g., which features and principles make them most effective); the last goal of this chapter is to offer recommendations to improve future evaluations of such courts. The following section will provide some recommendations for the evaluation of problem-solving courts in general, and in regards to the use of specific justice and psychological principles.

1. **Problem-solving courts, especially those with fewer evaluations, need to be subjected to more (and more methodologically rigorous) evaluations.**

   This analysis is not the first to make such a recommendation, but it always bears repeating. In order to make more firm conclusions regarding the impact of these courts, evaluations should at least use a comparison group that is matched to the participant population. This is especially relevant for more recently developed problem-solving courts, such as veterans treatment courts and mental health treatment courts. Many of the evaluations used for such courts were very weak methodologically, which makes it difficult to make firm conclusions regarding their impact. Future evaluations of these courts should consider increasing sample sizes and the creation of matched comparison groups to reduce bias in their results.

   This recommendation holds even for those problem-solving courts that do have a long history of evaluation, such as adult drug treatment courts. Multiple meta-analyses have suggested that adult drug treatment courts are associated

with reduced recidivism. However, as noted by two of those meta-analyses (Shaffer, 2011; Wilson, Mitchell, & MacKenzie, 2006), very few evaluations of drug courts examine the *long-term* impact drug courts have on recidivism. Further investigation is critical because more rigorous evaluations have at times found smaller reductions in recidivism.

2. **Evaluations of problem-solving courts should assess how each of their program components is related to each of the outcomes.**

   Rather than simply reporting that "the court works," evaluations of problem-solving courts should try to assess what it is about their programs that is working. Knudsen and Wingenfeld (2016) performed an exploratory analysis to determine how specific program components related to the measured outcomes in a veterans treatment court. Using a univariate correlation, they discovered that peer mentoring, trauma treatment, psychiatric medication, and substance abuse services were all components related to positive clinical outcomes. Then, using multilevel modeling, they examined which components were most related to each outcome. First, they found that peer mentoring predicted significant, positive improvements in social connections and emotional limitations. Next, receiving trauma treatment predicted significant, positive improvements in PTSD, depression, functioning, and emotional limitations. Third, inpatient substance abuse services predicted significant, positive improvements in substance abuse and sleep hours. Lastly, use of psychiatric medication was related to improvements in depression, emotional lability, psychosis, and functioning.

   Because problem-solving courts (and their related programs) provide many program elements, programs should be careful about removing any one piece of the puzzle before understanding the full impact of each piece. It is possible that retaining adversarial components will not be detrimental to participants as long as the elements of therapeutic jurisprudence and operant conditioning are also present. On the other hand, a program could remove one essential component, and all effects would be lost. Until further research is conducted on what is working and how these components interact with one another, changes to programming could eliminate the positive results that are occurring.

3. **Evaluations of problem-solving courts should assess how various elements included in their programming impact participants differently.**

   As established in the previous recommendation, it is important to establish what works about a particular problem-solving court. As this analysis indicated, some components (e.g., social support, procedural justice) were more successful for some types of courts than other types. A related question that evaluations should also be asking is *who* the problem-solving courts are working for and consider why that might be the case. Future evaluations should include analyses on how the different types of problem-solving courts affect participants based on their characteristics, such as demographic, socioeconomic, and criminal behavior factors. For instance, job assistance might be more helpful for offenders who are low in SES. Such evaluations have been conducted on mental health treatment courts (Callahan, Steadman, Tillman, & Vesselinov, 2013; Dirks-Linhorst, Kondrat, Linhorst, & Morani, 2011; Reich, Picard-Fritsche, Cerniglia, & Hahn, 2013) and should be applied to other types of problem-solving courts.

Limitations

As with any study, the current study has some limitations. The first is related to sampling. There were far more evaluations of adult drug treatment courts than other courts, and far more than we could reasonably include in this analysis. We only included all of the rigorous evaluations of adult drug treatment courts: those that used a quasi-experimental design, a matched sample, or an experimental design. We also limited the juvenile drug court sample, though not as strictly. Yet, for other less frequently evaluated courts, we included all evaluations, even less rigorous ones. Thus, it is difficult to make comparisons across court types.

A second, and similar, limitation is related to sample size. Community courts and domestic violence courts were deemed most successful because all the evaluations reported Positive or Mixed Outcomes. However, both of these had very small sample sizes (five community courts and eight domestic violence courts). Thus, conclusions should be taken with caution.

Third, some evaluations did not specifically mention a component, but that does not mean it did not exist. For instance, a particular court might have been based on the input of the community; however, the authors of the evaluation might not have mentioned that in the write-up. Thus, our analysis is limited to the data provided in the evaluations and might be under-reporting.

Conclusion

Problem-solving courts vary widely depending on many factors, including where they are located, what social issues they address, and what justice and psychology principles they utilize. While there is literature examining the effectiveness of these courts, this chapter is the first attempt to synthesize these results and identify what components (e.g., justice principles) might contribute to the effectiveness of these courts.

Our first purpose was to determine which types of courts tended to be most successful. The most successful court types were the domestic violence and community courts, while the least successful were the juvenile courts. The second purpose was to determine the level of rigor used in each type of court. We found that evaluators of adult drug courts had the highest number of rigorous research designs to evaluate the courts, while evaluators of veterans courts used the fewest rigorous designs.[2]

[2] The sampling for the adult drug courts and juvenile drug courts differed slightly from the other courts, as noted in the methods section. Adult drug courts were only included if they were level 3–5 on the SMS scale. Juvenile drug courts were included if they were level 2–5 on the SMS scale. Thus, evaluations that were lower in rigor (levels 1 for juvenile courts and level 1 and 2 for adult courts) were excluded. However, every rigorous evaluation was included for all court types, making it possible to compare the number of rigorous courts, while it is not possible to compare less-rigorous evaluations across court types.

The third purpose was to determine which components were most common (Procedural Justice and Therapeutic Jurisprudence) and least common (Community Sentiment). Finally, the synthesis sought to determine which of the components were most related to successful outcomes. The most successful components were Community Sentiment and Adversarial Process. The least successful component was Social Support. Because all components were associated with at least moderate success, courts should consider their wide adoption. Even so, important limitations to the findings suggest that further research is needed to more fully answer these research questions and to parse out caveats regarding the findings. For instance, to determine why some components are more successful in some courts more than other courts.

In conclusion, problem-solving courts generally are effective at reducing recidivism. There are certain aspects, however, that might make a problem-solving court more effective in reducing recidivism and reaching other goals. The purpose of this chapter was to identify these components and make recommendations. While all components were successful, a blanket recommendation to use all components in all courts is premature. Instead, they should be adopted with caution and thoroughly evaluated using the recommendations listed here. Practitioners and stakeholders in problem-solving courts should adhere to these recommendations when designing and evaluating problem-solving courts to ensure that their courts are successful.

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The Emerging Role of Psychology in Shaping Gun Policy in the United States

Gianni Pirelli, Kathryn Schrantz, and Hayley Wechsler

This chapter is devoted to providing an overview of the psychological science pertaining to mental health-related gun laws and setting forth policy recommendations based on such. The main sections are as follows: (1) *The Intersection of Firearms and Mental Health*; (2) *Mental Health-Related Gun Laws in the United States*; and (3) *The Emerging Role of Psychology in Shaping Gun Policy in the United States.* As such, we review the extant research in the firearms and mental health arena, particularly the association between mental illness and gun-involved violence and suicide.

The second section is focused on contemporary, mental health-specific gun laws across states, within the context of such concepts as the need to consider local norms and laws. The third section reflects the main thesis of the chapter: *The field of psychology not only has a lot to offer in terms of informing US gun policy, but it is imperative that it does just that at this time*. In a concluding section, *Summary and Recommendations for Firearm-Related Pubic Policy*, we set forth specific recommendations for firearm-related policy in the United States moving forward. In sum, it is imperative to adhere to scientist-practitioner principles and take a comprehensive, inclusive approach to bridge research, practice, and policy in order to effectively address one of American society's most pressing and complex problems: gun-related violence and suicide.

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The Intersection of Firearms and Mental Health

Although there tends to be an all-or-nothing discussion regarding the link between guns and mental health—with some people arguing that there is essentially no connection and others attributing gun deaths to mental illness—the reality is that the association is fairly nuanced and complex. In this section, we provide an overview of two main areas of consideration: the association between gun deaths and mental illness, and the media's impact on the public's perception of "gun violence," within the context of concepts referred to as *availability* and *representativeness heuristics, moral panic,* and *the worthy victim*.

Gun Deaths and Mental Illness

There are over 20,000 gun-involved suicides and 10,000 homicides in the United States annually—a significantly greater rate than 25 other industrialized countries (Centers for Disease Control [CDC], 2013). As such, it comes as no surprise that gun deaths in our country have been referred to as an epidemic (and even an endemic), prompting calls for legislative and related action. Although gun-involved suicide and violence are often collectively referred to as "gun violence" and often characterized as a mental health-related problem, the actual connection between guns and mental health is rather complex (see, e.g., American Psychological Association [APA], 2013; Gold & Simon, 2016; Pirelli, Wechsler, & Cramer, 2019). For instance, only 3–5% of acts of interpersonal violence are attributed to even serious mental illnesses (SMI; Appelbaum & Swanson, 2010; Fazel & Grann, 2006; Monahan et al., 2001), although there is a notable link associated with psychiatric crises, guns, and suicide.

As Dvoskin (2018) noted, "…there is no empirical support for the myth that people with SMI have higher rates of gun violence than people without SMI." However, according to the 2013 Gallup polling, 48% of American adults indicated that they blamed the mental health system "a great deal" for mass shootings in the United States and believed that our inadequate mental health system was the leading *cause* of mass shootings (Saad, 2013). More recently, Baumann and Teasdeale (2018) found no compelling support for the claim that firearm access among people diagnosed with SMI is a major contributing factor to the "gun violence epidemic." In fact, they found that those diagnosed with mental illness were no more likely to engage in violence due to their access to firearms than their counterparts without such diagnoses, even during high-risk periods, such as a hospitalization. The stereotypical concept of a mentally ill mass shooter armed with a semiautomatic rifle is problematic for many reasons, particularly because it perpetuates an inaccurate picture associated with actual gun death statistics while further stigmatizing mental illness. In fact, those diagnosed with mental illnesses are more likely to be victims of violence than perpetrators (Teplin, McClelland, Abram, & Weiner, 2005).

Moreover, fueling the mental health–gun violence stigma is likely to be counterproductive by deterring those in need from seeking needed mental health services—especially those who wish to maintain their gun rights. Consistent with the thesis of this chapter, potentially detrimental and ineffective policies are largely based on emotionally—rather than empirically—driven efforts, reflecting an ignorance or misunderstanding of the important nuances at play in the guns and mental health arena.

Certain media outlets, politicians, and advocacy groups perpetuate the image of a stereotypical *mentally ill mass shooter armed with an assault-style weapon*, such as an ArmaLite Rifle, or AR-15 (e.g., see Main Finding #5 in Chapter 9 of Pirelli et al., 2019). There are many reasons people have significant reactions to a very low base rate, yet high-impact events like school shootings—not the least of which is the violation of the expectation and belief that our children should and will be safe at school. However, it is important to consider the following statistics in context: (a) less than 1% of gun deaths have been the result of an active shooter (Blair & Schweit, 2014); (b) 2% of murders have been committed with rifles (FBI, 2014); (c) 3–5% of all acts of interpersonal violence are attributable to even severe mental illness (e.g., Schizophrenia, Bipolar Disorder; Gold & Simon, 2016); and (d) 2/3 of gun deaths are suicides (CDC, 2017).

Although research does not support the notion that people with severe mental illness are to blame for gun-involved *interpersonal* violence in the United States, it is still important to address mental health-related issues when considering effective policy initiatives and other potential solutions, particularly because of the link between guns and suicide. One noteworthy area of focus in the context of mental health and psychopathology associated with interpersonal violence is that of co-occurring disorders, or dual diagnoses (Rosenberg, 2014). Those with Substance Use Disorders make up slightly more than one-quarter of all those with severe mental illness (Substance Abuse & Mental Health Services Administration, n.d.) and are more likely to engage in violence than their counterparts (Fazel & Grann, 2006; Volavka & Swanson, 2010). Also, the effects of certain substances, such as alcohol, methamphetamine, and cocaine, might increase violence risk by exacerbating certain psychiatric symptoms and decreasing inhibitions and impulse-control (Boles & Miotto, 2003; Stuart, 2003; Swanson et al., 2008; Volavka & Citrome, 2008; Volavka & Swanson, 2010).

While increased attention aimed at mental health policy can be beneficial by leading to increased resources for those in need of mental health treatment, such attention often comes at the cost of the increased stigmatization of mental illness. For example, in President Obama's gun control-based January 4, 2016, executive order, he committed $500 million "to increase access to mental health care." However, he also used the terms *mental health* and *mental illness* almost 30 times without ever defining them and connected mental illness with "gun violence" by issuing this type of order in the first place (Fact Sheet, 2016). Again, the association between mental health and firearm-involved deaths is complex and nuanced, and the overwhelming (statistical) link is between guns and *suicide*, which is a primary reason the term "gun violence" is quite problematic and should generally be avoided.

Heuristics, Moral Panic, and The Worthy Victim: The Media Impact on the Public's Perception of "Gun Violence"

According to the CDC, suicide is the third leading cause of death for people 15–24 years old—the same period when young people first move away to attend college, join the military, and, in some cases, experience their first episode of major mental illness (Swanson, McGinty, Fazel, & Mays, 2015). CDC data also indicate that a significant portion of these people who go on to die by suicide had identifiable mental health-related problems and prior psychiatric treatment (Karch, Barker, & Strine, 2006). Many risk factors associated with suicide have been identified over many years of study (e.g., hopelessness, concurrent substance use, and certain symptoms of mental illness), but some of the most salient risk factors are those associated with environmental factors—including, but not limited to, access to lethal means, such as firearms (Swanson et al., 2015). Some have suggested that suicide could be preventable by removing, restricting, or even delaying access to lethal means, which is referred to as "means-restriction" (e.g., Chapman, Alpers, Agho, & Jones, 2006; Reisch, Steffen, Habenstein, & Tschacher, 2013; Swanson et al., 2015). Baumann and Teasdeale (2018) investigated the relationship between mental illness and access to firearms and found results comparable to past studies. Specifically, they found that mentally ill persons were significantly more likely than their counterparts to experience suicidal ideation, particularly when firearms were accessible. Furthermore, "firearm access exponentially increased the (already elevated) probability of suicidality" in their patient sample as compared to their community sample (p. 48). They concluded:

> The heightened risk of suicide experienced by individuals with mental illness over the life-course, coupled with the risk that firearm access poses for suicide, underscores the need for further research to shift the mainstream narrative from one that stigmatizes those with mental illness and arbitrarily threatens their constitutionally protected right to bear arms to one of compassion and concern that increases education about (and acceptance of) mental illness within American society. (p. 48)

However, the national narrative is often focused on other aspects of so-called "gun violence" in the United States. The most widely covered and sensationalized types of gun-involved violence are mass and school shootings, which are often highly publicized tragedies. Some of the most notorious shootings (e.g., Columbine, Sandy Hook, Virginia Tech, the Colorado movie theater, Florida's Pulse nightclub, and the Las Vegas concert) involved a perpetrator using firearms with large capacity magazines (Barry, McGinty, Vernick, & Webster, 2013) and, in some cases, the perpetrators had diagnosed mental health problems (Jenson, 2007). The level of media coverage on issues related to mental health and firearms can lead to the faulty public perception that mass shootings perpetuated by mentally ill people with high capacity magazines are commonplace. To the contrary, such is relatively rare and far from the most common forms of "gun violence," as the term is typically defined. As noted, firearm-involved suicides (i.e., self-directed violence), as well as acts of interpersonal violence closely associated with domestic violence and criminal

activity, occur at exponentially greater rates than those associated with mass shootings. In addition, as noted above, there is also a very weak relationship between mental illness per se and interpersonal violence (of any type). Moreover, rifles—such as AR-15 s – are used in relatively very few incidents causing gun deaths.

Still, public perception is affected, albeit over the short term, by the level of coverage gun-involved incidents receive by certain mainstream media outlets, lawmakers, and advocacy groups. Concepts from the social cognitive psychology arena can help us better understand why and how public perception is affected in these contexts. Because issues related to mass and school shootings are covered so heavily in the media, particularly in the days and weeks following a tragic event, one is likely more able to readily recall various instances of these types of violence, despite the fact that they make up such a small percentage of gun deaths in the United States. This phenomenon can be attributed, in particular, to what is known as the *availability heuristic*, which indicates that a person judges the frequency or probability of an event occurring by the ease with which an example of such an event comes to mind (Tversky & Kahneman, 1973). Similarly, the *representativeness heuristic* might explain why there appears to be such a widespread misunderstanding regarding the relationship between serious mental illness and gun-involved deaths. The representativeness heuristic is a common fallacy that involves people overestimating the probability or frequency of an event based on assumptions or past experiences with something of a similar nature (Fournier, 2018). Within this context, media consumers are likely to recall an event involving a mentally ill shooter who perpetrated an act of violence, particularly due to the media framing and weighty coverage of such an event. As a result, those affected via the representativeness heuristic might inappropriately overestimate the likelihood that a mentally ill person will perpetrate another mass shooting or come to the inaccurate conclusion that mentally ill people are more at-risk to become a mass shooter than others.

Although it is ostensibly the media's duty to provide pertinent information about the news to the general public, there is "preliminary evidence to suggest that excessive coverage can be misleading to the public and potentially harmful" (Sighu, 2017, p. 3). Specifically, inaccurate perceptions of important issues, such as how mental illness plays a role in gun-involved violence, can distract from other important issues related to public safety. Furthermore, the media tend to cover tragedies extensively, thereby shaping the way certain events unfold (Hawdon, Agnich, & Ryan, 2014). As Arrigo and Acheson (2016) articulated it:

> The media's ability to make the rare event of mass shootings appear relevant to individuals is due to its ability to play on human psychology… In other words, infotainment news and commentary cultures take what is otherwise a non-issue, and create a moral panic in which society believes that the non-issue requires immediate, critical, and ongoing attention. (p. 8)

The concept of *moral panic* has been discussed for many years (Burns & Crawford, 1999) and refers to the idea that a society chooses to concentrate on something, often a focal point of the mass media, that is considered a perceived threat to or enemy of said society. The person most commonly credited for coining the term, Stanley Cohen, suggested that moral panic is sometimes short-lived, yet

"at other times it has more serious and long lasting repercussions and might produce such changes as those in legal or social policy or even in the way society conceives itself" (Cohen, 1972, p. 9). A key component of the concept of a moral panic is that the beliefs and perceptions of the identified topic to be feared are disproportionate to what is occurring or has occurred in actuality (Burns & Crawford, 1999). While the connection between mental illness and interpersonal violence, especially gun-involved violence, is steeped in emotion, it lacks empirical support from a statistical standpoint (i.e., with respect to its actual, proportional incidence and prevalence). Thus, the media's focus on mass shootings and associated depiction as a rampant issue particularly linked to mental illness reflects moral panic.

Moral panics have the tendency to change the overarching narrative of an issue, which can have far-reaching effects. One such potential effect is the shaping of public policy and legislation, which can lead to what has been referred to as Crime Control Theater (CCT) legislation. CCT legal actions "appear to address crime, but are ineffective, socially constructed solutions to largely socially constructed problems" (DeVault, Miller, & Griffin, 2016, p. 341; Griffin & Miller, 2008). These questionable solutions are often flawed due to a "dearth of empirical validation," yet they "enjoy public and political support" (Hammond, Miller, & Griffin, 2010, p. 546). One can see how CCT laws, especially those that characterize mentally ill people as the perpetrators of mass shootings, are inaccurate and problematic. Further, without appropriate data available to properly inform and support policies, laws and regulations that are implemented run the risk of inappropriately flagging certain persons and wasting resources and money, while making no discernable changes to the larger issue. As Griffin and Miller (2008) noted, not only can these laws and policies have a deleterious effect on society, but they can also inhibit crucial public discourse. Also, although some highly publicized tragic events initially prompt a notable public reaction, such reactions are often short-lived. As Birkland and Lawrence (2009) noted in the context of the attention surrounding the Columbine shooting, it prompted the more rapid implementation of policies and tools already available to schools:

> Columbine formed the peak of public attention to the problem of school shootings, but media framing of school violence subsequently shifted, the national school shootings "problem" faded from view, and enduring public attitudes thwarted attempts to change, in particular, gun policy in response to the tragedy. (p. 2)

They noted that public support for stricter gun control laws spiked slightly after the shooting, but shifted downward over time. In the United States, the focus on individual rights is embedded in American culture and often thwarts attempts to limit gun ownership and availability. While some groups of Americans are typically more willing to support gun control measures (e.g., Democrats, women), "others have built-in resistance to that frame stemming from conservative, pro-gun, and pro-individual liberty attitudes" (Birkland & Lawrence, 2009, p. 1410).

In addition to the ways in which the media and their consumers shape public attitudes, media outlets often cover stories of firearm-involved violence in many different ways and such might even be largely dependent on where the coverage

takes place and victims' demographics. According to a study conducted by Hawdon, Ryan, and Agnich (2014), the location of a media source influences how it covers tragedies, such as mass shootings. The results of their study suggested that "Newspapers geographically close and socially connected to the tragedy not only publish more tragedy-related articles than distant papers do, they are also more likely to publish articles that focus on the victims, depict the community as victimized and grieving, and report evidence of community solidarity" (p. 205). By comparison, newspapers that are more geographically distant tend to frame the tragic event in terms of potential causes. As such, of focus are issues related to gun control, campus security, and a mental health professional's potential failure to identify an at-risk person as a serious threat (Hawdon et al., 2014). Race and ethnicity also influence media coverage of gun violence-related issues. Specifically, the media repeatedly underexpose the public to racial/ethnic minorities as the victims of crimes, whereas Whites are often overrepresented, which ultimately delegitimizes the plight of the minority victim and can even lead to victim blaming for minorities (Dukes & Gaither, 2017). Moreover, firearm-related violence in low-income areas is often overlooked and not a part of national and political discourse (see Parham-Payne, 2014), which is associated with Schildkraut and Muschert's (2014) position that the media tend to cover the *worthy victim*.

Of course, firearm-related issues are understandably emotional and political, which is why there tends to be so much media coverage and public outcry following sensational firearm-related events. However, there is a difference between enacting laws and enacting evidence-based laws, which are more likely to be effective—or, at least, lend themselves to policy analyses and associated modifications. Before outlining such science-based policy recommendations, it is important to first have a general understanding of the primary types of mental health-related gun laws in the United States.

Mental Health-Related Gun Laws in the United States.

There are a plethora of firearm laws in each state across the country and their nuances are too great and wide-ranging to detail here (see Ciyou, 2017; Kappas, 2017). However, a closer look at gun laws across the United States specifically associated with mental health reflects four particular types: prohibitions for people diagnosed with mental illness, reporting requirements of medical and mental health professionals, "red flag" laws, and Relief-From-Disability (RFD) laws. In this section, we provide an overview of each type of law to develop the context for the recommendations that follow.

Federal and state legislation related to the purchasing, possession, and relinquishment of firearms dates back to the federal Gun Control Act of 1968 and public sentiment has been somewhat variable in this regard over the years. However, according to a 2018 Gallup poll, 67% of Americans want stricter gun laws, and support for stricter gun regulations has increased across political party affiliations

(Jones, 2018). As such, legislation pertaining to firearms has increased in the past several years, particularly legislation focused specifically on the intersection of firearms and mental health even though, as described earlier, mental illness is a poor predictor of violence (Swanson et al., 2015). Such legislation has particularly included initiatives associated with prohibitions for people diagnosed with mental illness, reporting requirements for medical and mental health professionals, "red flag" laws, and RFD laws.

As would be expected, states vary greatly with respect to the types of laws enacted in their jurisdictions as well as their respective nuances (Norris, Price, Gutheil, & Reid, 2006). This variability is likely due to a number of reasons, including a state's size, demographics, history, and statistics related to gun-involved deaths, and attitudes toward guns and violence among its citizenry. In this context, it is important to consider the role of cultural and local norms. For instance, in large, open, rural states such as Montana, firearms are thought of quite differently than they are in smaller states with notable suburban and urban areas, such as New Jersey. Other contributing factors include a state's cultures and customs, and its overarching political ideology. Namely, liberal political ideology ("blue state") is associated with increased support for stricter gun control measures, whereas conservative ideology ("red state") is associated with less support for such measures (Ehrenreich, 2018). According to a recent Gallup poll, those who identify as conservative significantly outnumber people who identify as liberal in 19 states—the majority of which are in southern (e.g., Alabama, Mississippi), western (e.g., Utah, Wyoming), and northern plains (e.g., Montana, the Dakotas) regions (Jones, 2019). In a handful or so of states, however, self-identified liberals significantly outnumber conservatives; namely, in northeastern states such as New York, Massachusetts, New Hampshire, and Vermont as well as those in the pacific northwest (Oregon, Washington) and the west (California). Thus, it is axiomatic to assume that these states notably differ with respect to their gun laws.

In addition, a particular culture relevant to consider in the context of firearm legislation is what is referred to as a *culture of honor*. Honor cultures refer to societies in which people, primarily men, strive to maintain strong reputations and are then permitted, or encouraged, to defend their reputation with aggression when threatened (Nisbett & Cohen, 1996). These cultures are prevalent in the southern and western regions of the United States, and within several primarily conservative states as well, including Alabama, Georgia, Idaho, Colorado, and Wyoming (Barnes, Brown, & Tamborski, 2012; Cohen, 1998). Such cultures are associated with higher levels of interpersonal violence, as research has indicated relatively higher argument-based homicide rates, acts of school violence, and accidental deaths due to risk-taking (Barnes et al., 2012; Brown, Osterman, & Barnes, 2009; Nisbett & Cohen, 1996) as well as higher suicide risk levels (Osterman & Brown, 2011). Furthermore, Brown, Imura, and Osterman (2014)) found that White people living in states with honor cultures are particularly likely to use firearms to die by suicide. Therefore, it is important to consider differences in political ideology and geographically related cultures, such as honor cultures, in this context because such variation impacts firearm-related efforts (e.g., legislative and judicial actions).

Gun Rights Restriction Laws and Mental Illness

Federal and state laws prohibit several categories of people from possessing or purchasing firearms. For instance, federal law contains provisions that limit access to firearms by certain people with histories of mental illnesses and psychiatric treatment. Namely, the Gun Control Act of 1968 prohibits those who have been deemed "adjudicated as a mental defective" or "committed to a mental institution" from shipping, transporting, receiving, or possessing firearms or ammunition (18 U.S.C. § 922, 1968). The term "adjudicated as a mental defective" refers to those found by a court, board, commission, or other lawful authority to be a danger to themselves or others, to people lacking the mental capacity to manage their own affairs, and to people found not guilty by reason of insanity (NGRI) or incompetent to stand trial. The phrase "committed to a mental institution" refers to involuntary rather than voluntary psychiatric commitments.

Expanding upon federal mental health prohibitors, 34 states and the District of Columbia have added various mental health prohibitions to their state laws (Giffords Law Center, 2018a). Such prohibitions include restricting the possession and purchasing of firearms by those voluntarily admitted to a psychiatric hospital and to those who have been diagnosed with a mental illness or who have substance use histories; who have communicated threats of violence or suicide to mental health professionals; or who are under the care of a legal guardian due to mental illness. For instance, in Connecticut, Illinois, Maryland, and the District of Columbia, people who voluntarily admitted themselves to a psychiatric hospital are prohibited from purchasing or possessing firearms for particular time periods (e.g., within 6 months in Connecticut and 5 years in the District of Columbia). In Maryland, those who have voluntarily admitted themselves to a mental health hospital for more than 30 days are prohibited from possessing or purchasing firearms until they receive formal relief from the prohibition (Giffords Law Center, 2018a). Maryland state law also prohibits the gun ownership rights of "any person who suffers from a mental disorder" and has a history of violence against himself or others, as well as those under the care of a guardian due to a mental illness (Md. Code Ann. Public Safety § 5–133(b)(6), n.d.). Hawaii prohibits people who have been diagnosed as having a "serious behavioral, emotional, or mental disorder" until they have been medically documented to no longer be negatively affected by their diagnoses (Haw. Rev. Stat. Annals § 134–7, n.d.).

Some states also have prohibitors related to developmental disabilities and neurocognitive disorders. For instance, Hawaii prohibits the gun rights of those who have received "treatment for organic brain syndromes," although the statute does not define such syndromes (Haw. Rev. Stat. Annals § 134–7, n.d.). Illinois prohibits people "found to be developmentally disabled" and those who are "intellectually disabled." It statutorily defines developmental disability as "a disability which is attributable to any other condition which results in impairment similar to that caused by an intellectual disability and which requires services similar to those required by persons with intellectual disabilities." The statute further defines a developmental

disability as a disability that results in "significant functional limitations" in three or more of the following: "self-care, receptive and expressive language, learning, mobility, or self-direction." It defines intellectual disability as "significantly subaverage general intellectual functioning which exists concurrently with impairment in adaptive behavior and which originates before 18 years" (430 Ill. Comp. Stat. 65/1.1, n.d.). Minnesota state law also prohibits people with a "developmental disability," defined as "diagnosed as having significantly subaverage intellectual functioning…with demonstrated deficits in adaptive behavior" and "whose recent conduct is a result of a developmental disability and poses a substantial likelihood of physical harm to self or others" (Minn. Stat. § 624.13, n.d.). Although no states mention dementia or other memory-related disorders as specific firearm prohibitors, several states (e.g., Wisconsin, Rhode Island, New York) prohibit those under the care of guardians or conservators due to an inability to appropriately manage their affairs (Giffords Law Center, 2018a). We expound upon firearm-related issues associated with these types of conditions in the *Restoration of Gun Rights and RFD Laws* subsection of *The Emerging Role of Psychology in Shaping Gun Policy in the United States* section that follows.

Predominantly liberal states, such as California, Washington, and New York, typically have more mental health-related prohibitions than those identified as predominantly conservative (e.g., Oklahoma, Kansas, Alabama). Specifically, California has a lengthy list of mental health prohibitions, including inpatient psychiatric admission due to dangerousness (5-year prohibition), a 72-hour hold in a psychiatric facility (1-year prohibition), court-ordered intensive outpatient treatment, adjudication as a danger to others due to a mental illness, adjudication as a mentally disordered sex offender, court-ordered conservatorship due to a mental disorder, and adjudication as NGRI or incompetent to stand trial (Cal. Welf., & Inst. Code § 8100(a), 8103(a)(b)(d)(e)(d)(g), n.d.). California also recently passed a lifetime ban on purchasing a firearm for those who have been involuntarily committed more than once in a year and are considered dangerous (Boyd-Barrett, 2019). New York prohibits those with a history of an addiction to a controlled substance as well as those who require a guardian due to "marked subnormal intelligence, mental illness, incapacity, conditions or disease," and also notes: "whether he or she has ever suffered any mental illness" (N. Y. Penal Law § 400.00(1), n.d.).

In Oklahoma, the statutorily identified mental health prohibitions are "any person who is under an adjudication of mental incompetency," "any person who is mentally deficient or of unsound mind," and any person who is "mentally or emotionally unbalanced or disturbed" (Okla. Stat. Ann. Tit. 21 § 1289.12, n.d.; Okla. Stat. Ann. Tit. 21 § 1289.10, n.d.). In Kansas, the defined mental health prohibitions are solely prior involuntary psychiatric commitment and substance use (Kan. Stat. Ann. § 21–6301(a)(10) n.d.). In Alabama, the noted mental health-related prohibitors include being of an "unsound mind" and being "an habitual drunkard" (Ala. Code § 13A-11-72(o), n.d.; Ala. Code § 13A-11-72(b), n.d.). Notably, several states do not specifically prohibit those with a mental illness beyond the prohibitions set forth in federal law: Alaska, Colorado, Georgia, Idaho, Indiana, Iowa, Kentucky, Louisiana, Mississippi, Montana, New Hampshire, New Mexico, South Dakota, Texas, and Vermont (Giffords Law Center, 2018a; Norris et al., 2006). Of additional

note is that several of these states are primarily associated with conservative ideology (e.g., Texas, Georgia, Kentucky, Louisiana, Mississippi; Jones, 2018). Moreover, a few of them (i.e., Montana, Alaska, Colorado) have large, undeveloped rural areas with particularly dangerous wildlife, such as bears, coyotes, and other large predators. As such, hunting is also a significant cultural aspect to consider, as it is particularly associated with several states and certainly influences opinions and attitudes related to firearms in these areas.

In addition to differing statutes related to mental health prohibitors, state laws differ with respect to authorizing or requiring reporting mental health records to the federal National Instant Criminal Background Check System (NICS). Although the Brady Handgun Violence Prevention Act (1994) does not require states to report information related to a person's mental health treatment history to NICS, the NICS Improvement Amendments Act (NICS Improvement Amendments Act, Pub. L. No. 110–180, 121 Stat. 2559, 2008) provided grant funding and penalties based on their adherence to record completeness requirements. The NIAA was enacted in the wake of the Virginia Tech shooting, after which it was discovered that several states were not reporting the names of people barred from purchasing a firearm to NICS (Britton & Bloom, 2015). Nevertheless, most states (47) have laws requiring or authorizing the reporting of mental health records to NICS (Giffords Law Center, 2018b). All of these states report those who have been involuntarily committed to an inpatient psychiatric hospital; 22 states mandate reporting of those required to receive outpatient mental health treatment; and 16 require reporting people appointed with a guardian. The three states that do not have laws requiring or authorizing reporting mental health records to NICS are Montana, New Hampshire, and Wyoming. The District of Columbia also does not have such a law.

Medical and Mental Health Professionals' Reporting Duties

Medical and mental health professionals have long held a duty to protect public safety; that is, they have been mandated or authorized to report to authorities or to take reasonable steps to reduce the risk of potentially violent or suicidal clients (see Tarasoff v. Regents of University of California, 1976). In some states, this duty includes warning identified potential victims (i.e., a duty to warn *and* protect). These duties have also been expanded in some states to include reporting related to firearm access to law enforcement or judicial authorities (Norris et al., 2006). For instance, Maine requires a "licensed mental health professional" to notify law enforcement if he or she "has reason to believe that a person committed to a state mental health institute has access to firearms" (Me. Stat., 34-B § 1207(8), n.d.). Both Connecticut and California also require treating inpatient psychiatrists to report firearm possession to law enforcement (Conn. Gen. Stat. § 17a-500, n.d.; Cal. Welf. and Inst. Code § 8104–8105, n.d.).

In several states, once a mental health professional makes a report regarding a person's risk for dangerousness, a firearm prohibitor is triggered, resulting in a loss of gun rights. For instance, in New York, the Secure Ammunition and Firearms

Enforcement (SAFE) Act of 2013 requires mental health professionals to report threats of violence to county mental commissioners when they believe that a patient is likely to represent a danger to himself or others (Candilis, Khurana, Leong, & Weinstock, 2015). The New York Department of Criminal Justice then reviews that information to determine if that patient is ineligible to possess guns. If that person is deemed ineligible, law enforcement is able to remove firearms from the person's possession, suspend or revoke a firearms license, and prevent the person from being able to purchase a firearm in the future. This same information might also be used to determine firearm license eligibility if the person reapplies for a license within the following 5 years (Candilis et al., 2015; Eells, 2013; Giffords Law Center, 2018a, 2018b, 2018c). In 2018, New Jersey enacted a similar law. Namely, a duty to warn and protect is triggered when a patient has communicated a threat of imminent violence against another person or against himself and is likely to act on that threat. Licensed medical and mental health professionals are now required to report this information to the chief law enforcement officer in the county in which the patient resides. Law enforcement is then able to use identifying information to determine if the patient has a firearm-disqualifying disability (e.g., "confined for a mental disorder to a hospital, mental institution or sanitarium, or…is presently an habitual drunkard"). If so, law enforcement is then able to revoke the person's firearms license, remove guns, and prevent him from purchasing a firearm (N. J. Stat. Ann. § 2A:62A-16(e), n.d.; N. J. Stat. Ann. § 2C:58–3, n.d.; see the *Reporting Laws for Medical and Mental Health Professionals* subsection of *The Emerging Role of Psychology in Shaping Gun Policy in the United States* section that follows for a more detailed discussion).

Other primarily liberal states have adopted similar laws. For instance, California law prohibits a person who "communicates to a licensed psychotherapist…a serious threat of physical violence against a reasonably identifiable victim or victims" from possessing firearms for 5 years after the threat is reported to law enforcement (Cal. Welf. and Inst. Code § 8100(a)(b), n.d.). In Illinois, if a physician or psychologist believes that a person represents a "clear and present danger to self or others," that professional has to report this information to Illinois' Department of Human Services, which then reports that information to the Department of State Police. The Department of State Police might then revoke the person's Firearm Owner's Identification Card, which is necessary to possess or purchase firearms in Illinois (430 Ill. Comp. Stat. 65/8.1, n.d.).

"Red Flag" Laws: Emergency Risk Protection Orders (ERPOs) and Gun Violence Restraining Orders (GVROs)

In 2014, Elliot Rodger shot and killed six people and injured 14 others in the town of Isla Vista, California, near the University of California's Santa Barbara campus (Berman & Finn, 2014; Ellis & Sidner, 2014). Police had conducted a welfare check at Rodger's residence approximately 3 weeks prior to the shooting after his family

contacted them upon discovering social media posts about suicide and homicide. However, police did not consider him to be dangerous (Yan, Almasy, & Sidner, 2014). As such, Rodger had passed the background check necessary to purchase a firearm and had not been involuntarily committed to a mental health hospital, rendering him able to purchase a gun (Yan et al., 2014). In response to the shooting, California lawmakers sought to create a law allowing law enforcement officers to seek restraining orders to prevent people they believe represent a threat to themselves or others from purchasing firearms (Mason, 2014). Specifically, California passed a legislation in 2016 that authorized family members, household members, and law enforcement officers to file petitions for a Gun Violence Restraining Order (GVRO) when a person is considered to be at an elevated risk for violence toward themselves or others by having access to firearms (Frattaroli, McGinty, Barnhorst, & Greenberg, 2015). Such an order temporarily prevents such people from possessing or purchasing guns (Cal. Pen. Code § 18,122, n.d.). California was the first state to pass legislation authorizing GVROs, which have also been referred to as Emergency Risk Protection Orders (ERPOs)—and, more generally, "red flag" laws. To date, 17 states and the District of Columbia have "red flag" laws: California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Hawaii, Illinois, Indiana, Maryland, Massachusetts, Nevada, New Jersey, New York, Oregon, Rhode Island, Vermont, and Washington (Giffords Law Center, 2018c). Orders can be issued *ex parte*; that is, they can be issued in emergency cases without providing notification to the restrained person, typically last from 6 (New York) to 21 days (California), and can even extend from 6 months (Vermont and Illinois) to 1 year, such as in New Jersey (Giffords Law Center, 2018c).

These laws typically require the petitioner to demonstrate evidence of dangerousness. For instance, in Indiana, a person is deemed dangerous if the person represents a risk of personal injury to himself or others and "has a mental illness…that may be controlled by medication, and has not demonstrated a pattern of voluntarily and consistently taking the person's medication while under supervision" or "is the subject of documented evidence that would give rise to a reasonable belief that the person has a propensity for violent or emotionally unstable conduct" (Ind. Code Ann. § 35–47–14-1, n.d.). Illinois, Massachusetts, and New York have license revocation laws, which allow for the taking of a person's license to possess a firearm if a person is deemed to pose a danger to himself, others, or the general public (Giffords Law Center, 2018c).

While these laws are fairly new in most states, there are some preliminary data available from which to draw. For instance, Florida firearms were taken from over 2000 residents in the first 18 months since it passed the law and judges have ruled with law enforcement in almost every case, granting nearly 97% of temporary orders and 99% of final orders in the state (Olmeda, 2019). However, there is fairly wide variability across states in terms of the usage of their "red flag" laws. For example, Vermont issued 30 ERPOs in the first 16 months of passage (Block, 2019), and Maryland revoked the firearms of 148 people in the first 3 months out of 302 requests (49%, and 60% of petitions were set forth by a family or household member; Wiggins, 2019). In 1999, Connecticut became the first state in the United States

to enact a red flag law, but only seized approximately 750 firearms over the following 14 years (i.e., 1999–2013; Norko & Baranoski, 2014); however, there was a surge of revocations after that point, as approximately 2000 risk warrants have been reportedly issued to date (Radelat & Lyons, 2019).

Relief-from-Disability (RFD) Laws

Relief-from-Disability (RFD) laws provide a mechanism to restore gun rights to those who have been prohibited from possessing or purchasing them due to a "disability," which is the legal term used to characterize a mental health prohibitor (Gold & Vanderpool, 2018b). Federal RFD laws pertaining to mental health prohibitors began with the Firearms Owners' Protection Act (FOPA) of 1986, which established a process for those who had been prohibited from owning firearms due to any federally enforced prohibitor, including mental health prohibitors, to petition the Bureau of Alcohol, Tobacco, and Firearms (ATF) for a restoration of their gun rights. However, the program that allowed for people to petition the ATF was federally defunded in 1992 (Gold & Vanderpool, 2018a). With the advent of the NICS Improvement Amendment Act of 2007 (NIAA), federal programs for relief were required to be established for federal agencies responsible for enacting mental health prohibitors (e.g., the U.S. Department of Veterans Affairs, or VA) and enabled the federal government to provide significant funds to states to create federally certified RFD programs. Such programs must contain provisions for an application for relief from the federal prohibition on owning firearms through a state procedure, a judicial appeal of a denial of the initial petition for relief, and they require that the records be updated by removing the person's name from state and federal firearms prohibition databases (Gold & Vanderpool, 2018a). To restore one's gun rights, a person must be found not likely to act in a manner that is dangerous to the general public, and granting relief must not be contrary to the public interest (Gold & Vanderpool, 2018b).

As Gold and Vanderpool (2018b) indicated, there is a dearth of published data on the number of RFD applications throughout the country. In fact, they only found five published, peer-reviewed studies in this regard, associated with RFD petitions in three areas: LA County, New York State, and Oregon. The available data are particularly limited and dated even within these few studies, thereby making inferences essentially impossible to draw. Nevertheless, what is known is that most states have RFD programs. As of 2017, those that do not are Arkansas, Michigan, Montana, New Hampshire, New Mexico, Wyoming, and the District of Columbia (Gold & Vanderpool, 2018a). Nevertheless, states differ with respect to the processes for which a person can obtain relief, such as the overseeing gun relief authority, the psychiatric or medical evidence required, and the burden of proof that must be met (Gold & Vanderpool, 2018b). For instance, only 15 states require specific mental health evidence to be reviewed (e.g., documentation pertaining to mental health issues responsible for the firearm prohibitor, danger to self or others), and just eight

of those require a risk assessment, specifically. On the other hand, Oregon has a Psychiatric Security Review Board (PSRB), which is an administrative board tasked with the supervision and treatment of the state's insanity acquittees, and the statutorily defined gun-relief authority for the state (Britton & Bloom, 2015). The board consists of mental health professionals (psychologist, psychiatrist), an attorney, a probation officer, and a member of the public. Petitioners must provide copies of their mental health and court records pertaining to the mental health prohibitor, their juvenile and adult criminal histories, and a forensic risk assessment conducted by a licensed psychiatrist or psychologist containing an opinion of the petitioner's violence and suicide risk. This assessment must be conducted no more than 3 months prior to the petition for relief. In New York, the gun relief authorities are the Commissioner of the Office of Mental Health (OMH) and the Commissioner of the Office for People with Developmental Disabilities (OPWDD; Fisher, Cohen, Hoge, & Appelbaum, 2015). Applicants must provide the same records required by Oregon, with the addition of letters written by people close to the applicants pertaining to their reputation. In addition, a psychiatric evaluation, also conducted within 3 months of the petition, is required by OPWDD and is optional for OMH. However, this evaluation is distinguished from the one required by Oregon because it must be conducted by a licensed psychiatrist, not a psychologist or other licensed mental health professional (Fisher et al., 2015).

Of the primarily conservative states that do have mental health prohibitors and associated state RFD programs (e.g., Oklahoma, South Carolina, Alabama), the processes are similar to the ones described above. In Alabama, for instance, those barred from owning firearms based on mental health prohibitors can petition the district court for relief, and petitioners must submit evidence related to their reputation, current and past mental health records, details about the circumstances related to the mental health prohibition, and their criminal history (Ala. Code § 22–52-10.8(b), n.d.). Several other primarily conservative states (e.g., Texas, Wyoming, Montana) do not have state-specific mental health prohibitors, however; therefore, they do not have RFD programs. Still, some residents are marked via federal mental health prohibitors (e.g., involuntary psychiatric hospital commitments), but have no mechanism to restore their firearms rights—since the defunding of the ATF program in 1992.

This specific issue was raised in the recent landmark case of *Tyler v. Hillsdale County Sheriff's Department* (Tyler v. Hillsdale County Sheriff's Dept., 2016). In *Tyler*, Mr. Tyler was involuntarily committed to a mental health institution in 1986. When he attempted to purchase a firearm in 2011, he was denied due to the federal mental health prohibitions set forth in the Gun Control Act of 1968. When he appealed to NICS, he was informed that since Michigan, his state, did not have an RFD program in place, he would be unable to regain his federal firearms rights. He subsequently filed a federal lawsuit, arguing that the statute was unconstitutional because it essentially acted as a permanent ban on his Second Amendment right to bear arms. Initially, the federal district court dismissed Mr. Tyler's suit, relying on *D.C. v. Heller*'s (District of Columbia v. Heller, 2008) opinion that although the Second Amendment secures an individual right to bear arms, it does not forbid

"presumptively lawful" bans on firearms possession, such as mental illness. Upon appeal, the Sixth Circuit Court of Appeals held that this effective lifetime ban on possessing firearms infringes on the Second Amendment constitutional right. The court also noted that prior psychiatric commitment does not necessarily indicate a current mental illness or dangerousness to others. We will revisit this case in the *Restoration of Gun Rights and RFD Laws* subsection of *The Emerging Role of Psychology in Shaping Gun Policy in the United States* section that follows.

The significant variability across state mental health-related gun laws leads to numerous implications and related considerations. As previously discussed, differences in culture and political beliefs influence these laws, as do the states' statistics and history associated with firearm-involved violence and suicide, including but certainly not limited to high profile shootings, and the media coverage of firearm-related shootings, particularly those perpetrated by those with mental illnesses. Legislation and public policy initiatives are often inconsistent with the empirical literature and, as a result, are often seemingly ineffective in many respects. Taken together, there is a significant need for mental health professionals to provide lawmakers with evidence-based recommendations for mental health-related firearms laws, as well as informing them about the research pertaining to the effects of such laws. The aspiration is that providing legislators with such information would assist in the improved design of new laws and the modification of existing laws, while contemporaneously providing clarification to the public, thereby reducing the potentially deleterious effects of moral panic and associated legislation that can be characterized as CCT-based.

Although gun laws across the United States are complex and nuanced, what is clear is that there are very many that are associated with mental health issues—some more specifically than others, but related, nonetheless. Thus, it is far too simplistic to say there is no connection between mental health and guns, particularly given that both federal and state legislations directly address such a connection. As we have outlined, laws comprised of mental health-related prohibitors have been in place for quite some time and are only expanding, as are the responsibilities of medical and mental health professionals in assessing and reporting mental health concerns associated with violence and suicide risk. As noted, "red flag" laws have come to the forefront of policy discussions throughout the country, particularly in response to various high-profile active-shooter mass shooting incidents, which are often linked to mental health-related concerns. In light of the development and expansion of mental health-related laws across the United States, it is likely that RFD programs will be developed and expanded, contemporaneously. Nevertheless, it lacks utility to debate whether or not the "gun problem" in the United States is a "mental health problem," as such debate leads to black-and-white contentions that (predictably) fall short in and of themselves—and, more importantly, do not help inform effective policy efforts moving forward. Mental health professionals, especially psychologists, have had existing responsibilities vis-à-vis firearms in this country, and those responsibilities will only increase. Psychology, as a whole, also has an emerging role in shaping US gun policies.

The Emerging Role of Psychology in Shaping Gun Policy in the United States

In this section, we discuss the specific, emerging ways in which psychology can help shape three specific types of gun policies in the United States, namely, reporting laws for medical and mental health professionals, "red flag" laws, and laws associated with the restoration of gun rights and RFD programs. The field of psychology not only has a lot to offer with respect to informing these policy areas, but it is imperative that it does just that at this time, consistent with scientist-practitioner principles, and by embracing a comprehensive, inclusive approach to bridging research, practice, and policy to address one of our society's most pressing and complex problems: gun-related violence and suicide prevention.

Reporting Laws for Medical and Mental Health Professionals

The concept of medical and mental health professionals breaking confidentiality is a sensitive one to say the least, as such privacy is at the core of therapeutic relationships and applies across disciplines in these fields. Indeed, the importance of building rapport and, ultimately, a strong therapeutic alliance cannot be understated in the helping professions—such as what is referred to as "bedside manner" in the medical field. Nevertheless, the need to break confidentiality in certain situations was formally recognized over 40 years ago in the context of the U.S. Supreme Court's ruling in *Tarasoff*. As previously noted, this holding set the stage for duty to warn and protect laws throughout the country, providing immunity for medical and mental health professionals who break confidentiality when they believe that a bona fide threat of violence or suicide is present. While the foundations of these laws have not appreciably changed, some states have expanded their statutes to include gun-related considerations. One particularly illustrative example relevant to further exploration here is the aforementioned New Jersey expansion to NJ Rev. Stat § 2A: 62-A-16 (N. J. Rev. Stat § 2A: 62-A-16, 2013), *Medical or Counseling Practitioner's Immunity from Civil Liability*.

The existing New Jersey "duty to warn and protect" law pertained to anyone who was licensed by the state in the fields of psychology, psychiatry, medicine, nursing, clinical social work, or marriage counseling. Although often misunderstood, it is actually an immunity law for these professionals, such that they are immune from civil liability for disclosing privileged communication *and* for their patients' acts of violence or suicide *unless* they incur a duty to warn and protect potential victims and they fail to do so. A duty to warn and protect is incurred when a professional believes that the patient is at risk to engage in imminent, serious physical violence against a readily identifiable person or engage in self-injury. The law then delineates the ways in which professionals can discharge their duty to warn and protect; specifically, they must engage in one or more of the following: arrange for voluntary

psychiatric admission; initiate involuntary commitment procedures; advise local law enforcement; and/or warn the intended victim. Parents and guardians are contacted when patients and intended victims are under 18.

In 2018, New Jersey's Governor, Phil Murphy, signed Bill A1181, which was part of a series of six gun-related bills he signed into law. This particular bill amended the aforementioned duty to warn and protect law, such that it maintained all of the pre-existing parameters outlined above and added the following provisions, in part: practitioners are to notify the chief law enforcement officer of the patient's residential police department (or the Superintendent of State Police if the patient resides in a municipality that does not have a full-time police department) that a duty to warn and protect has been incurred. Furthermore, the practitioner should only provide the patient's name and other non-clinical identifying information, at which point the officer will determine if the patient has a firearms purchaser identification card, permit to purchase a handgun, or any other permit or license authorizing possession of a firearm. If so, additional procedures from the department will follow.

Of note is that this bill was passed by an overwhelming majority vote and readily signed by Governor Murphy. As for the rationale behind its development, the lead sponsors have said the following: "Closing this loophole is critical to protecting our families from the epidemic of gun violence" (Assemblywoman Patricia Egan Jones) and "The deterrent of mass shootings through reporting far outweighs repercussions" (Assemblywoman Shavonda Sumter; Kent, 2018). In response to various concerns raised, however, Assemblywoman Jones indicated that she was open to changes just 2 months after its passage (Mishkin, 2018). Specifically, there are three primary areas of particular concern with the passage of this type of legislation: (1) it is in direct contrast to recommendations made by leading mental health organizations and professionals; (2) it is associated with many serious implications for practitioners across mental health and medical disciplines and settings; and (3) it increases the likelihood of scrutiny and professional liability risk related to practitioners' risk assessments and associated clinical decisions. These concerns are discussed in depth below.

First, *the law is in direct contrast to recommendations made by leading mental health organizations and professionals.* This type of legislation has been considered counterproductive by many leading scholars, particularly because it interferes with the therapeutic relationship, but also because it is unlikely to be effective in reducing violence rates. Per the American Psychiatric Association's 2015 position statement on firearm-related issues:

> Because privacy in mental health treatment is essential to encourage persons in need of treatment to seek care, laws designed to limit firearm possession that mandate reporting to law enforcement officials by psychiatrists and other mental health professionals of all patients who raise concerns about danger to themselves or others are likely to be counterproductive and should not be adopted. In contrast to long-standing rules allowing mental health professionals flexibility in acting to protect identifiable potential victims of patient violence, these statutes intrude into the clinical relationship and are unlikely to be effective in reducing rates of violence. (Pinals et al., 2015, p. 198)

Second, *the law is associated with many serious implications for practitioners across mental health and medical disciplines and settings.* As a result of this legislation, New Jersey healthcare professionals have been given new reporting requirements; namely, they now have to contact the residential police departments of all clients for whom they incur a duty to warn and protect, regardless of whether they believe or know that they are firearm owners—and, also, regardless of whether the threat involves a gun. While this has significant implications for all medical and mental healthcare providers in the state, it is especially relevant to those working in clinics, college counseling centers, crisis centers, and even to those in private practice who work with high-risk clients who are more commonly presenting as at-risk to harm self or others. Of course, it was already the case that these professionals had the discretion to call the local police for emergency assistance, but this amendment is non-discretionary and *requires* a call to the patients' residential police departments. As such, there are various implications related to essential components of the provision of mental health services: the informed consent process, therapeutic alliance and rapport and trust, clients returning to treatment or even taking the first step in seeking treatment, and, finally, doubly stigmatizing clients by erroneously equating mental health-related issues to gun-involved violence. Per the New Jersey State Health Assessment Data (NJSHAD) database, there were nearly 70,000 inpatient hospital discharges in 2016 whereby the primary diagnosis was characterized as part of "mental and behavioral disorders." However, the state only has a 10% gun ownership rate (CBS, 2019). Therefore, it is quite possible that tens of thousands of non-gun owners with serious mental health needs will be brought to the attention of the 500-plus police departments throughout the state and the state police. One particularly problematic aspect is that no context will be provided to the departments because only "non-clinical" information will be given, which is likely to lead to the police making assumptions about the patients' problems as well as their level and type of risk. Moreover, because the residential police will only intervene with gun owners, any such assumptions and associated stigma that develop are likely to remain—even for those who do not own guns.

Again, many people in psychiatric crisis will have their residential police alerted that they were a danger to themselves or others without any further explanation or context. It is also noteworthy to remember that many hospitalizations are not prompted by a duty to warn and protect and, therefore, police would not be called regardless under this legislation. Thus, the spirit of the law is not reflected in many situations and, more importantly, those at potential risk with an actual gun might be missed. In addition, clinicians might now have to call two different police departments with different sets of information. For instance, a provider might call the police department where his office is located for emergency assistance with *clinical* information (consistent with the existing law) and a second department, the patient's residential department, with *non-clinical* information (the new aspect of the law). The multiple notifications can lead to confusion and a myriad of other problems, particularly because many clinicians see people outside of their residential municipalities. Once again, this modified law now has a significantly different complexion

than the pre-existing law, whereby practitioners already had the option of calling a local police department for help.

Concerns related to increased stigmatization are likely to reverberate further—in the form of patients limiting their disclosures and deterring people from seeking mental health treatment. It is not necessary to speculate much about the likely effects, as they have been witnessed in the law enforcement and military communities. Indeed, the need to ensure confidentiality has been touted as essential and of paramount concern for those working with correctional and police officers as well as military personnel to circumvent barriers related to stigma and subsequent treatment deterrence. In fact, New Jersey itself has demonstrated direct recognition of such barriers in the context of their Cop2Cop and AntiStigma programs. These programs ensure confidentiality to officers despite the fact that these groups are at appreciably greater risk of suicide (see New Jersey Police Suicide Task Force Report, 2009). It remains unclear if this amended law will be enforced with law enforcement personnel themselves, as on-duty, off-duty, and retired officers in the state have been exempted from other gun laws to which civilians must adhere (e.g., magazine limits). Of course, there are numerous other potential unintended consequences, such as the implications of clinicians calling residential police departments on their undocumented immigrant patients.

Third, *the law increases the likelihood of scrutiny and professional liability risk related to practitioners' risk assessments and associated clinical decisions.* Perhaps the most ironic aspect of this legislation is that it was attached to a civil liability immunity law intended to actually protect clinicians by immunizing them from being held liable for breaking confidentiality. While it remains embedded within the same law, practitioners must remember that the law does not inoculate them from liability for conducting improper risk assessments. Put differently, the law only protects practitioners from being held liable for disclosures they make once they believe that a *duty to warn and protect* is incurred. However, the question remains: Were the risk assessment procedures that led to that decision sound? In other words, was the duty to warn and protect warranted in the first place? Given that clinicians will be reporting clients to their residential police departments at significantly greater rates than ever before, levels of scrutiny and professional liability risk will likely skyrocket. Thus, laws like this put clinicians at risk professionally rather than protecting them—counter to its purpose. As such, clinicians will need to seek consultation and additional education and training on issues related to updated informed consent information, assessing suicide and violence risk, communicating with police departments, and various other forensically relevant issues.

"Red Flag" Laws

As previously outlined, a number of states have begun to pass Emergency Risk Protective Order (ERPO) and Gun Violence Restraining Order (GVRO) laws, which have been collectively referred to as "red flag" laws. As noted, these laws effectively block a person's gun rights if a petitioner can demonstrate that the person is at ele-

vated risk to harm others or engage in self-injurious behavior. Some jurisdictions (e.g., New Jersey) allow any person to file such a petition through a law enforcement mechanism, whereas others allow only family members to do so. In the context of addressing the potential utility and concerns with such laws, perhaps the most salient, albeit initial, question to ask is: *What is known about lay persons' abilities to accurately detect mental health-related problems and violence and suicide risk in others?* Many assume that lay people are equipped to do so.

Indeed, the well-known and universally applied initiative of the U.S. Department of Homeland Security (n.d.) reflects such thinking: "If You See Something, Say Something." While this initiative is focused on identifying terrorism-related crimes, it operates from the same types of assumptions and procedures that are associated with ERPOs (i.e., lay persons reporting safety concerns to those in authority). The Department of Homeland Security identifies 15 areas that might be signs of terrorism-related suspicious activity, as they call it. Of course, a review of those areas is outside our scope here; however, it is illustrative to take one step further to address the utility of this initiative. The simple answer to the above question is that it is unknown because there are no publicly available data to speak to the question in an aggregate manner. Although some success stories of thwarted attacks are noted at times, it is not possible to make an empirically based judgment without much more information. For instance, knowing how many suspicious activities were never reported; how many reports were deemed to be inappropriate, false, or simply inaccurate; and how seemingly appropriate reports were handled and concluded would be essential to answering the above question. The New York City Metropolitan Transportation Authority (MTA) was the first to implement this initiative and an early glimpse into the reported data raised questions about false and even inappropriate leads—and even those that led to arrests were sometimes not directly associated with terrorism (Neuman, 2008). In other words, government officials might tout the increased reports, but is it actually good or bad that there are so many reports if they are predominantly inaccurate? It is simply unknown and it certainly should not be assumed that this initiative has been successful in relation to its intended purpose without having the proper data to conduct the policy analyses needed to address this ultimate question of utility (see Sternstein, 2013).

One likely critique of our consideration of the aforementioned initiative to illustrate potential shortcomings of "red flag" laws is that lay people are better equipped to identify mental health-and risk-related problems than they are at flagging suspicious activities associated with terrorism, particularly among people they know. While this might be true, relatively speaking, assuming that the general public has the ability to accurately detect mental health- and risk-related problems is faulty at best. In fact, Americans' health literacy is relatively poor and there is much reason to believe that their mental health literacy is even worse. In its 2010 National Action Plan to Improve Health Literacy, the U.S. Department of Health and Human Services indicated that "Nearly 9 out of 10 adults have difficulty using the everyday health information that is routinely available in our health care facilities, retail outlets, media, and communities" (p. 1) and, in fact, the limited health literacy in the United States was referred to as a public health problem.

Approximately 20 years ago, Jorm and colleagues coined the term mental health literacy (MHL), which they defined as: "knowledge and beliefs about mental disorders which aid their recognition, management or prevention" (Jorm et al., 1997, p. 182). Jorm (2012) has since indicated that not much has improved in this regard:

> For the treatment of major physical diseases, many people know the appropriate sources of professional help available, some of the medical and complementary treatments they might receive, and the likely benefits of those treatments. This understanding also underpins widespread public support for investment of community resources to deal with these physical diseases…This situation contrasts with what currently occurs with mental disorders, where many members of the public are ignorant about what they can do for prevention, people commonly delay or avoid seeking treatment and view recommended treatments with suspicion, and they are unsure how to assist others with mental disorders. (p. 231)

Jorm also explained that MHL does not simply pertain to knowledge alone, but how such knowledge is associated with actions that can benefit one's own or others' mental health. Thus, he indicates that MHL has five components: (a) knowledge of the prevention of mental health disorders, (b) recognition of when such a condition is developing, (c) knowledge of help-seeking options and available therapeutic interventions, (d) knowledge of effective self-help strategies for milder mental health problems, and (e) mental health-related first aid skills to support those who are developing a psychiatric disorder or who are in the midst of a psychiatric crisis. If there were any question that MHL has been a concern in the United States, one would just have to remember that May has been considered Mental Health Awareness Month for 70 years to this point, and many organizations and media outlets continue to promote awareness, debunk myths, and seek to reduce stigma associated with mental illness. Such facts beg the (rhetorical) question: why would this all be necessary at that level if mental health was well understood by most people? In fact, the push to increase MHL and decrease stigma and misconceptions is so notable that states such as New York and Virginia have recently passed laws mandating mental health education in schools (DiGiulio, 2018). The New York law, in particular, indicates that such education will:

> …increase the likelihood that they will be able to more effectively recognize signs in themselves and others, including family members, and get the right help…begin to remove the stigma surrounding mental illness—a stigma that causes ostracism and isolation…and save lives.

It is important to note that lay persons' misunderstandings are not solely associated with inabilities to differentiate diagnostic presentations (e.g., Bipolar Disorder versus Borderline Personality Disorder), but misperceptions about mental health extend elsewhere. For example, it has long been cited that much of the public believes that the insanity defense is overused and those who are acquitted based on the defense are essentially free; however, the reality is that this type of mental health defense is actually set forth in less than 1% of felony cases, it is only successful in approximately one-quarter of those matters, and those who successfully use it are typically confined as long or even longer than they would have been otherwise (Borum & Fulero, 1999). Indeed, New York Law School Professor Michael Perlin

has reminded us that such misperceptions remain in his recent chapter, "The Insanity Defense: Nine Myths That Will Not Go Away" (Perlin, 2017).

It is illustrative to consider some additional issues related to lay persons' identification abilities in legal contexts, in general, and the associated outcomes before turning to our discussion of restoration of gun rights laws in the next section. One particularly noteworthy area is that of eyewitness reliability. Per the Innocence Project, mistaken eyewitness identifications contributed to more than 70% of the wrongful convictions in the United States, which were reversed by post-conviction DNA evidence. As Wixted and Wells (2017) have articulated in their comprehensive synthesis related to eyewitnesses, there is a relationship between confidence and accuracy, such that high-confidence identifications of suspects are notably accurate—albeit, primarily under "pristine" conditions: "However, when certain non-pristine testing conditions prevail (e.g., when unfair lineups are used), the accuracy of even a high-confidence suspect ID is seriously compromised" (p. 10). As they noted, this is an important distinction because there are not always pristine conditions in the real world. The nuances are many, complex, and outside of the scope of the present chapter, but what is relevant to highlight here is that it would be inappropriate to assume that lay people are particularly accurate when they have witnessed something or someone—particularly someone of another race (i.e., cross-race identification bias, or own-race bias, ORB; see Meissner & Brigham, 2001). Some might wonder if these findings are simply associated with the fact that an observer might not be able to hear an actor or see them interact with others more closely.

For some insight in that regard, the *deception detection* arena is illustrative. Contrary to what some might believe, about half of a century's worth of empirical social psychology research has consistently indicated that people are only slightly better than chance at distinguishing truths versus lies (Bond & DePaulo, 2006), and police officers show similar (in)accuracy rates (see, e.g., DePaulo & Pfeifer, 1986; Meissner & Kassin, 2002; Vrij & Graham, 1997). As Zimmerman (2016) noted, "Research has consistently shown that people's ability to detect lies is no more accurate than chance, or flipping a coin. This finding holds across all types of people—students, psychologists, judges, job interviewers and law enforcement personnel" (p. 46).

It is also important to remember that the aforementioned eyewitness and deception detection-related issues are associated with what lay people have actually directly witnessed and observed—a relatively simple task compared to making inferences about another person's mental state and potential risk level. Some might feel that there is no potential harm in having the general public make reports, but there is more beyond the aforementioned considerations outlined in the context of "See Something, Say Something" initiatives. Namely, the reporting that takes place to child protective service agencies throughout the country can be illustrative. Indeed, the potential for false reporting is formally recognized by the 60% of states that carry penalties for those who purposely report child abuse or neglect when they know the report is false (see Child Welfare Information Gateway, 2019). Of course, there is the potential for mistaken or otherwise unintentionally false reports as well. While statistics on the actual number of false reports nationwide are not readily

available, it is fair to say that they undoubtedly exist and include those that are made intentionally.

Another particularly relevant area to consider in this context is domestic violence-related protective orders, or restraining orders. Precise statistics as to the percentage of dismissals is similarly unavailable, but there is reason to believe that many are often readily granted but dismissed at the initial hearing and not changed from temporary to final restraining orders (see e.g., Lowe, 2017). While there are many reasons for this, it is also fair to assume that a proportion of them were based on false or otherwise improper reports. The concerns we raise here in relation to reports to child protective service agencies and for domestic violence protective orders are certainly not intended to dismiss the importance (and effectiveness) of these prevention-driven mechanisms for many people, but it is essential to simultaneously recognize their limitations and potential misuses. The same is true for suicide risk assessment approaches. Namely, the leading measure in that context, the Columbia-Suicide Severity Rating Scale (C-SSRS; Posner et al., 2008), has screening versions designed for use by families, friends, and neighbors. However, the "high risk" questions are explicit—specifically asking if the person intends to kill himself and has put together a detailed plan to do so. These questions focused on elevated risk constitute a far cry from having a general or passing concern about someone.

Indeed, we have also outlined the notable public misperceptions associated with mental illness and interpersonal violence throughout this chapter. Recall that, contrary to public perception, most people with serious mental illness are never violent (although small subgroups are at increased risk during specific high-risk periods); only 3–5% of all violence, including but not limited to gun violence, is attributable to even serious mental illness; and people with serious mental illness are, in fact, more likely to be victims than perpetrators of violence (McGinty & Webster, 2016; see also Swanson, Holzer, Ganju, & Jono, 1990, Swanson et al., 2015). In fact, the U.S. Department of Health & Human Services has classified the following statement as a "myth" on their website: "People with mental health problems are violent and unpredictable." To the contrary, they note that the "vast majority of people with mental health problems are no more likely to be violent than anyone else" and "people with severe mental illnesses are over 10 times more likely to be victims of violent crime than the general population." Moreover, they conclude by noting: "You probably know someone with a mental health problem and don't even realize it, because many people with mental health problems are highly active and productive members of our communities."

Many other organizations have followed suit, such as the American Foundation for Suicide Prevention (AFSP), whose Chief Medical Officer posted a piece on their site: "Debunking the Myth of Violence and Mental Illness." In sum, it is clear that the general public continues to experience problems with respect to their mental health literacy and associated misperceptions about mental health. This is not an indictment of the public, though, as it is difficult enough for trained clinicians to recognize when a person's risk rises to the level of a *reportable* concern. Despite the fact that clinicians have received significant amounts of education and training related to violence and suicide risk, assessing and managing risk in therapeutic con-

texts is often very challenging, and duty to warn and/or protect laws are often a source of discomfort for many practitioners. In addition, it is not uncommon for there to be disagreement about examinees' risk levels and associated recommendations for intervention among evaluators, including forensic evaluators. The title of a 2016 press release by the American Psychological Association is illustrative: "After Decades of Research, Science is No Better Able to Predict Suicidal Behaviors" (American Psychological Association, 2016). This conclusion was based on a meta-analysis of 50 years of research. Namely, Franklin et al. (2017) analyzed 365 studies and concluded that suicide risk prediction was "only slightly better than chance for all outcomes" and "predictive ability has not improved across 50 years of research" (p. 187). As a result, a shift from prediction-based to *prevention*-based risk (reduction and management) models has been recommended for a number of years. Skeem and Monahan (Skeem & Monahan, 2011) expressed their hope that the field "shifts more of its attention from predicting violence to understanding its causes and preventing its (re)occurrence" (p. 41). Indeed, the Risk-Need-Responsivity (RNR; Andrews, Bonta, & Hoge, 1990) model has been one of the most influential and well-accepted approaches to assess and manage risk for decades.

Although it is outside the scope of this chapter to provide a review of the way in which mental health diagnostic systems have developed and continue to evolve, it is important to note that the Diagnostic and Statistical Manual of Mental Disorders is now in its Fifth Edition (DSM-5; American Psychological Association, 2013), as it has been regularly revised since its inception in 1952. Furthermore, there have been substantial, substantive changes over the years. Mental health disorders are very much socially constructed, based on societal norms, and require some level of consensus—albeit from professional work groups. The point remains that what constitutes a mental health problem, be it a formal condition or symptoms related to such, is often arguable even among trained clinicians—which is further complicated by the fact that diagnostic criteria and labels routinely change.[1] Hence, lay persons are unlikely to be reliable judges of someone's risk of committing gun violence, even when they know the person well.

Restoration of Gun Rights and RFD Laws

This section outlines what is known about the course of psychiatric conditions and the typical trajectory of suicide and violence risk, in general, and how such knowledge can inform the ways in which states handle the restoration of persons' gun rights and associated RFD programs. As noted, the federal government and most states have RFD programs, which provide an opportunity for those who had been deemed prohibited persons due to mental health reasons to have their gun rights

[1] The interested reader is also encouraged to read Rosenhan's (1973) study, which certainly stirred some very interesting professional discussions in the years that followed.

restored (see Gold & Vanderpool, 2016, for a thorough review). Although many RFD mechanisms have been in place for many years, there has been a particular increase in them nationwide over the last decade. As noted earlier, a relatively recent landmark case illustrates the issue at hand rather well: *Tyler v. Hillsdale County Sheriff's Department* (2016). In the context of this case, Mr. Tyler had been involuntarily hospitalized due to suicide risk following an especially difficult divorce approximately 30 years prior. Many years later, he sought to become a gun owner and contended that he should not be prohibited from such, as he was not mentally ill. Although RFD programs had been in place, there was none in Tyler's state of Michigan. Ultimately, the Sixth Circuit U.S. Court of Appeals held, in a 10–6 decision, that Mr. Tyler should be able to exercise the right to bear arms in any state where he chooses to reside, regardless of whether or not the state had chosen to accept federal grant money to fund a relief program. The Court further held that Congress designed the law enforcing such prohibitions for use during periods in which the person in question is deemed dangerous, which does not necessarily equate to a lifelong prohibition. While the Court did not order Mr. Tyler's rights to be restored instantly, it provided him with the opportunity to demonstrate that he had regained psychiatric and behavioral stability, such that his mental illness was not resulting in an elevated suicide or violence risk.

While every mental health condition is associated with a particular set of symptom combinations manifested and experienced differently across those affected, some are associated with poorer prognoses given their typical trajectory and treatment response. For instance, severe illnesses such as Schizophrenia and Bipolar I Disorder tend not to spontaneously remit, whereas Adjustment Disorders are, by definition, caused by an identifiable stressor(s) that might no longer be present or applicable over time. The DSM-5 is over 900 pages and contains approximately 300 mental health disorders (compared to about 100 in the original DSM). Conditions are often quite heterogeneous in and of themselves because of the way in which psychiatric diagnoses are made. For instance, perhaps the title of Galatzer-Levy and Bryant's (2013) publication in the Association for Psychological Science's (APS) journal, *Perspectives on Psychological Science*, reflects this heterogeneity best: "636,120 Ways to Have Posttraumatic Stress Disorder." If this did not present enough challenges, the APA sets forth the following "Cautionary Statement for Use of DSM-5" in the beginning of the manual:

> Although the DSM-5 diagnostic criteria and text are primarily designed to assist clinicians in conducting clinical assessment, case formulation, and treatment planning, DSM-5 is also used as a reference for the courts and attorneys in assessing the forensic consequences of mental disorders. As a result, it is important to note that the definition of mental disorder included in DSM-5 was developed to meet the needs of clinicians, public health professionals, and research investigators rather than all of the technical needs of the courts and legal professionals. It is also important to note that DSM-5 does not provide treatment guidelines for any given disorder. (p. 25)

In this way, the APA appropriately reminds us of the notable potential limitations of the applicability of diagnoses to certain contexts. Still, some diagnoses (e.g., neurocognitive disorders, psychotic disorders, mood disorders, substance use disor-

ders, antisocial personality disorder) might be, on their face, relatively more concerning vis-à-vis the misuse of firearms. One such example is major and minor neurocognitive disorders, formerly labeled dementia. In their article on the potential risks related to gun ownership among older adults, Greene, Bornstein, and Dietrich (2007) noted that the US population is aging and over 12% of Americans are 65 or older. Moreover, issues related to legal capacities more frequently arise within this age group, such as competency to make medical, financial, and various other decisions. As a result, some states have implemented policies to attend to these potential concerns more closely (e.g., renewing driver's licenses more frequently). As Greene et al. pointed out, the most common concern in older adults with respect to their capacity-related abilities is that of cognitive and functional decline, including that which is associated with age-related dementia (now referred to as Neurocognitive Disorder). In this vein, the authors set forth considerations for gun ownership among older adults. They aptly noted that, despite minimum age requirements for gun ownership, there are no maximum requirements.

Greene et al. (2007) also reminded us that most impaired persons have not been adjudicated incompetent. Moreover, older adults have significantly lower rates of criminal offending as compared to other age groups, but are more likely to die by suicide. That said, those diagnosed with dementia can develop uncharacteristic and increased aggressiveness at notably higher rates than their counterparts without such a diagnosis. Still, Greene et al. (2007) noted that there is not much known about firearm ownership and related risks among older adults with dementia diagnoses, although statistics on safety concerns with respect to their engagement in daily activities are largely unknown (e.g., cooking, walking in high traffic areas, managing finances—in the context of their vulnerability to be exploited). As a result, they noted that most people diagnosed with dementia are under the care and supervision of family members or other caregivers. Nevertheless, they noted, "Given our sparse knowledge about the risks posed by firearms in combination with dementia, it is not surprising that few guidelines exist to evaluate the continued use of firearms by individuals whose faculties are in decline" (p. 417).

Thus, Greene and colleagues (Greene et al., 2007) recommended a policy change to require reevaluating gun licenses more regularly, with particularly narrower intervals after age 65, to include demonstrating proficiency in firearm use, vision testing, and (brief) cognitive testing to ascertain baseline and subsequent levels of functioning. As a general reference point, they cited New Jersey's requirements for retired police officers who wish to continue to carry. In addition, they recommended governmental, public health, and law enforcement officials spearhead efforts to increase public awareness related to gun safety concerns among older adults. Furthermore, Greene et al. noted that healthcare providers, including both medical and mental health professionals, have a direct role in firearm-related risk assessment and management with older patients—particularly those that raise concerns related to cognitive impairment and, of course, violence and suicide risk. As such, they suggested considering legislation that would require physicians or psychologists to report confirmed cases of dementia to firearm licensing bureaus. They further noted the importance of asking about the accessibility of guns in the home to those who

might be suffering from dementia. Lastly, they advocated for greater reliance on cognitive "physicals" or "check-ups" to screen for high-risk older adults. As for future research directions, they indicated the need for additional epidemiological research to determine the prevalence of homes with guns and older adults, and their frequency of use; additional research on the specific risks posed and when aggression and violence are most likely to occur in dementia patients; how clinicians evaluate capacity issues associated with home safety, including gun safety; and the effectiveness of educational and other outreach efforts to increase public awareness in this context.

Nevertheless, while certain diagnostic labels might be ostensibly concerning given the typical symptom profile, none are dispositive of either increased or decreased risk, per se. Indeed, a person diagnosed with Bipolar I Disorder might be deemed very low risk to engage in violence or self-harm, whereas someone with a Learning Disability or even no diagnosable condition at all could be considered to be "high-risk." Furthermore, as noted, only 3–5% of all acts of interpersonal violence are attributable to even severe mental illnesses, and firearm-involved violence and suicide is associated with psychiatric *crises* and not simply mental health problems per se. This distinction is what necessitates independent mental health evaluations that take into account case-specific factors and consider mental health issues at the symptom and behavioral levels. Otherwise, decisions would be made to categorically prohibit people with certain mental health diagnoses, which runs counter to what is known about the limitations of diagnoses—with respect to potential misdiagnosis, but also the aforementioned heterogeneity issues—and the need to conduct *functional, context-specific* assessments when trying to address a psycholegal, or forensic, question. As Golding and Roesch (1988) articulated in relation to competency to stand trial evaluations over 30 years ago:

> Mere presence of severe disturbance (a psychopathological criterion) is only a threshold issue—it must be further demonstrated that such severe disturbance in *this* defendant, facing *these* charges, *in light of existing* evidence, anticipating the substantial effort of a *particular* attorney with a *relationship of known characteristics*, results in the defendant being unable to rationally assist the attorney or to comprehend the nature of the proceedings and their likely outcome. (p. 79, emphasis in original)

The principle of conducting functional, context-specific evaluations in legal matters remains applicable and is indeed considered a component of best practices in forensic mental health assessment (FMHA). As we have contended previously, psychological firearm evaluations represent a specific type of FMHA (see Pirelli et al., 2019; Pirelli, Wechsler, & Cramer, 2015; Pirelli & Witt, 2017). In addition to the model we began developing in 2015 for use in a range of firearm-related mental health evaluations, the Pirelli Firearm-10 (PF-10), another model has been created and published to provide evaluators with a framework from which to work when conducting these types of assessments. Namely, Gold and Vanderpool (2016) set forth over a dozen sets of inquiries to incorporate into RFDs. Their evaluation framework is consistent with the recommendations set forth by The Consortium for Risk-Based Firearm Policy (2013) as well as the principles Heilbrun (2009) outlined in his book outlining best practices in risk assessment. Within the context of

their framework, Gold and Vanderpool use 16 sets of questions for the evaluator to consider, which correspond to the following areas of inquiry: the reason the person is seeking restoration of their gun rights; identifying the factors associated with the prohibition in the first place, including if such pertains to concerns about firearm misuse, mental health, violence, suicide, or substance abuse; assessing adherence to and the impact of mental health treatment, if applicable; identifying various static and dynamic risk and protective factors; and determining if access to guns would increase risk.

The PF-10 incorporates the same areas as Gold and Vanderpool's RFD framework, but has additional gun-specific domains associated with the examinee's history of exposure to firearms; knowledge of and perspectives on gun safety and related regulations; personal experience with guns; and their intent for use, storage, and continued education moving forward. It also includes assessment of response style, consistent with forensic assessment principles. It is a structured professional judgment (SPJ) guide designed to assist practitioners conducting firearm evaluations with civilians who are either first-time applicants or those seeking to have their gun rights reinstated. It can also have utility in other firearm-related matters, such as with law enforcement, correctional, governmental, and armed security personnel. It is a 10-domain framework to be incorporated along with a semi-structured interview for structuring gun evaluations, in addition to consideration of other sources of data typically included in FMHAs (e.g., records review, collateral interviews, psychological testing). Pirelli et al. (2019) described each domain: (1) Reason for Seeking Licensure/Reinstatement; (2) Exposure to Firearms; (3) Knowledge of & Perspectives on Firearm Safety Precautions & Relevant Firearm Regulations; (4) Experience, Intent for Use, Storage, and Continued Education; (5) Response Style; (6) Violence Risk; (7) Domestic and Intimate Partner Violence Risk; (8) Suicide Risk; (9) Mental Health; and (10) Substance Use.

While frameworks like these can be quite helpful in providing guidance and structure to evaluators, they do not substitute for professional competence and decision-making. Their proper role is akin to the significant limitations we noted in our discussion on reporting laws vis-à-vis attempts to legislate discretion. Assessment guides and measures are designed to *facilitate* clinical decision-making, *not* substitute for it. Although screeners and other measures might be developed in the firearms and mental health arena moving forward, and these might even include quantification at some level (e.g., item and total scores), there can simply be no "test" to determine who is suitable to own and operate firearms or who is at-risk for violence and suicide in the foreseeable future. Constructs such as "firearm ownership suitability" are considered to be open-textured and, therefore, context-specific, functional evaluations are required—in the same way Golding and Roesch (1988) conceptualized adjudicative competency evaluations. There are two particularly noteworthy differences from the competency arena, however: (1) the inadequate firearm-specific training medical and mental health professionals have received by and large to date and (2) professionals' reluctance in addressing these issues and conducting the types of evaluations often needed to determine firearm ownership suitability as well as firearm-related violence and suicide risk. Identification of the

issues and the roles and responsibilities of medical and mental health professionals is an important step, but only the first step. Such identification must be tied to realistic, evidenced-based action points designed to reduce gun deaths in the United States, which we set forth in the section that follows.

Recommendations for Firearm-Related Public Policy

The following public policy-related recommendations are based on the current behavioral science associated with firearms and mental health in the United States.

Focus on Psychological Crisis and Risk, Not Psychiatric Diagnosis Most people with diagnosed mental health conditions do not engage in acts of violence or suicide (with or without guns). Therefore, policies primarily focused on identifying the connection between violence and suicide risk and certain types of crisis-related symptoms (e.g., paranoia, hopelessness) and emotional experiences (e.g., feeling burdensome or socially isolated), rather than on diagnostic labels, will likely be more effective.

Prioritize Violence and Suicide Risk Assessment Policies associated with background checks, gun styles, hardware and accessories, mental health treatment, and active shooter drills might have some effectiveness in certain instances. However, increased firearm-related attention, restrictions, and treatment requirements will only increase the need for individual risk assessments and evaluations for gun ownership suitability. The importance of violence and suicide risk assessments is an *overlooked and underestimated* critical step. Many things can be legislated, but discretion cannot—particularly that which is based upon clinical decision-making. Only a certain proportion of those who raise firearm-related concerns are categorically prohibited from owning and operating guns at the outset. Others will either be flagged when they apply for a firearm permit or will raise concerns at a later point (e.g., in gun forfeiture contexts). The vast majority of people who raise concerns in the context of their suicide and violence risk will do so outside of any formal connection to or threats associated with guns per se. As a result, risk assessments will be at the core of many gun rights matters.

Encourage Communication Reviews of high-profile mass shootings have shown that many were planned and warning signs were present (e.g., see FBI, 2014). However, there were also often roadblocks to communication occurring at two main levels: (1) between the (eventual) perpetrator and potentially influential professionals; and (2) among various important stakeholders—such as family members, friends, and professionals across disciplines. To address the first issue, entities such as schools should typically avoid hardnosed disciplinary approaches that might break down communication with those at elevated risk. As for the second, confidentiality laws and policies need to be reconsidered in certain situations. Barriers to treatment have been recognized for some time in the context of law enforcement,

correctional, and military personnel, prompting initiatives focused on ensuring confidentiality; however, these groups have appreciably higher rates of suicide than their civilian counterparts. Thus, policies solely intended for civilians will overlook groups who are at notably higher risk for certain types of gun-involved deaths. In addition, laws that require medical and mental health professionals to report all patients who raise violence- and suicide-related risk concerns should *not* be set forth, for the reasons described above (see section: *Reporting Laws for Medical and Mental Health Professionals*).

Provide Firearm-Specific and Mental Health Training Across Disciplines Gun deaths have been referred to as a public health problem, but most medical and mental health professionals receive no systematic, formal training on firearm-specific issues, and many have aversive attitudes toward issues related to guns, legal matters, and forensic issues such as risk assessment, more generally. Although clinicians learn to conduct suicide and violence risk assessments, such assessment is typically at a screening level and might only include a single inquiry about guns (i.e., solely whether a client has access). As a result, firearm access alone is often treated as a (high) risk factor across all cases and, therefore, prevents professionals from discerning between high- and low-risk cases that involve guns. Therefore, it is essential for medical and mental health professionals to develop professional and cultural competence regarding gun-related issues, just as it is critical for other disciplines (e.g., law enforcement and legal personnel) to receive education and training on mental health-related issues. Failure to do so will result in errors vis-à-vis firearm-related risk. It is also very important for medical and mental health professionals to be able to conduct comprehensive evaluations and lead multidisciplinary threat assessment teams when firearm-involved risk factors arise; therefore, it is essential for these groups to be trained to conduct firearm-specific evaluations (e.g., for flagged applicants or owners seeking reinstatement in forfeiture matters). They are neither inherently equipped nor properly trained to do so at the advanced levels often expected of them to this point. Thus, focused professional education and training on firearm-specific issues is essential for medical and mental health practitioners and must be prioritized. We have previously published considerations for firearm-specific education and training, which we continue to encourage (see Pirelli & Gold, 2019; Pirelli & Witt, 2017).

Conduct Policy Analyses Lawmakers should collaborate with nonpartisan (or, at least, bipartisan) medical and mental health professionals and researchers to conduct policy analyses. It is critically important to evaluate the effectiveness of the numerous firearm-related laws that exist and for legislators to embrace transparency, accountability, and responsibility in the context of their proposals and policy efforts. Psychological scientists should play a key role in this regard, as many have significant expertise in conducting high-quality research on issues associated with firearm-related violence and suicide.

Summary and Conclusion

The relationship between firearms and mental health is very complex and nuanced, and efforts to completely link them are just as incorrect as those that seek to fully disconnect them. The reality is context-specific, such that certain types of gun deaths in some cases are strongly connected to mental health-related problems, whereas others do not have any particularly notable connection at all. As we have noted, there are certain particularly relevant national statistics to consider as a foundation for our understanding of issues related to gun-involved violence; *Think* "1, 2, 3, 2/3." Namely, less than 1% of gun deaths have been the result of an active shooter; 2% of murders have been committed with rifles; 3–5% of all acts of interpersonal violence are attributable to even severe mental illness; and two-thirds of gun deaths are suicides. Despite the compelling nature of these numbers, they tend to be disregarded or overshadowed by certain politicians, advocacy groups, and media outlets who often portray the sensationalized image of the *mentally ill mass shooter with an assault weapon*—a stereotype actually drawn from the lowest base rates in each respective area. Indeed, most Americans support gun control measures at some level, and existing federal and state laws prohibit certain people from owning firearms. However, the question as to what constitutes a prohibited person is one that is not always straightforward and, thus, up for some debate. As we have addressed throughout this chapter, there are additional areas of consideration relevant to psychologists across contexts, such as reporting duties, "red flag" laws, and RFD programs. Therefore, we have provided an outline of the emerging role of the psychological profession in shaping gun policy in the United States. It is a huge calling and responsibility, but one which psychology needs to embrace given how much the field has to offer vis-à-vis informing public policy in the firearms arena.

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