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Cumulative Disadvantage: A Psychological Framework for Understanding How Innocence Can Lead to Confession, Wrongful Conviction, and Beyond

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Abstract
False confessions are a contributing factor in almost 30% of DNA exonerations in the United States. Similar problems have been documented all over the world. We present a novel framework to highlight the processes through which innocent people, once misidentified as suspects, experience cumulative disadvantages that culminate in pernicious consequences. The cumulative-disadvantage framework details how the innocent suspect's naivete and the interrogator's presumption of guilt trigger a process that can lead to false confession, the aftereffects of which spread to corrupt evidence gathering, bias forensic analysis, and virtually ensure wrongful convictions at trial or through pressured false guilty pleas. The framework integrates nascent research underscoring the enduring effects of the accumulated disadvantages postconviction and even after exoneration. We synthesize findings from psychological science, corroborating naturalistic evidence, and relevant legal precedents to explain how an innocent suspect's disadvantages can accumulate through the actions of law enforcement, forensic examiners, prosecutors, defense attorneys, judges, juries, and appeals courts. We conclude with prescribed research directions that can lead to empirically driven reforms to address the gestalt of the multistage process.

Keywords
decision making, innocence, social influence, confessions, pleas, biases, stigma

In 1999, in Choctaw County, Alabama, Medell Banks was charged with capital murder for killing his estranged wife's newborn baby. Interrogated across several days without an attorney, Banks eventually confessed. He went on to recant his confession, but facing the death penalty or life without parole if convicted, he pleaded guilty to manslaughter in exchange for 15 years in prison. Among the many troubling issues with this case, arguably the most remarkable was that the confession and guilty plea pertained to a crime that never even *occurred*. Medell Banks was factually innocent of the "murder"—which became clear when medical tests revealed that his estranged wife was physically unable to conceive the child he was accused of killing. After 2 years in prison, Banks was exonerated and released (Herbert, 2002).

How can factually innocent people get caught up in situations such as that of Medell Banks? Documented cases of wrongful convictions reveal that such occurrences are not uncommon. False confessions are associated with a nontrivial percentage of recently discovered DNA exonerations; in the archive of the Innocence Project, false confessions have contributed to approximately 30% of wrongful convictions (Innocence Project, 2019a). Similar issues have been documented elsewhere in the world, indicating the sheer scope of the problems

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that confront innocent people who are targeted as suspects (e.g., Jolicoeur, 2010).

Here, we present a novel framework that brings together research demonstrating the existence of a multistage set of processes wherein innocent individuals—once mistakenly targeted for suspicion—suffer cumulative disadvantages starting during police interviews and custodial interrogations; continuing into the investigation of witnesses, alibis, and forensic evidence and through guilty-plea negotiations with prosecutors and/or a courtroom trial before a judge and jury; and persisting into postconviction appeal efforts at exoneration and reintegration into society.

Introducing a framework that captures cumulative disadvantage processes, as innocents "transit through the criminal justice system" (Hagen, 1974, p. 374), has an advantage over static analyses at single points of time and enable critical advances. A prime example is the recent demonstration that Black and Latino defendants in the United States are treated more harshly at each progressive stage of the criminal-justice system; minorities are more likely than White defendants to be detained, receive a custodial plea offer, get incarcerated, and, in some cases, receive harsher sentences (Kutateladze, Andiloro, Johnson, & Spohn, 2014).

Overview of the Framework

To introduce the multistage cumulative-disadvantage framework, we provide a brief overview of the following stages to be detailed in subsequent sections. The first stage involves a *precustodial interview* during which time police identify innocent people as suspects for interrogation by misperceiving them to be deceptive in their verbal and nonverbal behavior.

During this time, innocent suspects, unlike their guilty counterparts, exhibit behaviors associated with the phenomenology of innocence—a naive mind-set that leads them to believe they have nothing to hide or fear. In particular, they waive their Miranda rights to silence and an attorney, which sets the stage for a confrontational, confirmatory, and guilt-presumptive process of interrogation. For reasons related to the phenomenology of innocence, it is conceivable that a guilty *advantage* exists during the initial stage—guilty individuals are more reluctant to discuss information about the wrongdoing, less often waive their interrogation rights, and more quickly mobilize cognitive resources that facilitate their decision making.

Permitted by the innocent suspect's overwhelming tendency to forgo the protection afforded by *Miranda*, the process transitions into a second stage involving a *custodial interrogation*, during which time suspects are accused of the crime and confronted with lawful yet manipulative interrogation tactics (e.g., presentations of false evidence and minimization themes that imply leniency) that are known to increase the risk of a false confession. Making matters worse, suspects who are dispositionally vulnerable (such as juveniles and adults with cognitive impairments and mental health issues) are at heightened risk not only of waiving their rights but also of giving a police-induced false confession.

Once an innocent person confesses under the pressure of interrogation, which increases police certainty regarding culpability, the accumulated disadvantages alter and corrupt the course of the *ensuing investigation*, the third stage. Information about a suspect's confession can lead eyewitnesses to change their identifications, cause alibi witnesses to retract their support, and bias forensic science examiners in their interpretations of physical evidence.

In the fourth stage, the resulting accumulated disadvantages—a confession that appears to be intrinsically corroborated by accurate crime details and extrinsically corroborated by lay and expert witnesses—predetermines the outcome of adjudication. At this point, the case built against the innocent person is often so compelling as to virtually ensure a wrongful conviction through a trial verdict or a guilty plea.

Finally, in the fifth stage, the accumulated disadvantages persist through *postconviction appeals and exoneration*. Both the confession and heavily tainted evidence severely handicap the innocent confessor's appeal efforts. Moreover, research shows that the social stigma attached to these individuals persists even after they are officially exonerated and released into the community. Our conceptual preview of this framework is represented in Figure 1.

Before we more fully present this framework and evidence that supports it, it is important to articulate five points concerning the research literatures we seek to integrate, our underlying database, the core public-institutional assumptions we challenge, and the ways in which our model can be more generally applied.

First, our multistage framework rests on an integration of several well-established but isolated phenomena studied throughout psychology. In particular, we draw heavily on research in the areas of truth and deception detection (e.g., Vrij, Hartwig, & Granhag, 2019), Miranda rights and decision making (e.g., Smalarz, Scherr, & Kassin, 2016), police-induced false confessions (e.g., Kassin et al., 2010), forensic confirmation biases (e.g., Kassin, Dror, & Kukucka, 2013), plea bargaining (e.g., Redlich, Bibas, Edkins, & Madon, 2017), jury decision making (e.g., Kovera, 2017), and the stigma that follows from conviction (e.g., Hoskins, 2019; Westervelt & Cook, 2012). Each of these research areas points to a specific problem; collectively, as we discuss, these

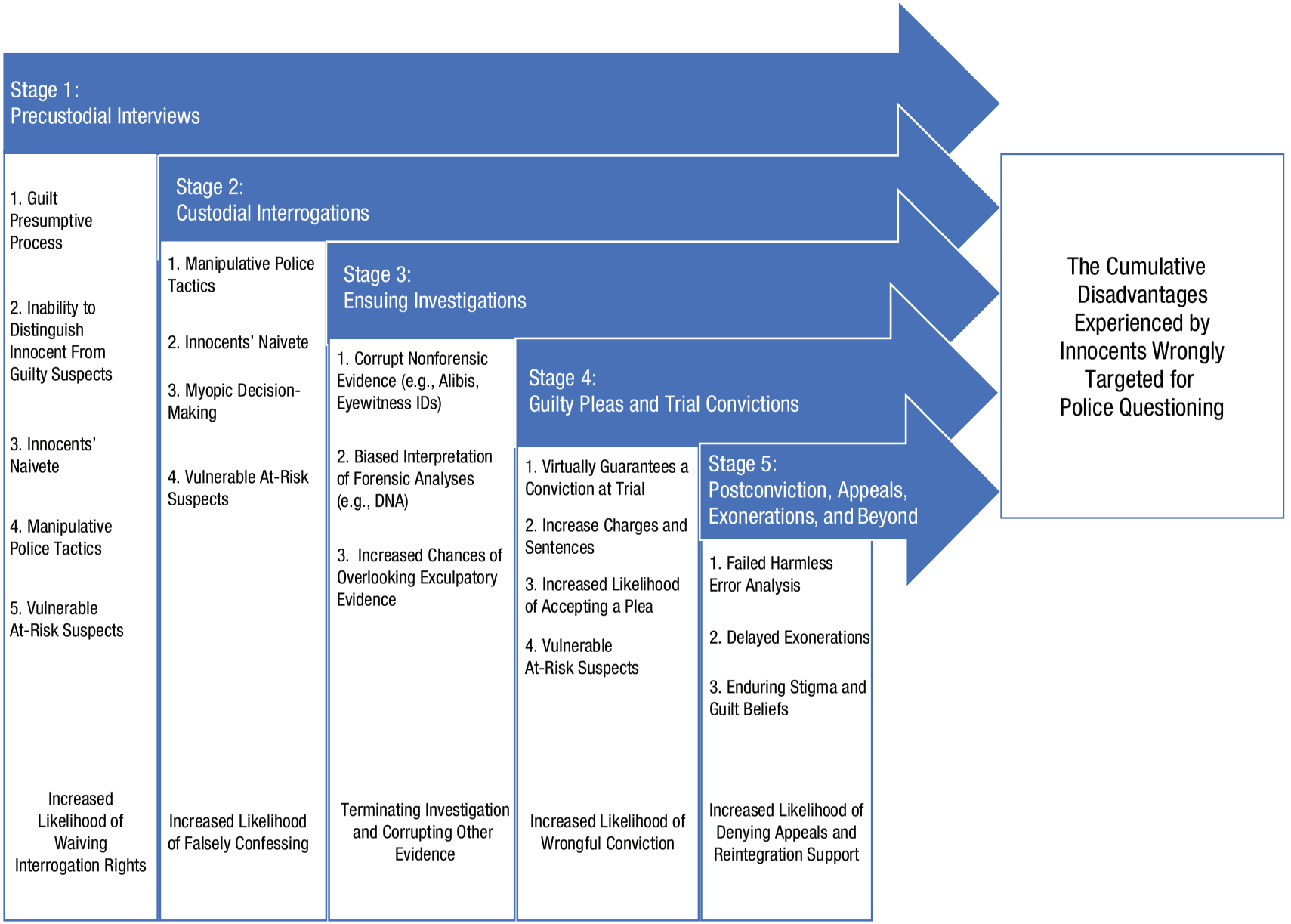

Fig. 1. Cumulative-disadvantage framework. The graphic shows the cumulative disadvantages that innocents can face when wrongly targeted for questioning. The headers in the arrows indicate the stages in the accumulation process, the text highlights important disadvantages at each point in the process, and the text at the bottom of each column indicates the major consequence at each stage of the cumulative disadvantageous process.

problems are interdependent, have compounding effects, and can lead to pernicious consequences.

Second, it is important to note that the sources of knowledge we cite throughout this article and the conclusions we draw are conceptually grounded in many areas of psychological science. To understand the processes we describe, it is necessary to understand the effects of reward and punishment on behavior, human decision making, memory and forgetting, social influence, social perception, childhood and adolescence, and psychopathology. We also rely on a wide range of research methodologies. Following in the tradition of research-generative case studies in clinical, cognitive, social, developmental, and neuropsychology (Rolls, 2015), we cite several illustrative stories from actual cases drawn from the Innocence Project, National Registry of Exonerations, court opinions, and other reliable sources. As for the empirical research we cite, a multitude of methodologies informs our framework. These methods consist of archival analyses; self-report interviews and surveys involving suspects, police, and the scientific community; naturalistic observational studies of police interviews and interrogations; and tightly controlled experiments conducted in laboratory and field settings.

Third, is it important to make explicit that our framework flies in the face of common assumptions people understandably make about the administration of justice in the United States. Firmly embedded in the ideals of American democracy (e.g., Article III of the Constitution), transparency (e.g., the Sixth Amendment right to public trial), and the presumption of innocence (as embodied by William Blackstone's edict that "It is better that ten guilty escape than one innocent suffer"; see also *Coffin v. U.S.*, 1895), one would assume that the criminal-justice system is layered with safety nets. Indeed, one would assume that the system is self-correcting—that prosecutors correct mistakes made by overzealous police; that trial judges oversee prosecutors who overreach; and that appeals courts carefully scrutinize the rulings made by trial judges. A corollary of this assumption is that a person's innocence matters more as the process unfolds. In sharp contrast, we argue that the system compounds errors that occur throughout the process, with each successive stage tainted by its predecessor. Hence, actual innocence matters less over time, not more.

Fourth, although we focus on the cumulative disadvantage that innocent suspects who are interviewed and interrogated accrue, leading them to confess to police, confession is not the only source of evidence that can corrupt subsequent processes. The growing archive of wrongful convictions shows that other major contributing factors include eyewitness identification errors (e.g., Wells et al., 2019), invalid and biased forensic sciences (e.g., Saks, Risinger, Rosenthal, & Thompson, 2003), and jailhouse snitches and other informants who lie (e.g., Natapoff, 2009). Research suggests that confession evidence is particularly potent and incriminating (e.g., Kassin & Neumann, 1997), leading one legal scholar to assert that "the introduction of a confession makes the other aspects of a trial in court superfluous" (McCormick, 1972, p. 316). Still, it is possible that other sources of error, especially those occurring early in an investigation, also unleash the consequences we describe. Our framework may well prove applicable in other domains.

Fifth, in light of our proposal that bias and error compound across stages of the criminal-adjudication process, one might wonder if the effects over time are additive (such that the disadvantageous effects of the various factors equal the sum total of their influences) or multiplicative (such that the ultimate disadvantage is greater than the sum of the individual factors, as exemplified by the fact that innocent confessors are three times more likely to go on and plead guilty than those who had not falsely confessed). We take an agnostic position on this question because conclusive research is lacking.

Stage 1: Precustodial Interview

The process by which an innocent person is identified for police investigation is variable. Sometimes it is based on a witness's identification, past history of crimes, relationship to the victim, or other extrinsic information. At other times, suspects are targeted strictly on a hunch, a first impression formed during an information-gathering interview, the main purpose of which is to determine whether a prospective suspect is telling the truth or lying.

In *Criminal Interrogations and Confessions*, an influential manual on interrogation first published in 1962 and now in its fifth edition, Inbau, Reid, Buckley, and Jayne (2013) describe how they train investigators to use the Behavior Analysis Interview, or BAI, for this purpose (for historical overviews of this United States–based approach, see Leo, 2008; Meissner et al., 2014). Using this approach, investigators are advised to ask a series of nonaccusatory questions, the responses to which are presumed to be diagnostic of guilt and innocence (e.g., "What do you think should happen to the person who took the money?") and then to observe changes in the suspect's verbal and nonverbal behavior that purportedly distinguish between truth telling versus lying (e.g., gaze avoidance, changes in posture, hesitating, fidgeting, grooming).

Although Inbau et al. (2013) claim that the BAI enables highly accurate judgments of truth and deception (judgments that serve as a proxy for innocence and guilt, respectively), there is little if any empirical basis

for such claims. Using an array of methods, researchers in laboratories all over the world have shown that (a) the demeanor cues touted by the Reid technique do not meaningfully discriminate between truth telling and deception; (b) on average, laypeople are only about 54% accurate; (c) training tends to produce only modest if any improvement compared with naive control groups; and (d) police and other "experts" perform only slightly better than laypeople (for reviews, see Bond & DePaulo, 2006; DePaulo et al., 2003; Hartwig & Bond, 2011; Meissner & Kassin, 2002; Vrij, 2008; Vrij & Granhag, 2012; Vrij et al., 2019). In addition, comparative studies have shown that experienced police investigators, relative to naive controls, exhibit "generalized communicative suspicion" (Masip, Alonso, Garrido, & Antón, 2005; Masip, Alonso, Herrero, & Garrido, 2016) and a response bias toward seeing deception (Meissner & Kassin, 2002). This effect is especially pronounced when the interviewee is a Black man (Najdowski, Bottoms, & Goff, 2015).

Studies specifically designed to test the Reid technique have also failed to support its efficacy (Kassin & Fong, 1999; Vrij, Fisher, Mann, & Leal, 2006), suggesting instead that it does little more than to codify folk wisdom (Masip, Barba, & Herrero, 2012; Masip, Herrero, Garrido, & Barba, 2011). Contrary to the suggestion by advocates of the Reid technique that laboratory experiments lack external validity because they often involve college students in low-stakes situations (Buckley, 2012), one meta-analysis of studies spanning over 40 years indicated that deception detectability does not differ as a function of whether the speaker was a college student or nonstudent or whether the speaker's motivation level was high or low (Hartwig & Bond, 2014).

The fact that investigators, lacking accuracy, exhibit a response bias toward seeing deception in preinterrogation interviews means that many suspects—innocent and guilty alike—are interrogated by nonneutral detectives who presume their guilt. As with any strong belief, a presumption of guilt risks the kinds of cognitive and behavioral confirmation biases identified in classic past research (e.g., Rosenthal & Jacobson, 1968; Snyder & Swann, 1978; Snyder, Tanke, & Berscheid, 1997).

A two-phase study reveals how presumptions of guilt serve as one critical trigger to the cumulative disadvantage process (Kassin, Goldstein, & Savitsky, 2003). In Phase 1, participant suspects stole $100 as part of a mock theft or engaged in a related, but innocent, act and were subsequently interviewed over headphones by participant investigators who were led to believe that most suspects were either guilty or innocent. In Phase 2, neutral observers listened to the taped interviews. Investigators who expected guilt asked more guilt-presumptive questions, exerted more pressure, made innocent suspects sound more anxious and defensive, and perceived the suspects in more incriminating terms, leading to a 23% increase in judgments of guilt. Observers perceived suspects in the guilty-expectation condition as more defensive and as somewhat more likely to have committed the mock crime. Of relevance to the cumulative-disadvantage framework and in support of a guilty advantage, although innocent suspects were more adamant about their innocence than their guilty counterparts, their denials brought out the worst in the guilt-presumptive investigators, resulting in innocents experiencing the most pressure-filled sessions (see also Hill, Memon, & McGeorge, 2008; Narchet, Meissner, & Russano, 2011). Research involving actual interrogators found similar effects. When police officers formulated questions for suspects described in vignettes, they opted to use more guilt-presumptive questions after learning that a suspect had been apprehended (Lidén, Gräns, & Juslin, 2019).

Miranda—*the right to remain silent and have legal representation*

In the landmark case of *Miranda v. Arizona* (1966), the U.S. Supreme Court ruled that police must inform in-custody suspects of their constitutional rights to remain silent and have a lawyer present. Aimed at protecting citizens from the "inherently compelling pressures" of police interrogation, the Court offered a remedy: When suspects are in custody, police must inform them of these rights; any statement taken without a knowing, intelligent, and voluntary waiver would then be considered involuntary and not admissible into evidence.

Despite the Court's objectives, the promise of *Miranda* has not been fulfilled. Subsequent court rulings have narrowed the protections to such an extent that legal scholars no longer see it as protective (e.g., Weisselberg, 2017; White, 2001). Meanwhile, research psychologists using standardized comprehension instruments have found that some people—notably young adolescents and cognitively impaired adults—do not comprehend the warnings they were given (e.g., Grisso, 1981; for a review, see Zelle, Romaine, & Goldstein, 2015; for findings mirrored by eye-tracking methodologies, see Scherr, Agauas, & Ashby, 2016); that the content, format, and language of these warnings vary across jurisdictions, resulting in disparities in difficulty level (Rogers, Harrison, Shuman, Sewell, & Hazelwood, 2007; Rogers, Hazelwood, Harrison, Sewell, & Shuman, 2008); and that the situational stress elicited by accusation can further impair comprehension (Rogers, Gillard, Wooley, & Fiduccia, 2011; Scherr & Madon, 2012). In short, empirical research has cast serious doubt on the protective adequacy of *Miranda* (for reviews, see Kassin, Scherr, & Alceste, 2019; Smalarz et al., 2016).

Phenomenology of innocence. Apart from questions concerning comprehension, naturalistic observation studies have consistently shown that even though suspects can invoke their constitutional rights to silence and to counsel, very few do so when confronted by police. Indeed, an estimated 80% to 95% of all suspects waive these rights (e.g., Feld, 2013a; Kassin et al., 2019; Leo, 1996a; Wald, Ayres, Hess, Schantz, & Whitebread, 1967). Why do suspects so readily forgo their rights that carry meaningful consequences for their subsequent interactions with police? One reason, counterintuitively, stems from actual innocence and the state of mind that accompanies innocence—the effects of which influence innocents' decision making and propel into motion the cumulative disadvantage.

Although counterintuitive, a wealth of archival and anecdotal evidence led to the initial idea that innocent suspects fail to appreciate the significance of their Miranda rights precisely because they harbor a phenomenology of innocence—a naive faith in the exculpatory power of their own innocence (Kassin, 2005). This mental state may be rooted in a generalized belief in a just world (Lerner, 1980) or in an illusion of transparency by which people overestimate the extent to which their true inner states can be seen by others (Gilovich, Savitsky, & Medvec, 1998). Hence, Miranda warnings may not adequately protect people accused of crimes they did not commit who lack what the law calls a "consciousness of guilt."

A body of empirical research supports the idea that innocents, but not the guilty, maintain a naive belief in the exonerating power of their actual innocence. In the first empirical test of this idea, innocent participants were substantially more likely to sign a Miranda waiver than those who were guilty (81% to 36%). When asked to explain this decision, most innocent suspects reasoned, naively, that they signed the waiver because "I did nothing wrong" and "I had nothing to hide" (Kassin & Norwick, 2004).

Converging evidence from independent studies has confirmed and extended this innocence effect on Miranda waivers in a study conducted in Canada (Moore & Gagnier, 2008), especially among participants who strongly believe in a fair and just world (Scherr, Alberts, Franks, & Hawkins, 2016), and even among those who fully understood the administration of rights (Scherr, Normile, Bierstetel, Franks, & Hawkins, 2018). In other studies, innocent participants were more likely to waive their right to a full lineup in lieu of an immediate showup, complacent in the belief that they would not be misidentified (Holland, Kassin, & Wells, 2005); freely disclosed information to interrogators without apprehension of the consequences (Hartwig, Granhag, Strömwall, & Kronkvist, 2006; Hartwig, Granhag, Strömwall, & Vrij, 2005); and offered alibi stories without regard for the inconsequential errors that police might view as inculpatory (Olson & Charman, 2012).

Further demonstrating the phenomenology of innocence is research showing that innocent participants embody their naivete—and, dare we say, their complacency. For example, although people in general exhibit stress reactions when accused, innocent laboratory participants exhibit less of a physiologic reaction to an initial accusation than guilty ones (Guyll et al., 2013; Madon et al., 2017; Normile & Scherr, 2018). Innocents also self-report experiencing less stress (Scherr & Franks, 2015). Innocent people feel less threatened than guilty people and embody the belief that they have nothing to fear—a naive phenomenology that leads them to waive their rights and talk to the police without legal representation.

Implicit in the foregoing research is the conclusion that crime perpetrators, haunted by a consciousness of guilt, enjoy something of an advantage in this early stage of an investigation—a guilty advantage. In these studies, guilty research participants are not only more likely to invoke their rights but also to provide less information and to be less forthcoming than the innocent (Hartwig et al., 2005, 2006; Hartwig et al., 2005). They also exhibit a stronger physiologic reaction after being accused that, at least at the outset, enables them to mobilize cognitive resources for their initial encounters with law enforcement and thereby thwart the inherently dangerous process of interrogation (Guyll et al., 2013; Madon et al., 2017).

Social influences. The naive phenomenology of innocence contributes to setting into motion the cumulative disadvantage process. Further exacerbating the situation is that police are trained to use various psychological tactics to secure suspect waivers—tactics long validated in research on the social psychology of compliance (Cialdini, 2009; Cialdini & Goldstein, 2004). Indeed, after observing both live and videotaped interrogations, Leo (1996b, 2008) likened the process of administering rights to a confidence game in which police would exploit the scarcity principle by presenting Miranda to suspects as a one-time-only opportunity to tell their side of the story. He further observed that they would establish a rapport and present themselves as an ally; ingratiate themselves through the offer of food or drink, thereby activating the norm of reciprocity; characterize the process as a mere and unimportant formality; pretend to have strong evidence in an effort to cast the suspect into a state of futility; and construct implicit waivers that increase the pressure to submit to questioning. Across the observed sessions, four out of five adult suspects waived their rights (for reports of similar observations, see Feld, 2013b; Simon, 1991).

It is clear that these social factors can influence a suspect's decision making in this high-stakes situation.

In one study, innocent participants accused of misconduct were informed that they had the right to have a student advocate present during that meeting but were offered the option to waive that right. Participants were significantly more likely to waive their rights when the waiver was presented as trivial than important—86% to 62% (Scherr & Madon, 2013).

Above and beyond the use of specific tactics, however, it is important to note that the process of administering rights often takes place in a police station, where the suspect is alone to be prodded by one or more detectives. Hence, this is a social situation structured by the presence of a powerful authority figure who is in a position to command the kind of obedience first demonstrated by Milgram's (1963) "shocking" and often replicated experiment (e.g., Blass, 2012; Burger, 2009; Milgram, 1974; Miller, 2009). On this point, it is worth noting that while social psychologists at large describe the behaviors elicited by Milgram as a form of obedience, others more recently have suggested an alternative "engaged-followership" interpretation of the results (Haslam, Reicher, Millard, & McDonald, 2014; Reicher, Haslam, & Smith, 2012). According to this account, participants shocked the learner because they identified with the scientific enterprise and wanted to help. This account brings to mind a common police practice of leading prospective suspects into thinking that they are assisting in the investigation and with anecdotal reports of numerous false confessors who stated that as the reason they waived their rights.

Innocent and vulnerable suspects. Innocent, well-adjusted adults are at risk of waiving their rights and setting into motion or accelerating the cumulative disadvantage process. There is even more cause for concern among suspects who are dispositionally vulnerable to manipulation and waiving their rights—namely juveniles and persons with intellectual disabilities or mental health issues (e.g., Abramovitch, Peterson-Badali, & Rohan, 1995; Cleary & Vidal, 2016; Fulero & Everington, 2004; Oberlander, Goldstein, & Goldstein, 2003; Owen-Kostelnik, Reppucci, & Meyer, 2006; Redlich, Silverman, & Steiner, 2003; Viljoen, Roesch, & Zapf, 2002; Viljoen, Zapf, & Roesch, 2007). When coupled with the disproportionate number of proven false-confession cases involving these at-risk groups (e.g., Drizin & Leo, 2004; Schatz, 2018), it is clear that innocent people with these dispositional vulnerabilities are especially likely to waive their rights (e.g., juveniles with diagnosable mental health issues are more likely to be interrogated than those without these issues; Redlich, 2007). To be discussed later, these groups are also more likely to confess under pressure of interrogation and plead guilty to crimes they did not commit. Hence, vulnerable demographics are particularly at risk for waiving their rights, and these risks, as we describe later, may accelerate their trajectory through the cumulative disadvantage process by substantially increasing their prospects of false admissions.

The custody requirement. In *Miranda*, the U.S. Supreme Court ruled that police must advise suspects of their rights only when they are "in custody." But what conditions constitute a state of custody? Although no list of objective criteria exists, the courts have variously cited as relevant whether police explicitly advised the suspect that they were free to leave, whether the suspect's freedom of movement was restrained (e.g., handcuffed; held in a room with the door locked; stripped of shoes, clothing, cell phone, or car keys), and whether coercive interrogation tactics were used (e.g., isolating the suspect; using physical force or discomfort; making accusations, threats, promises, trickery, and deceit; see Leo, Drizin, Neufeld, & Hall, 2006).

Emerging research is starting to shed light on the problems associated with a lack of clear standards for determining custody. A two-phase study examining issues of custody demonstrated that, although observers judged participant suspects as freer to leave when they saw an interview than after seeing an interrogation, the suspect participants themselves did not feel free to leave either situation—not even for the benign interview (Alceste, Luke, & Kassin, 2018). Follow-up experiments demonstrated that even when participant suspects are explicitly advised that they were free to leave, they did not internalize a sense of freedom— not a single suspect sought to leave. When asked why, most indicated the desire to help out and/or clear their name, thus demonstrating another potential misstep in the cumulative disadvantage chain.

Relevant legal precedent

The original *Miranda* ruling noted that suspects must voluntarily waive their rights and this decision should not result from threat, trickery, or cajoling (*Miranda v. Arizona*, 1966). Even though such legal precedent exists, interrogators still seek to manipulate suspects at this stage and subsequent legal precedents have permitted the use of such tactics to obtain waivers (e.g., *Clark v. Murphy*, 2003; *Hairston v. United States*, 2006; *United States v. Washington*, 2006). Three rulings highlight the sheer degree to which recent precedent has veered from the original *Miranda* ruling and help to elucidate the relevant scientific research and the cumulative-disadvantage framework.

In *Florida v. Powell* (2010), the Court ruled that it is not necessary to clearly inform suspects that they can invoke their rights at any point during the interrogation. The danger of this precedent for innocents stems from

their initial naivete motivating their decision to talk to interrogators to prove their innocence. In this scenario, innocents may eventually come to realize during the ensuing interrogation that they are helpless to convince the interrogator of their innocence. Yet without knowing that they can invoke their rights at any point, even after the initial waiver, they may go on to believe that confessing is their only means of escape.

In *Berghuis v. Thompkins* (2010), the Supreme Court puzzlingly ruled that suspects need to explicitly invoke their right to silence, essentially indicating that suspects must speak up to remain silent. This decision provides legal backing for protocols that unreasonably require suspects under stress to precisely articulate their wishes (e.g., "I wish to remain silent"). Not realizing that an explicitly precise articulation is necessary, innocent suspects may be especially likely to continue to talk in attempts to invoke their rights, but to no avail.

Although the *Miranda* court ruled that invoking one's rights could not be used against them in court (*Miranda v. Arizona*, 1966; Skinnider & Gordon, 2001), a third Supreme Court decision suggested that such instances can be used against them in court (*Salinas v. Texas*, 2013). The *Salinas* ruling represents the most problematic divergence from the original *Miranda* ruling for all suspects—guilty and innocent alike. Innocents who waive their rights will face a professional highly confrontational interrogation without an attorney present. Conversely, those who exercise their right will face the potential that this decision could trigger an adverse inference. Thus, recent legal precedents have diminished the protection initially afforded by *Miranda*.

To summarize, the first stage of the cumulative-disadvantage framework is set into motion with an information-gathering interview in which behavioral cues, wholly lacking scientific support, are used to determine deception. As a result, interviews serve as a pivotal point to determine whether a suspect should be questioned further, in custody, and in an accusatory manner. A second impetus—a naive mind-set—motivates innocents, unlike their guilty counterparts, to make decisions and exhibit behaviors consistent with the ideas that they have nothing to hide or fear. As a result, the cumulative disadvantage process is triggered by investigators' presumptions of guilt and a phenomenology of innocence that puts innocents at risk to waive their interrogation rights, which, consequently, sets these suspects on trajectories to navigate custodial interrogations and confront police intimidation in isolation.

Stage 2: Custodial Interrogations

Confessions are prevalent and persuasive as a matter of common sense—hence, the centuries-old Latin phrase *Confessio est regina probationum* attributing confession as the queen of all evidence. In his classic treatise, John Henry Wigmore (1904) described confessions, even when recanted, as the most potent evidence presentable in court—sentiments that continued to be echoed decades later (McCormick, 1972).

Alongside this recognition, however, the courts have long realized that confessions are perilous—sometimes because they are reported secondhand by police and others, which raises questions as to authenticity, and at other times because they are induced through a highly pressured process of interrogation, which raises questions as to voluntariness and reliability (for overviews, see Drizin & Leo, 2004; Gudjonsson, 2018; Kassin, 1997; Kassin et al., 2010; Kassin & Gudjonsson, 2004). The perilous nature of confession evidence is more apparent today than ever before as a result of the vast and growing number of wrongful convictions associated with false confessions. To most everyone's surprise, false confessions have contributed to nearly 30% of the DNA exonerations reported by the Innocence Project (Innocence Project, 2019a).

In light of research illustrating the factors the set into motion the cumulative disadvantage process—that police are prone to misjudge truthful suspects as deceptive and innocents' naivete motivating a tendency to waive their rights—it is important to know whether the psychological warfare of interrogation is surgically precise, or diagnostic, in its effect, drawing confessions only from those who are guilty, or whether it also puts innocent suspects, misidentified as guilty, at risk of confessing.

The process of interrogation

"Third-degree" interrogation methods involving physical torture declined precipitously from the 1930s to the 1960s and were replaced by an approach that was more psychological in nature. One aim of psychological approaches to interrogation is to lessen the stress associated with confession relative to denial, making it easier for a suspect to confess as a means of escaping an unpleasant situation (for a general overview of the confession process, see Yang, Guyll, & Madon, 2017). Decades of evidence show that people prefer immediate outcomes over distal ones (Herrnstein, 1997; Navarick, 1982; Rachlin, Brown, & Cross, 2000), and adults are substantially more likely to admit to wrongdoing in order to avoid proximal consequences (Madon, Guyll, Scherr, Greathouse, & Wells, 2012; Madon, Yang, Smalarz, Guyll, & Scherr, 2013; Scherr, Miller, & Kassin, 2014; Yang, Madon, & Guyll, 2015). Myopic decision-making tendencies that impulsively satisfy an immediate concern despite some later consequence are especially likely among juveniles and substance users (e.g.,

Baker, Johnson, & Bickel, 2003; Bickel & Marsch, 2001; Bickel, Odum, & Madden, 1999; Kollins, 2003; Reynolds, Richards, Horn, & Karraker, 2004).

In an attempt to capitalize on suspects' myopic tendencies, investigators are trained to create specific dynamics. Most popularly articulated in Inbau and Reid's (1962) *Criminal Interrogations and Confessions* (for the most recent edition, see Inbau et al., 2013), the nine-step Reid technique advises isolating the suspect in a small, bare room to create a "nonsupportive" environment. Investigators achieve this goal, in part, as a consequence of innocents' naive decision making highlighted in Stage 1. In atypical cases in which innocents exercise their rights, they are likely aided by legal counsel during the custodial interrogation, thereby minimizing the time they spend in social isolation and fundamentally altering the environment from nonsupportive to supportive.

Alongside the social isolation, interrogators confront suspects with combinations of negative and positive incentives, dubbed "maximization" and "minimization" (Kassin & McNall, 1991). On the one hand, the interrogator confronts the suspect with accusations of guilt, assertions that may be bolstered by evidence, real or false, and refuses to accept objections and denials. On the other hand, the interrogator offers sympathy and moral justification, introducing "themes" that minimize the crime and lead suspects to see confession as an expedient means of escape. The prevalent use of these techniques has been well documented (e.g., Cleary & Vidal, 2016; Feld, 2013b; Kassin et al., 2007; Kelly, Miller, Redlich, & Kleinman, 2013; King & Snook, 2009; Leo, 1996a; for critiques, see Kassin, 1997; for a historical account, see Leo, 2008).

Inbau et al. (2013) claim that their tactics produce outcomes that are "diagnostic," that they elicit confessions from offenders but not from innocent suspects. Yet controlled research and a growing number of wrongful convictions indicate that these techniques do in fact put innocent suspects at risk to confess for two reasons. First, some suspects are dispositionally vulnerable to influence under pressure (Gudjonsson, 2003, 2018). Archival analyses, laboratory experiments, and self-report surveys conducted in the United States and throughout Europe have shown that juveniles are particularly vulnerable as suspects (Drizin & Leo, 2004; Goldstein, Condie, Kalbeitzer, Osman, & Geier, 2003; Gudjonsson, Sigurdsson, & Sigfusdottir, 2009; Malloy, Shulman, & Cauffman, 2014; Owen-Kostelnik et al., 2006; Redlich & Goodman, 2003). Second, research shows that certain psychological tactics that are commonly used and lawful in the United States can induce false confessions, even from adults who are relatively well adjusted and competent. Two tactics in particular pose a risk: the presentation of false evidence and minimization themes that communicate leniency.

Presentation of false evidence. Trying to break down a suspect's resistance, interrogators may bolster their accusation by citing false evidence (e.g., fingerprints, hair samples, or a failed polygraph). Over the years, countless cases have been reported in which false confessions were induced by the false-evidence ploy. Marty Tankleff—convicted of murdering his parents—was presented with false evidence that his hair was found in his mother's grasp, that a "humidity test" indicated he had showered before calling 911 (hence the lack of blood on his body), and that his hospitalized father had emerged from his coma to identify Marty as his assailant. Despite his immediate recantation, he was convicted solely on the basis of the confession, only to have his conviction vacated and the charges dismissed 19 years later (Firstman & Salpeter, 2008; Lambert, 2008). Christopher Tapp—convicted of rape and murder in 1998 and exonerated by DNA in 2019—capitulated when told that he had failed multiple polygraph examinations (Innocence Project, 2019b). In some cases, false evidence leads innocent people not only to confess but also to internalize a belief in their own culpability (see Gudjonsson, 1992; Gudjonsson, Sigurdsson, Sigurdardottir, Steinthorsson, & Sigurdardottir, 2014; Kassin, 2007; Kassin & Wrightsman, 1985; notable examples include Michael Crowe, Gary Gauger, Jeff Deskovic, and Debra Shelden of the "Beatrice Six" in Nebraska). Hence, hundreds of naturalistic examples illustrate the consequences of the cumulative disadvantages already after two stages.

Basic psychological science warns clearly of the effect that misinformation can have on people's visual judgments and perceptions (Asch, 1953; Sherif, 1936), emotional states (Schachter & Singer, 1962), self-assessments (Crocker, Voelkl, Testa, & Major, 1991), memories for observed and experienced events (Loftus, 2005), and even certain medical outcomes, as seen in studies of the placebo effect (Brown, 1998; Price, Finniss, & Benedetti, 2008). An initial demonstration of the potency of deceiving suspects demonstrated that the rate of false confessions among experimental participants, all of whom were innocent, increased from 48% to 94% after being confronted with false evidence. Many of those who confessed also internalized the erroneous belief in their own culpability and confabulated false memories of how it happened (Kassin & Kiechel, 1996). Follow-up studies have replicated the general finding even when penalties were threatened (Horselenberg, Merckelbach, & Josephs, 2003); among children and adolescents (Candel, Merckelbach, Loyen, & Reyskens, 2005; Redlich & Goodman, 2003); and especially among adults who were sleep-deprived

(Frenda, Berkowitz, Loftus, & Fen, 2016). Within the context of a computerized gambling experiment, Nash and Wade (2009) showed participants digitally modified video evidence of the participant "stealing" money from the "bank" 2 weeks after their sessions. Presented with the false video evidence, all participants confessed; many also internalized the confession (see also Wright, Wade, & Watson, 2013).

Often police use what seems like a relatively benign version of the false-evidence ploy. In what is called the bluff technique, the interrogator pretends to have evidence but does not assert that the evidence implicates the suspect (e.g., a rape kit sent to a laboratory for testing). In principle, a bluff should produce diagnostic outcomes by threatening the actual perpetrator with certain detection, increasing the incentive to cooperate, without similarly pressuring innocent suspects who have nothing to fear and hence no reason to confess. On the surface, a rational decision-making perspective might predict diagnostic outcomes.

Citing DNA exoneree Jeffrey Deskovic and others, however, Kassin (2005) proposed that to an innocent suspect under stress—but not to a guilty one—the threat of proof implied by the bluff represents a promise of future exoneration, paradoxically making it easier to confess. This proposal is consistent with the research on of the phenomenology of innocence. This hypothesis was tested in a series of experiments showing that innocent participants were more likely to confess to (a) crashing a computer when told that their keystrokes had been recorded for later review than when not presented with this bluff, (b) willful cheating when told that a surveillance camera had taped their session, and (c) when the bluff particularly represented a promise of future exoneration (Perillo & Kassin, 2011). In line with the cumulative-disadvantage framework, the outcome of the first stage facilitates the effectiveness of false-evidence ploys. Alone during custodial interrogations without the aid of legal representation, innocents' naivete may continue to compel them to believe in the authenticity of false evidence or the chance of exoneration via an ostensible forensic analysis or some other form of evidence. Here again, the guilty may be advantaged in that they likely will not engage in similar thought processes.

Minimization themes. Recognizing that innocent suspects who feel trapped may be tempted to confess if told they have nothing to lose, U.S. courts reject confessions induced by explicit promises of leniency or immunity from prosecution. Over the years, however, the courts have permitted police to engage in minimization tactics (e.g., suggesting to suspects that their actions were spontaneous, accidental, provoked, pressured by others, or otherwise justified by external factors), making their involvement in the crime seem more acceptable.

In a series of studies testing the inferences people draw from minimization tactics, participants read transcripts of suspect interrogations in which the detective (a) made an explicit conditional promise of leniency, (b) used minimization by blaming the victim, or (c) used neither technique. The result: Minimization tactics led people to infer that leniency in sentencing will follow from confession—as if an explicit promise had been made (Kassin & McNall, 1991). Consistent with basic cognitive research on pragmatic implications (Chan & McDermott, 2006; Harris & Monaco, 1978), minimization tactics lead people to infer that leniency in sentencing will follow from confession (see also Redlich, Shteynberg, & Nirider, 2019).

To examine the effects of minimization on true and false confessions, participants, some guilty and some innocent, were accused of cheating on an experimental task—a possible violation of the university's honor code. Experimenters then attempted to induce a confession by an explicit promise of leniency, by making minimizing remarks, using both tactics, or neither. Overall, the rate of confession was higher among guilty participants than innocent, when leniency was promised than when it was not and when minimization was used than when it was not. Diagnosticity (i.e., the ratio of true admissions to false) was highest in the no-tactics cell (46% of guilty suspects confessed vs. only 6% of innocents). Note that as with explicit offers of leniency, minimization reduced diagnosticity by increasing not only the rate of true confessions (to 81%) but also the rate of false confessions (to 18%; Russano, Meissner, Narchet, & Kassin, 2005). Additional experiments have confirmed that minimization elicits what would be admissible false confessions by communicating leniency "under the radar" (Guyll et al., 2013; Normile & Scherr, 2018). Once again, the outcome of the first stage of the cumulative-disadvantage framework facilitates the effectiveness of manipulative minimization-theme tactics. Without the benefit of legal representation, innocents' naivete may continue to compel them to believe that their outcomes will be more favorable if they confess.

Relevant legal precedent

The fact that interrogators in the United States are permitted to lie to suspects and strongly imply leniency astonishes most people. The evolution to using psychology-based interrogation approaches was likely an unintended result of *Brown v. Mississippi* (1936), wherein the U.S. Supreme Court banned the use of physical third-degree tactics (Leo, 2008). Yet despite

the recognition that confessions often render other evidence unnecessary (*Colorado v. Connelly*, 1986) and the apt realization of the need to corroborate confessions with independent other evidence (*Escobedo v. Illinois*, 1964), legal precedent continues to condone tactics that can induce innocent suspects to confess (e.g., *Oregon v. Mathiason*, 1977).

Of particular importance was the U.S. Supreme Court's ruling in *Frazier v. Cupp* (1969) in which it suggested that trickery and deceit, as in misrepresenting the evidence, does not put an innocent person at risk to confess (in this case, police told Frazier that an associate had implicated him, which was not true). This ruling is interpreted as authorizing police to extract confessions by lying to suspects about the evidence. To this day, despite numerous documented false confessions taken in this way, and despite psychological research on misinformation effects, the Court has not revisited this issue. Consequently, confessions extracted through police deception are rarely suppressed despite the confluence of evidence from psychological science and catalogued exonerations resulting from false confessions.

Minimization tactics aim to provide the suspect with moral justification and face-saving excuses for the crime in question (e.g., that the actions were provoked or otherwise justified). In the 1897 case of *Bram v. United States*, the Supreme Court weighed in on this tactic and held that a confession "must not be extracted by any sort of threats or violence, *nor obtained by any direct or implied promises, however slight*" (pp. 542–543). Since that time, however, U.S. courts have consistently disregarded *Bram* and set it aside (see *Arizona v. Fulminante*, 1991).

In summary, innocents are confronted with legally permissible yet manipulative interrogation approaches such as minimization-theme and false-evidence ploys during custodial interrogations. Both basic and applied psychological science demonstrates, and naturalistic evidence confirms, that these techniques reliably increase innocents' willingness to falsely confess, especially those from dispositionally vulnerable groups. At this stage, the cumulative disadvantages produce a false confession that, as we describe next, has the potential to undermine the ensuing investigation.

Stage 3: Ensuing Investigation

Thus far, we have described two stages of the cumulative-disadvantage framework—the triggering events of the information-gathering interview and the custodial interrogation—that can induce targeted innocent suspects into a false confession. The result of the second stage of the cumulative-disadvantage framework—a false confession—can unleash a ripple effect and alter downstream investigative and legal process in ways that further handicap innocent suspects even after they recant their confession. One might think that investigators would seek to corroborate confessions once taken. In fact, confessions often close investigations, setting into motion a series of confirmation processes, the result of which is to overlook or outright dismiss inconsistent and exculpatory evidence (Drizin & Leo, 2004; Leo & Ofshe, 1998). In numerous documented cases, prosecutors have exhibited asymmetrical skepticism, even disavowing exculpatory DNA evidence that factually exonerated innocent confessors (Appleby & Kassin, 2016; Findley & Scott, 2006; Kassin & Gudjonsson, 2004; Rimer, 2002).

A robust body of research on top-down influences that inform human judgment indicates the prevalence of confirmation biases (Nickerson, 1998; for an overview in forensic domains, see Kassin et al., 2013; Saks et al., 2003). Classic studies show that prior exposure to images can bias what people perceive in an ambiguous figure (e.g., Bruner & Minturn, 1955). Germane to legal outcomes, participants perceive more similarity between a suspect and a facial composite when led to believe the suspect is guilty (Charman, Gregory, & Carlucci, 2009) and hear more incrimination in degraded speech recordings when led to believe that the interviewee was a criminal suspect (Lange, Thomas, Dana, & Dawes, 2011).

Inspired by horrific tales of wrongful convictions, empirical research now indicates that confessions trigger the same types of confirmation processes in the criminal-justice system and facilitate the accumulation of disadvantages during the third stage, ensuing investigations. In one study, individuals who witnessed a staged event made an identification decision from a perpetrator-absent lineup. Among those later told that another lineup member had confessed, 61% changed their identifications with confidence and, among those who had correctly *not* made an initial identification, 50% went on to incorrectly select the confessor (Hasel & Kassin, 2009). Exculpatory alibi witnesses are similarly corruptible. After a confederate was accused of stealing money from an adjacent office, only 45% of participants who were in the room with that confederate continued to vouch for her after being told that she had confessed but then recanted the confession (vs. 95% who were told that she had denied involvement; Marion, Kukucka, Collins, Kassin, & Burke, 2016). Prior knowledge of a confession has also influenced lay judgments such as whether two handwriting samples matched (Kukucka & Kassin, 2014). Professional examiners can similarly be tainted by confessions. In one study, Israeli Police Force polygraph examiners

perceived more deception in polygraph charts when they believed the suspect confessed than in a no-confession control condition (Elaad, Ginton, & Ben-Shakhar, 1994). Even the interpretation of complex DNA mixtures may require subjective judgments that can be biased by contextual information such as confessions (Dror & Hampikian, 2011).

The criminal-justice system assumes that different types of evidence are independently collected and interpreted. But research on forensic confirmation biases suggests otherwise. To determine whether these effects, amply demonstrated in the laboratory, also characterize actual cases, an archival analysis of DNA exonerations from the Innocence Project case files found that one or more additional evidence errors were present in 78% of cases involving false confessions—a frequency that was higher than in other cases. Specifically, false confessions were accompanied by invalid forensic-science testimony (63%), eyewitness misidentifications (29%), and snitches or informants (19%). The cumulative-disadvantage framework suggests that false confessions influence these subsequent errors; consistent with this idea, the confession was obtained first in two thirds of these investigations.

Just how powerful are the accumulated disadvantages at this point? Is there any reason to believe that prosecutors and other legal officials serve as gatekeepers to maintain the fidelity and integrity of evidence against innocent confessors? To explore these questions, we examined the public data base provided by the National Registry of Exonerations (National Registry of Exonerations, 2019). Of 2,363 cases posted by the end of January 2019, 1,258 (53%) involved some form of official misconduct, defined as an abuse of power by prosecutors, police, or other government officials. Within the subsample of 288 false-confession cases, however, a staggering 231 (80%) were afflicted by official misconduct versus 1,027 of 2,075 nonconfession cases (49%). After limiting the examination to the most serious crimes of murder, attempted murder, and sexual assault, the same pattern holds: In confession cases, 82% involved misconduct versus 57% in nonconfession cases. Clearly, the system bears down on individuals who had confessed to police. Although these associations do not uncover the causal nexus between confessions to police and the subsequent behavior of prosecutors and other legal officials, the implications for our cumulative-disadvantage framework are sobering.

To summarize, once an innocent person is misidentified for interrogation, chooses to waive Miranda rights, and is induced to confess, confirmation biases stemming from the false confession taint the ensuing investigation. Eyewitness may change their identifications; alibi witnesses may retract their support for the defendant; forensic science examiners may draw conclusions about physical evidence that were tainted by the confession; police and prosecutors may disregard contradictory evidence. In turn, the cumulative disadvantages that derive from the confirmation-biased investigations will corrupt the adjudication of these cases during plea negotiations and in court. The thrust of these compounding problems is to suggest that innocence matters less, not more, as the process unfolds. Is there reason to be optimistic that innocence will ultimately prevail—either during trial or plea negotiations?

Stage 4: Wrongful Convictions

By now, it is readily apparent that police do not always arrest, interview, and interrogate the right person; that sometimes they induce false confessions; and that these confessions can directly and indirectly influence the ensuing investigation. Here, we detail the effects of these accumulated disadvantages on case outcomes resolved via trial convictions or guilty pleas. We begin by highlighting the effects of the accumulated disadvantages on jury verdicts. Then we detail the effects when innocents opt to plead guilty. We focus considerably more on the latter instances because almost all cases in the United States are resolved by way of plea bargain (Edkins & Redlich, 2019).

Confession effects on verdict decisions

When a suspect who confesses to police recants that confession, often immediately they will attempt to argue that it was coerced despite *Miranda*, sometimes plead not guilty, and go to trial. Sometimes a pretrial suppression hearing is held in which the judge determines whether the confession was voluntary by law and admissible as evidence. Confessions are overwhelmingly deemed voluntary at this stage primarily because the suspects waived their Miranda rights (Kassin, Scherr, & Alceste, 2019). Hence, a consequence of the triggering stage of the cumulative-disadvantage framework—a *Miranda* waiver—facilitates the credibility of evidence much later by perpetuating subsequent disadvantages such as false confessions. Confessions ruled voluntary are admitted at trial and presented to the jury, sometimes accompanied by a special instruction. But can juries overcome their commonsense beliefs that innocent people do not confess to crimes they did not commit?

Over the years, mock-jury studies have shown that confessions have a substantial impact on judgments of guilt—a greater impact, for example, than eyewitness and character testimony (Kassin & Neumann, 1997).

People do not adequately discount confession evidence even when the confessions are perceived to have been coerced by police (Kassin & Sukel, 1997); even when told that the defendant suffers from a mental illness or was under duress (Henkel, 2008); even when the defendant is a juvenile (Redlich, Ghetti, & Quas, 2008; Redlich, Quas, & Ghetti, 2008); even when the confession was reported secondhand by an informant motivated to lie (Neuschatz, Lawson, Swanner, Meissner, & Neuschatz, 2008; Neuschatz et al., 2012); and, even at times, when the confession is flat-out contradicted by exculpatory DNA (Appleby & Kassin, 2016). The disadvantages are so compelling at this stage that people perceive coercive interrogation tactics that elicit a confession as more acceptable, and the confession as more voluntary, when other incriminating evidence (that may or may not be independent of the confession; see above) suggests the defendant's guilt (Greenspan & Scurich, 2016; Shaked-Schroer, Costanzo, & Berger, 2015).

Perhaps it is not surprising that confession evidence biases inexperienced lay triers of fact. But judges are similarly affected. In one study, experienced judges read a case summary with strong or weak evidence and a confession elicited by high- or low-pressure interrogation tactics. Rationally, judges were less likely to see the confession as voluntary when it resulted from a high-pressure interrogation compared with a low-pressure interrogation (29% vs. 84%, respectively). Yet even the high-pressure confession, deemed involuntary, significantly increased the percentage of guilty verdicts. In the weak-evidence condition, which yielded a mere 17% conviction rate without a confession, a significant increase in convictions was produced not only by the low-pressure confession (96%) but also by the high-pressure confession (69%). No differently than mock juries, judges were so captivated by the confession that they did not disregard it when it was in their own view coerced and they were legally required to do so (Wallace & Kassin, 2012). Hence, by the fourth stage of the cumulative-disadvantage framework, the disadvantages are so impressive as to compel highly educated and presumably neutral legal professionals to render guilty verdicts.

Confession effects on plea bargains

Although the U.S. Constitution guarantees defendants the right to be tried by a jury of their peers, and although it is the trial that serves as the theatrical centerpiece of the legal system, the vast majority of U.S. cases (and around the world) are resolved via plea bargains. Although estimates vary slightly depending on the type of crime, approximately 95% of cases in U.S. state, federal, and juvenile courts are resolved using pleas (Redlich, Bibas, et al., 2017). For innocent suspects brought to this stage, cumulative disadvantages of prior experiences weigh on the process.

As an empirical matter, suspects who waive their rights, get interrogated, and confess are more likely to have their cases resolved through plea bargains than go to trial compared with those who do not confess (Leo, 1996a; Redlich, Yan, Norris, & Bushway, 2018). A guilty plea is a conviction, one that was decided without the benefit of the adversarial process (Newman, 1966). Thus, adding to the list of growing disadvantages at this point, another manner in which false confessions, validated by a presumed *voluntary* Miranda waiver, have corruptive effects is that they lead defendants to plead guilty. When that happens, defendants forgo most due process rights otherwise afforded—including but not limited to the presumption of innocence, the right to have guilt proven beyond a reasonable doubt, the right to confront and cross-examine their accusers, and the right to a jury of their peers (Redlich, Bibas, et al., 2017).

Two often-waived rights in particular can have severe ramifications that further illustrate the sheer magnitude of the accumulated disadvantages for innocents who go on to plead guilty. First, by pleading guilty, many defendants are forced to give up the right to appeal their conviction. For innocents, this waiver virtually eliminates the possibility of future exoneration because they are considered to have voluntarily relinquished their opportunity to use postconviction appeals to rectify a wrongful conviction. In no uncertain terms, the fate of these innocents is sealed because of an accumulation of disadvantages that caused them to plead guilty. Second, defendants who plead guilty may knowingly or unknowingly relinquish the right to full discovery of the evidence the state has against them. In the context of trials, the state must disclose to the defense all exculpatory and material evidence; the failure to do so is considered prosecutorial misconduct. In the context of pleas, however, the Supreme Court in *United States v. Ruiz* (2002) decided that "exculpatory impeachment evidence" (i.e., evidence that speaks to the *credibility* of witnesses) does not have to be disclosed. A federal court recently extended this ruling to traditional exculpatory material (*Alvarez v. The City of Brownsville*, 2018).

For defendants who are innocent, the effect of waiving discovery mirrors the effect of waiving the right to appeal because innocent defendants, who are more likely to have exculpatory evidence than guilty defendants, are often not aware of the state's evidence favoring their innocence until well after they have accepted the guilty plea. The fate of the innocent person who pleads guilty is virtually sealed, further handicapping the possibility of exoneration. Why, then, would innocents decide to plead guilty?

Innocence and guilty pleas. The U.S. criminal-justice system of guilty pleas has been described as a "nearly perfect" one for convicting the innocent (Alschuler, 2016). Akin to false confessions, both dispositional and situational factors combine to increase the risk that an innocent person would plead guilty. Of the approximately 2,500 catalogued exonerations in the United States, 498 (20%) were convicted via guilty pleas (National Registry of Exonerations, 2019). These figures likely underestimate the actual occurrence of false guilty pleas because of how difficult they are to detect (Gross, 2014; Redlich, 2010, 2016). Moreover, self-report rates of false guilty pleas, especially among at-risk populations, are up to 2 times higher (e.g., 27% of juveniles and 37% of offenders with mental health problems, respectively; Redlich, Summers, & Hoover, 2010; Zottoli, Daftary-Kapur, Winters, & Hogan, 2016).

At a base level, the primary reason that defendants in general plead guilty is that the deal offered is a bargain, leading to plea-trial sentence differentials described as the "plea discount," or, alternatively, the "trial tax" or "trial penalty" (Redlich, Wilford, & Bushway, 2017). In a plea bargain, typically both the charges and the sentences are reduced compared with the potential outcomes of a trial. Plea discounts can be quite high (Zottoli et al., 2016). In one Virginia county, the average discount rate from the maximum sentence of the indicted charges to the actual sentence received as part of the plea deal was an astounding 96% (Dezember & Redlich, 2019). The bargain, the high base-rate probability of conviction at trial, and accompanying stiff penalties motivate most defendants to accept the plea offer—regardless of actual innocence. Even people who refuse to admit guilt but plead guilty nevertheless (i.e., no-contest and *Alford* plea takers) still receive the benefits of leniency (Bibas, 2012; Redlich & Ozdogru, 2009).

Over and above the bargain and accompanying leniency, other reasons have been identified as contributing to true and false guilty pleas (see Redlich, Wilford, & Bushway, 2017; Wilford & Khairalla, 2019). It is beyond our scope to describe them here, but at-risk demographic groups, such as juveniles, are especially susceptible to compliance with authority, increasing their willingness to cede their rights, confess to police, and plead guilty (see Cleary, 2017; Redlich, Zottoli, & Daftary-Kapur, 2019). Because juveniles are at heightened risk for false confessions and guilty pleas (see Helm, Reyna, Franz, & Novick, 2018; Malloy et al., 2014; Redlich, Zottoli, & Daftary-Kapur, 2019; Zottoli et al., 2016), the cumulative disadvantage process may be especially pernicious.

The confession-to-guilty-plea pipeline. Defendants who confess to police are more likely than other defendants to plead guilty (Leo, 1996a; Redlich et al., 2018; W. A. Walsh, Jones, Cross, & Lippert, 2008). From a psychological perspective, this pattern makes sense. A person who confessed at one point in time—say to police—is likely to confess another time—say to the prosecutor (e.g., humans have a strong tendency to behave consistently with prior commitments; Cialdini, 2009).

Innocent confessors parallel this general trend. A report by the National Registry of Exonerations (2015) determined that exonerees who had falsely confessed were *three times* more likely to have pleaded guilty than those who had not confessed (see also, Kassin, 2012; Redlich, 2010). In attempting to explain this trend of higher false guilty pleas among false confessors, the National Registry of Exonerations (2015) stated, "The reason is evident. People who falsely confess are likely to believe that they have no meaningful chance of winning at trial" (p. 2). Hence, when judges do not grant the defendant's motion to suppress the confession (which is the typical outcome; Leo & Davis, 2010), innocent confessors predict conviction at trial—a reasonable forecast given the powerfully incriminating influence of confession evidence on actual case outcomes and mock jurors.

When the risk of conviction at trial is high, accepting a plea offer is the rational decision, particularly when offered sentences are lighter than the trial-conviction sentence multiplied by the probability of conviction, a phenomenon called "bargaining in the shadow of trial" (see Redlich, Wilford, & Bushway, 2017). As a general rule, as the probability of trial conviction increases, so too does the willingness to plead guilty (e.g., Bordens, 1984; Tor, Gazal-Ayal, & Garcia, 2010). To maximize their outcomes by avoiding the harsher trial-conviction punishment and reap the leniency associated with plea bargains, innocent defendants, particularly those who had confessed, plead guilty. Thus, underscoring the influence of the accumulated disadvantages, innocents who falsely confessed are disadvantaged over innocents who did not falsely confess in that their choice to accept a guilty plea is even more constrained.

Recent research has demonstrated that prosecutors and defense attorneys also make plea decisions in the shadow of trial (Bushway, Redlich, & Norris, 2014). In a study using an experimental vignette, more than 1,500 prosecutors, defense attorneys, and judges sought out confession evidence more than any other factor. And, in line with the cumulative-disadvantage framework, the presence of a confession significantly increased plea rates and significantly decreased discounts (Redlich, Bushway, & Norris, 2016). It is clear that prosecutors and defense attorneys exert influence on the decision making of lay defendants (Henderson, 2019)—especially those who are innocent. In one study, participants who were

innocent, but not those who were guilty, were influenced by an advocate's recommendation. When their advocate recommended trial, only 4% of innocent participants pleaded guilty; when the advocate recommended accepting a plea, 58% innocents pleaded guilty (Henderson & Levett, 2018).

Consistent with the cumulative-disadvantages framework, there are other indications that prosecutors and defense attorneys bargain in the shadow of trial and offer/recommend pleas regardless of a client's actual innocence. First, several exonerated false confessors who went on to plead guilty explicitly cited pressure from their defense attorney as a basis for their decision. For example, Christopher Ochoa, under extreme duress during an interrogation that lasted 24 hr, ceded to the pressure and falsely confessed. His attorney could not conceive that an innocent man would confess to a brutal rape and murder and did nothing to investigate his client's claim. He convinced Ochoa to both plead guilty and testify against his codefendant (Redlich, 2010).

Second, interviews with defense attorneys who insisted that they would not urge innocent clients to plead guilty were replete with instances in which they convinced clients to change their assertion of innocence into an admission of guilt, thereby allowing a "guilty" defendant to plea. If this strategy failed, they would withdraw from the case and direct their clients to find a new lawyer (Alschuler, 2016).

Third, prosecutors, like most triers of fact, do not trust claims of false confessions. When a confession is in evidence, prosecutors are more likely to prosecute and offer smaller plea discounts (Leo, 1996a; Redlich et al., 2018). Because of the kinds of cognitive confirmation biases that afflict individuals who harbor strong beliefs and/or fueled by the kinds of motivational biases that can afflict an adversarial system, prosecutors may find it difficult to seek out and accept disconfirming evidence that rebuts a confession. Prosecutors must determine what information in the case file is material (relevant to the outcome) and exculpatory and, therefore, should be turned over to the defense. Because confessions increase the likelihood of a plea offer, they may not have to make these determinations or they unknowingly may be biased by the confession and the corrupted additional evidence it spawned (e.g., biased forensic analyses; see Kassin et al., 2013).

As demonstrated above, cases involving hotly contested confessions can trigger forms of official misconduct—by police, prosecutors, or other government officials. Consider the case of Joseph Buffey (Redlich, Bibas, et al., 2017). In 2001, an 83-year-old West Virginia woman was raped by a young male intruder. One week later, 19-year-old Joseph Buffey confessed to three detectives during an interrogation that lasted from 7 p.m. to 4 a.m. Buffey's statement was strikingly inconsistent with the facts of the crime; he was linked to no physical evidence; within minutes, he recanted: "I didn't do it."

Buffey steadfastly maintained his innocence. But his lawyer, an appointed public defender, urged him to accept a time-limited plea offer that the prosecutor made after the state crime lab had completed DNA testing on the rape kit, the results of which excluded Buffey but were never disclosed to him or his attorney. Buffey pled guilty and was sentenced to serve at least 70 years in prison. In 2011, the Innocence Project retested the DNA, which conclusively excluded Buffey and identified the perpetrator, a man from the neighborhood with multiple felony convictions, including breaking and entering and sexual assault. Yet the state refused to vacate Buffey's guilty plea, speculating instead that he must have been present as an accomplice—a theory that contradicted the physical evidence, the confession, and the victim's account involving a single perpetrator. Buffey's conviction was affirmed on direct appeal. In 2015, however, the West Virginia Supreme Court ruled that his constitutional rights were violated by the state's failure to disclose the completed favorable DNA test results during plea negotiations. After 14 years in prison, Buffey was permitted to withdraw his guilty plea.

To summarize, innocent people who are misidentified as suspect are at risk of waiving their Miranda rights and falsely confessing. These accumulating disadvantages increase the likelihood that innocents will plead guilty in the shadow of trial and receive less of a discounted bargain than others would be afforded. Hence, prosecutors offer guilty pleas, defense lawyers recommend acceptance, and innocent defendants succumb, waiver of rights and all. If innocents go to trial, they are then more likely to be convicted by a jury verdict. In large part because false confession is so counterintuitive, prosecutors, defense attorneys, judges, and juries are overly influenced by these self-admissions.

Stage 5: Postconviction Appeals and Exoneration

The cumulative disadvantages—started with a presumption of guilt, innocents' naivete, and the resulting waiver of their rights that facilitates the likelihood of a false confession—continues after conviction and even after exoneration. After conviction, the courts exhibit little patience or insight when it comes to appeal efforts for false confessors. Consider the case of Anthony Wright

of Philadelphia, Pennsylvania. In 1993, Wright was convicted of a rape and murder he did not commit on the basis of a false confession. As in many states, Pennsylvania offers prisoners a right to DNA testing to establish innocence. Yet an appeals court denied this to Wright on the ground that a defendant who confessed is barred from DNA testing. The American Psychological Association submitted an amicus brief on his behalf (American Psychological Association, 2008). In 2011, the state supreme court overruled the lower court. The DNA testing both excluded Wright and identified the actual perpetrator. Citing Wright's original confession, the prosecutor retried him anyway, arguing without any proof that he and the killer were accomplices. Wright was acquitted.

The harmless-error myth

In *Arizona v. Fulminante* (1991), the U.S. Supreme Court ruled that an erroneously admitted confession does not necessarily entitle a convicted defendant to a new trial. Invoking the principle of "harmless error," the Court ruled that appeals courts reviewing confession-based convictions must determine, first, whether a trial error occurred and, second, whether that error was prejudicial or harmless. In other words, the Court stated that even if a confession was coerced and should have been excluded from trial, the conviction could stand if other evidence was so compelling that the jury would still have found the defendant guilty beyond a reasonable doubt. Thus, if an appeals court sees other corroborating evidence of guilt, then the erroneously admitted confession is deemed harmless (Kassin, 2012).

This harmless-error doctrine applied to confessions is fatally flawed because it rests on the mistaken core assumption that the alleged other evidence is independent of the confession that was coerced and should have been excluded. Analyses of postconviction appellate reviews demonstrates the problem. According to Garrett (2010), appellate courts that had reviewed cases involving several confessors who were later exonerated had affirmed their convictions by citing the "overwhelming nature of the evidence against them" (p. 1107). As noted earlier, empirical research shows that confessions can bias eyewitnesses, alibi witnesses, polygraph judgments, handwriting judgments, and other forms of forensic evidence (Kassin, 2012; Kassin et al., 2013). In short, harmless error is a myth suggesting that the courts are oblivious to forensic confirmation biases and the cumulative disadvantages that create an illusion of corroboration, oftentimes thwarting an innocent defendant's attempts at postconviction relief.

Persisting stigma after exoneration

After exoneration, research has found that the damaging influence of a confession persists, thus continuing to accumulate disadvantages. Doug Warney was an intellectually disabled man with mental health issues when he was convicted of murder. His 1997 conviction was based on a richly detailed confession to police during 12 hr of interrogation. After 9 years in prison, Warney was exonerated by DNA and released. Yet when he sought reparations through the state's compensation statute, a court ruled that he was ineligible to do so because his wrongful conviction was his fault, resulting from his "own conduct"—namely, the police-induced false confession. The American Psychological Association filed an amicus brief in this case as well (American Psychological Association, 2010). Fortunately for Warney, the New York State Court of Appeals unanimously decided in his favor, disagreeing that Warney contributed to his own wrongful conviction.

Adding insult to injury, the story of Doug Warney illustrates one of the many ways in which the cumulative disadvantages that accrue to people who were wrongfully convicted by confession often persist even after they are exonerated and released back into the community. In theory, the path from release (i.e., the point in which individuals leave prison) to exoneration should be certain and clear-cut. For many innocents, this idea holds true and they are officially exonerated on the day of release (Scherr & Normile, 2019). For those who have falsely confessed, however, the path can be tortuous. Among cases involving serious crimes (e.g., murder and sexual assault) catalogued in the National Registry of Exonerations, individuals whose wrongful conviction involved a false confession (compared with those that did not) experienced an average delay of over a year between their release and *official* exoneration (Scherr & Normile, 2019). Why? A primary reason is that prosecutors persevere in their beliefs about the false confessor's guilt, often concocting unrealistic theories to reconcile DNA and other forms of contradictory evidence (Appleby & Kassin, 2016). In some instances, this refusal to confront unimpeachable evidence of innocence after confession has drawn negative commentary from the news media (e.g., Martin, 2011) and the label "innocence deniers" (Bazelon, 2018).

Mercifully, some wrongly convicted confessors who suffered the accumulated disadvantages are exonerated—consistent with a general trend of wrongful exonerations that are being discovered at alarming rates around the globe. Exoneration is a fortunate experience for those wrongly convicted, but it masks the difficulties that many experience when rematriculating back into

society (Thompson, Molina, & Levett, 2012; Westervelt & Cook, 2012; Westervelt & Humphrey, 2001). Only recently has psychological science started to identify the stigma that some innocents face after exoneration (Clow & Leach, 2013, 2015). The enduring stigma that follows from conviction can be conceptualized as an extension of basic stigma-by-association processes whereby unfavorable judgments of a disfavored group, such as guilty criminals, are linked to target individuals who do not belong but are nonetheless associated with that stigmatized group (Molet, Stagner, Miller, Kosinski, & Zentall, 2013; Pryor, Reeder, & Monroe, 2012).

Exonerees who falsely confessed are particularly at risk of being stigmatized, which is consistent with the cumulative-disadvantage framework and further extension of the disadvantages postconviction. Primarily because false confessions are counterintuitive and hard to understand as a matter of common sense, people fail to fully appreciate how situational factors can lead innocents to confess (e.g., Chojnacki, Cicchini, & White, 2008; Henkel, Coffman, & Dailey, 2008; Kassin, 2017; Leo & Liu, 2009; Mindthoff et al., 2018; Woestehoff & Meissner, 2016). Over a wide range of contexts, research has shown that people in Western cultures routinely commit the fundamental attribution error (Ross, 1977, 2018), or correspondence bias (Gilbert & Malone, 1995), making personal attributions for other people's actions while underestimating the role of situational factors. In the context of our framework, observers are prone to blame false confessors for their fate ("I would never falsely confess") and question their culpability ("Why else would they confess if they were not guilty?"). Thus, false confessors become associated with—and continue to be stigmatized like—those who are rightfully convicted.

Compared with those wrongfully convicted on the basis of mistaken eyewitness identifications or other forms of evidence, those wrongly convicted by confession are more likely to be perceived as guilty and less likely to be seen as deserving of government assistance—even after exoneration (Clow & Leach, 2015). The enduring negative stigma associated with falsely confessing also undermines people's willingness to financially compensate these innocents (Kukucka & Evelo, 2019; Luna & Kieckhaeifer, 2018). False confessions can be so influential as to precipitate a series of negative judgments of these individuals as lacking intelligence, suffering from mental health issues, not entirely innocent, and, ultimately, less deserving of government-sponsored reintegration aids such as psychological and career counseling and job training (Scherr, Normile, & Putney, 2018). Along with replicating the undermining series of negative judgments associated with wrongful convictions based on false confessions, the same series of judgments follows after innocents offer false guilty pleas (Scherr et al., 2019).

We highlight this nascent area of research to bring attention to the importance of the exoneration experience and the fact that many false confessors and false guilty pleaders continue to be stigmatized. This research dispels the commonly held belief that when the legal system corrects its errors, the victims of injustice become whole and seamlessly reintegrate into society. As the story of Doug Warney illustrates, this assumption is incorrect. Indeed, "Just as commonsense folk psychology may 'blind' people from seeing innocence after confession, it may also keep them from accepting innocence even after exoneration" (Kassin, 2017, p. 958). Showing the lasting effects that an accumulation of disadvantages presents, several U.S. jurisdictions have provisions that virtually eliminate the possibility for some exonerees to be eligible for reintegration services and compensation. Referred to as "contributory provisions," these rules stipulate that in order for exonerees to be eligible for aid and compensation they could not have contributed to their own conviction. Contributory provision stipulations are typically interpreted in ways that prevent exonerees who confessed or pled guilty from access to financial support and services. In these instances, the burden is on them to prove that they did not contribute to their own wrongful conviction.

To hold innocent people who confess or plead guilty under pressure responsible for their own wrongful conviction is a form of victim blaming that indicates just how poorly understood these phenomena are throughout the legal system. Echoing prior calls for reforms (e.g., Scherr et al., 2018; Shlosberg, Mandery, West, & Callaghan, 2014), we believe that all officially exonerated individuals should be *guaranteed* access to aid and compensation—without exception. Partitioning out aid on a case-by-case basis allows the biases that contributed to the cumulative disadvantage in the first place to remain a part of the decision-making process and preclude this large class of exonerees from gaining access to critical reintegration services.

To summarize, innocents who have waived their rights, falsely confessed, and been wrongly convicted via jury verdict or false guilty pleas continue to have difficulties both before and after exoneration. First, their path to exoneration is harder; second, they continue to be stigmatized and perceived as not entirely innocent. The disadvantages are especially apparent among innocents who reside in jurisdictions that have contributory provision statutes preventing these exonerees from accessing guaranteed aids and services because they are perceived as responsible for their own wrongful conviction.

Containing the Cumulative-Disadvantage Process—Calls for Reform

Along with documenting a process through which some innocents, once mistakenly targeted for wrongdoing, experience cumulative disadvantages, we believe it is important to present evidence-based reforms that can contain the momentum that builds in these cases.

Removing the requirement to self-invoke

Two of the U.S. Supreme Court rulings discussed earlier—*Berghuis v. Thompkins* (2010) and *Florida v. Powell* (2010)—underlie our first policy recommendation that suspects should *not* be required to self-invoke their interrogation rights (Smalarz et al., 2016). Over the years, the courts have weakened *Miranda* requirements through varying loopholes and exceptions (Kassin et al., 2019; Weisselberg, 2017). To restore the safeguards in the Constitution as intended, interrogations must be preceded by an expectation that suspects have and want to exercise their rights. Presuming by default that suspects prefer silence and legal counsel—rather than the manipulative dynamic that currently exists—removes the unreasonable requirement that suspects must speak up, or self-invoke, to remain silent. In seeking reform, we roll the clock back 50-plus years to the *Miranda* Supreme Court, which described the atmosphere of police interrogations as "inherently compelling" and sought to protect people from it—per the Fifth and Sixth Amendments.

The need to activate *Miranda* without self-invocation is particularly needed for suspects who are innocent and who do not hesitate to waive their rights. In addition, the courts should ensure that warnings are administered, not circumvented, in a timely manner; that these warnings be stated in a language that is simple, accessible, and not manipulative; that adolescents and other vulnerable individuals be protected; and that the invocation of rights is by default accepted unless explicitly waived according to the knowing, intelligent, and voluntary criteria in *Miranda*.

Video recording the interrogation

Echoing calls from scientists, legal scholars, policymakers, and many practitioners, all jurisdictions should require, without exception, that all interrogations be video recorded in their entirety—including all precustodial interviews, the administration of Miranda rights, and custodial interrogations—in addition to the confession itself (see Kassin & Thompson, 2019).

At present, half of all states, the District of Columbia, and federal agencies require the full recording of custodial interrogations; other states do not. Note that interview data indicate that law-enforcement agencies that have moved to recording interrogations become highly supportive of the practice (Sullivan, 2004, 2008).

We believe that the empirical benefits of recording are substantial. In one study, experienced police officers interrogated suspects who were guilty or innocent of a mock theft. Some were informed that their session would be recorded; others were not. Results showed that camera-informed police participants were less likely than those uninformed to use high-pressure interrogation tactics and that suspects perceived them as trying less hard to get them to confess (Kassin, Kukucka, Lawson, & DeCarlo, 2014). In a second study, police officers investigated a mock crime scene, interrogated two innocent suspects, and filed an incident report about the interrogations. Results showed that police understated their use of various tactics in their reports relative to what the actual tapes of the interrogation sessions (which were secretly recorded) showed. Hence, observers who later read an interrogation report versus a verbatim transcript perceived the process to be less pressured; they were also somewhat more likely to misjudge suspects as guilty (Kassin, Kukucka, Lawson, & DeCarlo, 2017). In short, video recording has two beneficial effects: First, the mere presence of a camera, an accountability cue, will inhibit interrogators from using highly manipulative tactics and encourage instead the kinds of cognitively based interviewing practices that are starting to reshape modern-day police work; and second, for police, prosecutors, judges, and juries, the recordings preserve an accurate memorial account of the exchange between the interrogator and suspect, providing insight into the Miranda waiver, the voluntariness of the process, and the reliability of the statement that is produced.

To this day, law-enforcement opponents still argue that recording will distract or inhibit suspects from talking to police. This concern is unfounded. In a fully randomized field experiment, researchers analyzed 122 real cases in which the suspects were randomly informed or not informed that their sessions would be recorded. The results were clear: Camera-informed suspects spoke as often as uninformed ones; they were as likely to waive their rights; they were as likely to make admissions, not just denials; and detectives rated them as equally cooperative (Kassin et al., 2019).

Curbing trickery and deceit

Heavily influenced by the Reid technique, custodial interrogations in the United States are rife with tactics that are legally permissible yet psychologically coercive. Informed by psychological science, as described earlier, two tactics are notably problematic for all suspects,

particularly those who are innocent: the presentation of false evidence and minimization themes that imply leniency. As the story of Marty Tankleff illustrates, there is no shortage of horrific examples to illustrate how this type of misinformation can lead innocent people to confess—and to plead guilty to crimes they did not commit (Wynbrandt, 2016).

Now that there is a robust body of psychological science and compelling anecdotal evidence, the time has come for U.S. courts to refuse to admit confessions elicited by outright lying to suspects about the evidence. The U.S. Supreme Court has not revisited this issue in 50 years (*Frazier v. Cupp*, 1969). This practice is prohibited in most Western countries; the consensus within the scientific community concerning the risk is clear. In a survey of 87 PhD confession experts from all over the world, 94% agreed that "presentations of false incriminating evidence during interrogation increase the risk that an innocent suspect would confess to a crime he or she did not commit," and 100% agreed that "misinformation about an event can alter a person's memory for that event" (Kassin, Redlich, Alceste, & Luke, 2018).

U.S. courts are out of step with psychological science when it comes to this form of trickery and deception. It should be banned. Police then adapt to this change by removing this particular weapon from their confrontation-based tool box or by shifting to a more cognitive, information-gathering approach known as investigative interviewing. Investigative-interviewing approaches are widely favored in Europe (see Bull, 2014; Vrij, Mann, Kristen, & Fisher, 2007; D. Walsh, Oxburgh, Redlich, & Myklebust, 2016; Williamson, 2006) and produce interrogation outcomes that are more diagnostic of guilt and innocence (Meissner et al., 2014) and are supported by the U.S. government's high-value detainee interrogation group research program (Brandon, 2011; Meissner, Surmon-Böhr, Oleszkiewicz, & Alison, 2017).

Blind testing of forensic examiners

A robust body of evidence now shows that the forensic sciences are not infallible but rather are subject to bias and error (e.g., Dror, 2016; Dror & Murrie, 2018; Kukucka, 2018; Saks et al., 2003). The problem of biased-induced errors has become so well established that the President's Council of Advisors on Science and Technology (2016) issued a report emphasizing the practice of blinding examiners to potentially biasing contextual information. One source of error stems from confirmation biases in which examiners rely on information that is consistent with their preconceived expectations (Friedrich, 1993; Kassin et al., 2013; Nickerson, 1998). Strong evidence, such as confessions, prompt biased-induced errors that can distort forensic-analysis interpretation (Kukucka, 2018).

Our cumulative-disadvantage framework highlights the importance of mandating blind testing among forensic examiners—including mental health practitioners who serve as forensic experts. Imagine an interrogator telling a forensic examiner that the suspect had confessed. That contextual information may set off a series of cognitive processes whereby the forensic examiner, exposed to biasing information, focuses on data points that are inculpatory and disregards those that are exculpatory. To make matters worse, surveys of forensic science and mental health practitioners provide strong evidence for a "bias blind spot" (Kukucka, Kassin, Zapf, & Dror, 2017; Zapf, Kukucka, Kassin, & Dror, 2018).

One solution to minimize the effect of confessions and other strong forms of contextual information is to require linear sequential unmasking protocols that regulate the amount of information examiners receive from one point in time to another by ensuring that they have access to task-relevant evidence (e.g., there is no reason for latent fingerprint experts to receive exposure to a confession when their task involves matching two or more visual stimuli; Dror et al., 2015). Taking such an approach allows examiners to gain access to contextual information, when essential, and update their judgments so long as the revisions are documented and transparent. The initial response from laboratories that have adopted such protocols is encouraging with the general sentiment that implementation was relatively seamless, and the examiners' reports and judgments are viewed with more confidence (Archer & Wall-man, 2016; Found & Ganas, 2013). Also of note is a second-level suggestion (Wells, Wilford, & Smalarz, 2013)—now supported by empirical research—that forensic examiners whose task it is to make pattern-match judgments do so by exposure to filler items modeled after an eyewitness lineup (Quigley-McBride & Wells, 2018).

Guilty pleas—rules of disclosure

All legal decisions—including guilty pleas—must be made knowingly, intelligently, and voluntarily (Redlich, 2016). In our estimation, it is not possible to make a truly knowing and intelligent decision without full knowledge of the evidence. In *United States v. Ruiz* (2002), the U.S. Supreme Court argued that exculpatory impeachment evidence is relevant to the fairness of a trial but not the voluntariness of a guilty plea. Can an unknowing plea be truly voluntary? Citing numerous state and federal cases as precedent, the Fifth Circuit Court of Appeals recently held that withholding traditional exculpatory material in the plea context does not violate a defendant's due process rights (*Alvarez v. The*

City of Brownsville, 2018). Only 14 states have discovery rules that explicitly address pleas—and of these, only 10 specifically cite the discovery of exculpatory material (a few have case law on this issue; e.g., *Buffey v. Ballard*, 2015; see Zottoli et al., 2019). Withholding exculpatory evidence is a consistent contributor to wrongful convictions. In the context of confessions, it is likely that the defendant knows that he or she confessed. However, he or she may not know the possible weaknesses of that confession (e.g., the presence of factual errors; contamination). Without a video recording and the turning over of the video recording to the defense, these weaknesses may remain obscured and unchallenged.

One way to limit the accumulation of disadvantages is through open-file discovery rules that are commonly recommended to combat prosecutorial misconduct and subsequent wrongful convictions (Alkon, 2014, 2017). Jurisdictions with open-file discovery policies essentially turn over the entire case file to the defense. Seventeen states currently have such policies (Turner & Redlich, 2016). In comparing an open-file-policy state (North Carolina) to a closed-file-policy state (Virginia), researchers found that these discovery policies extended to the provision of preplea evidence as well. More specifically, prosecutors and defense attorneys in North Carolina reported turning over and receiving significantly more preplea evidence than their counterparts in Virginia (Turner & Redlich, 2016). Among mock prosecutors in experimental lab studies, those taking open-file approaches turned over more discovery material and more exculpatory evidence than those not taking open-file approaches. In contrast, mock prosecutors informed about the *Ruiz* decision turned over significantly less discovery material and fewer pieces of exculpatory evidence than those in the control condition (Luna & Redlich, 2020).

Moving Forward—Empirical Questions

Although we have focused on the cumulative disadvantages that conspire to produce wrongful convictions in the United States, the legal processes we describe are largely universal. More to the point, the relevant foundational principles of psychology are widely accepted. Even more to the point, many consequential questions are yet unanswered. Here we provide a mere sampling of the possibilities:

1. In some parts of the world, as in England, adult suspects are explicitly advised that exercising their rights can be used against them in court (Panzavolta, de Vocht, van Oosterhout, & Vanderhallen, 2015). In the United States, the *Miranda* Court ruled that any invocation of one's rights could not be used against a defendant in court. In *Salinas v. Texas* (2013), however, the Court suggested that adverse inferences can in fact be drawn from a suspect's silence. If police view suspects as culpable for invoking their rights, as laypeople tend to do (Shaffer & Case, 1982; Sukumar & Kassin, 2017; Webster, King, & Kassin, 1991), the ensuing investigation will unleash the kinds of confirmation biases noted earlier. At this point, no research has addressed the inferences, decision making, and behavior of actors in the legal system.

   Likewise, with regard to *Miranda*, as well as the requirement that interrogations be recorded, the courts have determined that the state of "custody" activates these rights. Recent experiments have shown that actors and lay observers diverge in their perceptions of custody such that observers attribute more freedom to leave than actors report feeling (Alceste et al., 2018). But what about police officers and judges, the legal actors who make these judgments, respectively, in real time and in court? This is a question of consequence in need of answers.

2. Over the years, and inspired in part by wrongful convictions, psychological scientists have sought to understand the counterintuitive social-influence phenomenon of false confessions (Kassin, 2017). At a less advanced stage, research has turned toward identifying ethical alternatives that are surgically precise, methods that elicit deception judgments and confessions from perpetrators, not innocents. British law enforcement have been using nonconfrontational approaches to investigative interviewing for many years, and naturalistic data suggest these methods are effective. Mainstream psychology journals have only recently published potentially important conceptual research in this regard (e.g., pertaining to unconscious and physiological indicators; see Reinhard, Greifeneder, & Scharmach, 2013; ten Brinke, Lee, & Carney, 2019). Still more work is needed both with regard to deception detection and the elicitation of confessions (e.g., Bull, 2014; Meissner et al., 2014; Vrij et al., 2019; Vrij et al., 2017).
3. In 2009, the National Academy of Sciences (NAS) published a scathing critique of the forensic sciences that spanned virtually all subdisciplines, including toolmarks and firearms, hair and fiber

analysis, impression evidence, blood spatter, handwriting, and even fingerprints. The NAS concluded that there are problems with standardization, reliability, bias, and error. Particularly alarming is the Innocence Project statistic that invalid forensic science contributed to roughly half of all DNA exonerations. As noted earlier, more and more research is now focused on these problems and possible solutions (e.g., Dror & Murrie, 2018; Kassin et al., 2013). Yet numerous questions remain concerning the "allegiance effect"—namely, whether forensic examiners are biased by the party who hires them (Murrie, Boccaccini, Guarnera, & Rufino, 2013), the "bias blind spot" that leads forensic-science examiners and mental health practitioners to see themselves as immune to contextual bias (Kukucka et al., 2017; Zapf et al., 2018), and another important question, whether forensic-science training in basic psychology and research methods can be used to reduce these effects.

4. Now, more than ever, with an excess of 95% of all criminal cases in the United States resolved by guilty plea, it is imperative to advance knowledge on plea agreements. The Supreme Court is now attuned to the issues regarding the decision making of prosecutors, defense attorneys, judges, and defendants (*Class v. United States*, 2018; *Lafler v. Cooper*, 2012; *Lee v. United States*, 2017; *Padilla v. Kentucky*, 2010; *United States v. Davilia*, 2013). Moreover, other criminal-justice systems in the world have moved in the same direction. Over the past 25 years, at least 90 countries have adopted plea bargaining (Fair Trials, 2016); once adopted, many countries have dramatically increased reliance on them. Hence, numerous empirical questions that are globally applicable need to be tested (see Redlich, Bibas, et al., 2017; Redlich, Wilford, & Bushway, 2017; Zottoli et al., 2019).

   It is also important to examine the hard-bargaining tactics that prosecutors use (Alkon, 2017) and the diagnosticity question concerning the extent to which perpetrators plead guilty without risk to innocents (Wilford & Khairalla, 2019). Given the rules of discovery surrounding pleas, other issues to address include (a) how the amount of discovery evidence disclosed influences plea decision making among guilty and innocent defendants and (b) how the processes of confession and plea acceptance are both similar and different (Garrett, 2016; Redlich, 2010; Wilford & Wells, 2018). The scope of plea research going forward thus needs to include all actors in the system (Redlich, Wilford, & Bushway, 2017).

5. The stigma that attaches itself to people who confess, especially those who then plead guilty and are later exonerated (if they are fortunate enough to overcome the additional hurdles on appeal), requires examination. To be sure, confessing to a crime one did not commit is a highly counterintuitive phenomenon. But once an individual is exonerated by DNA—especially when that DNA identifies the actual perpetrator—there is no excuse. A story broke in West Virginia as we revised this article. It pertained to Brian Dement, a man with learning disabilities and a history of mental illness that included bipolar disorder. In 2002, he was interrogated for a lengthy period of time and confessed to a rape and murder, implicating himself and three other men. On the basis of his statement, all men were convicted; all were imprisoned (he later recanted his confession but it was too late). In 2018, DNA testing excluded Dement and his associates—and it was unequivocally matched to a convicted rapist. In response, a state judge overturned three of the convictions—but not Dement's, citing the fact that he had confessed and pled guilty (Rosenfeld, 2019).

   In a microcosm, this story highlights an urgent question. When psychological scientists publish research that uncovers inherent flaws and biases of direct relevance to matters of justice, what mechanism is available to use that research to increase public awareness? Do public lectures, opinion editorial articles, podcasts, and documentaries that communicate both the research and the illustrative stories educate the public and make for more discerning judges and juries and better informed policymakers? This is a large empirical question still to be addressed.

Coda

The literature detailed throughout this article has advanced our understanding of many single parts that collectively lead to a cumulative disadvantage for innocents mistakenly targeted for criminal wrongdoing. It is now important for research that integrates multiple stages, but such work remains sparse. Starting with the factors that trigger the process, it is imperative to link the different compounding aspects of the cumulative-disadvantage framework—over

time. To this end, we do not advocate that all projects must simultaneously examine all aspects of the framework but rather that projects incorporate more than a single temporal point and their interactive effects. In so doing, a body of research can help to delineate how innocents move from one disadvantageous stage to another and to provide a model of their growing disadvantage, all serving as the basis for reform.

Applying a cumulative-disadvantage framework helps to explain how innocent men, women, and children go on to be wrongly convicted—as in the opening case of Medell Banks. After being mistakenly targeted, arrested, and held in custody for several days, Banks ceded his constitutional rights and eventually gave a police-induced confession that he later recanted. Nonetheless, he pleaded guilty to killing an unborn child, an unsurprising life-or-death decision that in his mind enabled him to avoid almost certain conviction and the death penalty. After an appeals court allowed Banks to withdraw his guilty plea for a crime not committed, the prosecutor agreed to dismiss the charges—but only if Banks agreed to plead guilty to a misdemeanor charge of tampering with evidence. He was never compensated for these grave injustices.

Transparency

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