

AN INVESTIGATION OF TOP-DOWN VS. BOTTOM-UP
PROCESSING IN POST-APPELLATE REVIEW OF A CRIMINAL
CASE

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ABSTRACT

Convicted persons who claim to be factually innocent frequently seek assistance from advocacy organizations that help investigate and establish actual innocence. This experiment examined the extent to which the knowledge that a case has passed pre-screening by an innocence project influences case reviewer judgment through top-down case processing. One hundred and fifty-nine participants role-played case reviewers, evaluated discovery for a criminal case, and evaluated the case. Prior to evaluation, half of the participants were instructed that the case was not previously adjudicated, whereas the other half was told that the case was referred by an innocence advocacy organization. Instructions significantly influenced participant evaluations, suggesting the influence of top-down processing of case discovery.

I. AN INVESTIGATION OF TOP-DOWN VS. BOTTOM-UP PROCESSING IN
POST-APPELLATE REVIEW OF A CRIMINAL CASE

The list of DNA-based exonerations in both Canada and the United States has continued to rise. To date, 273 individuals convicted of serious felonies (almost all rapes and murders) have

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been exonerated by DNA-based evidence.¹ Technological developments in DNA analysis were critical in confirming that erroneous convictions do occur in the criminal justice system.² DNA evidence, however, is not available in all criminal cases. Unfortunately, perpetrators do not always leave such evidence behind. Likewise, it is also unfortunate that not all wrongly convicted individuals have this form of exculpatory evidence available to assist in their defense. As one might imagine, the absence of DNA-based evidence exacerbates the uphill battle a wrongly convicted individual must go through in seeking to establish innocence. Despite these difficulties, increasing numbers of individuals with no DNA evidence have been exonerated in the last two decades by other types of evidence. Indeed, among the known exonerations, non-DNA exonerations now significantly outnumber the DNA exonerations.³ A significant proportion—although not all—of these DNA and non-DNA exonerations have been achieved with the assistance of innocence advocacy groups, such as the Innocence Project.

In recent decades, psychology-law researchers have made great strides in gaining a firmer understanding of both the causes and the consequences of wrongful convictions. Eyewitness identifications,⁴ false confessions,⁵ and jailhouse informant testimony⁶ are but a few causes of wrongful convictions that have been subject to research. Researchers have also focused on identifying and exploring the consequences of wrongful convictions. Two examples of such consequences include the psychological consequences of wrongful convictions—both personal and familial⁷—and the crimes continuing to be committed by the true perpetrators.⁸ One area of

¹ See INNOCENCE PROJECT, <http://www.InnocenceProject.org/index.php> (last visited Aug. 16, 2011).

² See JIM DWYER ET AL., ACTUAL INNOCENCE: WHEN JUSTICE GOES WRONG AND HOW TO MAKE IT RIGHT, at xii (New American Library 2003); Barry Scheck & Peter Neufeld, *DNA and Innocence Scholarship*, in WRONGLY CONVICTED: PERSPECTIVES ON FAILED JUSTICE 241 (Saundra D. Westervelt & John A. Humphrey eds., Rutgers University Press 2001).

³ See Samuel R. Gross et al., *Exonerations in the United States, 1989 Through 2003*, 95 J. CRIM. L. & CRIMINOLOGY 523, 524 (2005).

⁴ See, e.g., Gary L. Wells et al., *From the Lab to the Police Station: A Successful Application of Eyewitness Research*, 55 AM. PSYCHOLOGIST 581 (2000).

⁵ See, e.g., Saul M. Kassin et al., *Police-Induced Confessions: Risk Factors and Recommendations*, 34 L. & HUM. BEHAV. 3, 3 (2010).

⁶ See, e.g., Jeffrey S. Neuschatz et al., *The Effects of Accomplice Witnesses and Jailhouse Informants on Jury Decision Making*, 32 L. & HUM. BEHAV. 137, 137 (2008).

⁷ Adrian Grounds, *Psychological Consequences of Wrongful Conviction and Imprisonment*, 46 CANADIAN J. OF CRIMINOLOGY & CRIM. JUST. 165, 168–70 (2004).

⁸ Daniel Givelber, *Meaningless Acquittals, Meaningful Convictions: Do We Reliably Acquit*

psychology-law research that remains unexplored is the post-appellate review process. There has been no research investigating factors affecting the post-appellate review process. Accordingly, we examine one such factor in the present study.

The post-appellate review, or exoneration, process refers to the process a convicted individual must go through in striving to establish innocence. Applicants must go through a number of antecedent processes before being eligible for the post-appellate review process. First, the applicant must be convicted. Second, the applicant must subsequently exhaust all of his or her appeals. At this time, the applicant may or may not have applied for “ministerial review on the grounds of miscarriage of justice,”⁹ or for a writ of habeas corpus (or other analogous state law-based post-conviction review procedure) in the United States. This process of applying for and seeking exoneration through ministerial review or post-conviction review is what we are referring to by the “post-appellate process.”

Often, individuals applying for ministerial review or habeas corpus (or other post-conviction review process) have neither enough funds to hire legal representation, nor are they appointed legal assistance.¹⁰ Applicants, however, may apply to a grassroots advocacy group for assistance in the post-appellate review process.¹¹ These organizations are empowered by students, volunteers, and lawyers working pro bono, advocating on behalf of the wrongly convicted. Applicants may apply to have their cases reviewed by these agencies based on claims of factual innocence. In the present paper, we will look at two processing models that may present themselves within this process: top-down and bottom-up processing models.

II. TOP-DOWN VS. BOTTOM-UP PROCESSING

In line with previous researchers, we too assume that top-down and bottom-up processes both entail systematic processing as opposed to heuristic processing.¹² When people engage in

the Innocent?, 49 RUT. L. REV. 1317, 1394 (1997).

⁹ Criminal Code of Canada, S.C. 2002, c. 13, § 696.1 (Can.).

¹⁰ THE ASSOCIATION IN DEFENSE OF THE WRONGLY CONVICTED, <http://www.AIDWYC.org> (last visited June 13, 2011); *see also* INNOCENCE PROJECT, *supra* note 1.

¹¹ By “grassroots advocacy groups,” we refer to not-for-profit organizations such as the Association in Defense of the Wrongly Convicted (“AIDWYC”) or the Innocence Project, or any of the sixty-three similar projects that currently are members of the Innocence Network.

¹² Brandon L. Bartels, *Top-Down and Bottom-Up Models of Judicial Reasoning*, in THE

systematic processing, they enthusiastically and thoroughly evaluate information relevant to the judgment decision. Alternatively, when people engage in heuristic processing, they evaluate information relevant to the judgment decision in a more lackadaisical and less systematic manner.¹³ The main difference between the two processes is that top-down processing is primarily deductive, while bottom-up processing is primarily inductive.¹⁴

Theories and contextual features influence the decisions of individuals who engage in top-down processing in judgment decisions. This framework, then, creates a “lens” through which people make ultimate judgment decisions.¹⁵ The processor overlooks, dismisses, or holds in less regard, information that disconfirms his or her theory. Quite contrary to this, the processor holds confirming evidence in high regard, as consistent with other information, and as relevant to the judgment decision.¹⁶ An example of top-down processing involves a judge in an appellate court. The appellate judge receives an appeal and knows that the trial judge found the appellant guilty. By virtue of the context in which the judge receives the appeal, the judge might develop a theory that the trial judge was correct and that the appellant is in fact guilty. If the judge engages in top-down processing, the theory that the appellant is guilty would dictate the appellate process, driving a subjective search for truth.¹⁷ The judge may overlook, dismiss, or hold in less regard, new evidence presented by the appellant, instead maintaining the salience of the evidence presented in the initial trial. The judge can only see evidence through the “lens” of the appellant-guilty theory he or she developed.¹⁸

Alternatively, raw data and facts largely drive the decisions of individuals who engage in bottom-up processing in judgment decisions.¹⁹ Theories and contextual features do not dictate

PSYCHOLOGY OF JUDICIAL DECISION MAKING 41, 43 (David Klein & Gregory Mitchell eds., Oxford Univ. Press 2010).

¹³ *Id.*; Shelly Chaiken, *Heuristic Versus Systematic Information Processing and the Use of Source Versus Message Cues in Persuasion*, 39 J. PERSONALITY & SOC. PSYCHOL. 752, 752 (1980).

¹⁴ Bartels, *supra* note 12, at 43–44.

¹⁵ *Id.* at 43.

¹⁶ Keith A. Findley & Michael S. Scott, *The Multiple Dimensions of Tunnel Vision in Criminal Cases*, 2006 WIS. L. REV. 291, 308–09 (2006).

¹⁷ Bartels, *supra* note 12, at 43, 48.

¹⁸ *Id.* at 43, 48, 51.

¹⁹ *Id.* at 44, 48.

processing in bottom-up judgment decisions.²⁰ Considering the example of the appellate judge again, if the judge is engaging in bottom-up processing, the appellant-guilty theory does not influence the judge, nor does any other theory for that matter; raw data is the driving influence behind the judge's decision-making process. This judgment process drives an inductive and objective search for truth.²¹

Note one caveat to this: there is no absolute bottom-up judgment process. Similarly, there is no absolute top-down judgment process. Instead, bottom-up and top-down processes exist on a continuum upon which a reasoning process can be considered to be more or less bottom-up or top-down in nature.²²

III. TOP-DOWN VS. BOTTOM-UP PROCESSING IN POST-APPELLATE REVIEW

Because the number of post-appellate review applicants to grassroots agencies far exceeds human resources, cases are first pre-screened.²³ In some innocence advocacy organizations, the initial case reviewer ("first level reviewer") is a senior case reviewer, and likely a lawyer.²⁴ Indeed, it is not unusual in clinical legal education models in general for senior clinical faculty to screen cases to identify potentially meritorious claims to pass on to students for their clinical case work.²⁵ In the wrongful conviction context, if the senior reviewer finds that the case fits the necessary criteria and believes that the applicant has some grounds for claiming innocence, the case is often passed on to a second level case reviewer.²⁶ Often, second level case reviewers are either law or undergraduate students.²⁷

That model is not universal, however. In some innocence projects, administrative staff engage in only a very general review of applicant files to ensure the cases meet the most basic criteria (geographical location, direct appeals exhausted, no other counsel,

²⁰ *Id.* at 44.

²¹ *Id.*

²² *Id.* at 43, 48.

²³ See, e.g., *Need Help? AIDWYC Case Review Process*, AIDWYC, http://www.aidwyc.org/AIDWYC_Case_Review_Process.html (last visited June 13, 2011); INNOCENCE PROJECT, *supra* note 1.

²⁴ See, e.g., AIDWYC, *supra* note 23.

²⁵ Daniel S. Medwed, *Actual Innocents: Considerations in Selecting Cases for a New Innocence Project*, 81 NEB. L. REV. 1097, 1103, 1116–18 (2003).

²⁶ See, e.g., *id.* at 1142.

²⁷ See, e.g., *id.*

etc.), without any assessment of the potential merit of the actual innocence claim. The first substantive review of the file in those clinics is then undertaken by the students themselves, as they participate directly in the screening process.²⁸

In the former context, where senior reviewers engage in a substantive first level screening process, the knowledge that a case has passed pre-screening carries an implicit message that a senior case reviewer believes the applicant may be innocent. If the second level case reviewers engage in a more or less top-down process of case materials, meaning that they process data in light of contextual features, their evaluations and judgments might be influenced by the opinions of the first level reviewers. By contrast, if second level case reviewers engage in a more or less bottom-up process of case materials, meaning that their evaluations are driven largely by the raw data, their evaluations and judgments should be uninfluenced by the opinions of the first level reviewers. Although no empirical research exists on top-down versus bottom-up processing in the post-appellate review process, the competing processes have been examined in other forensic environments. Specifically, Dror, Peron, Hind, and Charlton found that top-down processing influenced the judgments of forensic evidence examiners.²⁹

IV. THE PRESENT STUDY

In the present study, we empirically examined the extent to which case reviewers are influenced by top-down processing in a simulated post-appellate review process. The experimenter instructed two groups of students, role-playing second level case reviewers, to evaluate discovery from a single case. Using random assignment, case instructions informed members of one group that the case was “referred” by a first level case reviewer from an innocence advocacy organization because it met the organization’s criteria for potential actual innocence. Case instructions informed the other group, by contrast, that the case is “fresh,” that it has not yet been adjudicated. Consistent with the findings of Dror et al.,³⁰

²⁸ See *id.* at 1150; Keith A. Findley, *The Pedagogy of Innocence: Reflections on the Role of Innocence Projects in Clinical Legal Education*, 13 CLINICAL L. REV. 231, 267 (2006).

²⁹ See Itiel E. Dror et al., *When Emotions Get the Better of Us: The Effect of Contextual Top-Down Processing on Matching Fingerprints*, 19 APPLIED COGNITIVE PSYCHOL. 799, 806–07 (2005).

³⁰ *Id.*

we expect participants in the “referred” instruction condition to engage in top-down processing to a greater extent than participants in the “fresh” case instruction condition. The differential processing should influence the outcome of the review process. Moreover, given that the case is the same in both conditions, any difference in outcomes should be attributable to the instructions, and presumably the processing differences caused by the instructions. Specifically, we hypothesize that participants in the “referred” instruction condition will perceive the defendant as less culpable and less likely to be guilty, the eyewitnessing conditions to be more impoverished, and the identification procedures to be more suggestive than participants in the “fresh” case instruction condition. In addition, given that innocence advocacy organizations rely on both undergraduate and law students as volunteer case reviewers, we collected data from both undergraduate and law student participants.

V. METHOD

A. *Participants*

One hundred and twenty-six undergraduate students from a Canadian university were recruited from its psychology participant research pool and received bonus marks for their participation. In addition, thirty-three law students from a Midwestern United States university were recruited via email and received \$10.00 (USD) compensation for their participation. Students participated individually or in small groups.

B. *Procedures*

The experimenter instructed participants to complete a consent form and demographic questionnaire before proceeding to read the case reviewer instructions and the case discovery. Afterwards, the participants completed a series of questions and rating scales—the dependent variables. Participants then completed additional questions designed to assess the potential influence of demand characteristics. Finally, participants were debriefed and excused.

C. Materials

The materials used in this study included a standard informed consent form, case reviewer instructions, discovery of a criminal case, and questionnaires. All materials were delivered in print form.

D. Case Reviewer Instructions

Prior to reading the criminal case discovery, each participant received one of two sets of instructions concerning the case, determined randomly. In the “referred” case condition, the instructions stated: “This is a summary of a case that was tried in a criminal court, and the defendant was found guilty beyond a reasonable doubt. The defendant is serving a prison sentence. A group of law students investigated the case and concluded that there is a good chance that this conviction was an error, that the crime was committed by someone else. The case has since been formally adopted by a national organization that tries to clear innocent defendants who were wrongly convicted. Please read the following information carefully. After you read these materials, I will ask you to evaluate the case and evidence.” In the “fresh” condition, the instructions stated: “This is a summary of a case that has not yet been tried in court. Please read the following information carefully. After you read these materials, I will ask you to evaluate the case and evidence.”

E. Case Discovery

We used a set of discovery (police reports) modeled after an actual United States case involving the robbery of an automobile rental business. The discovery was identical for all participants. The discovery document was 2706 words in length. Given that participants were asked to rate the likelihood of perpetrator guilt, the favorability of eyewitness conditions, and the suggestibility of the identification procedures, we ensured that three poor viewing conditions and three suggestive procedures were included in the case. The case may be summarized as follows.

The first suspect, a black male, was talking with a white, female cashier in the store of an automobile rental company when the second suspect—also a black male—entered with a handgun raised in the direction of the cashier. The suspects directed the cashier into a back office where they forced her to open the cashbox. The

suspects took the cash and escaped through the back door. The first poor viewing feature present in this scenario is that both the suspects are black, and the eyewitness is white.³¹ Second, one of the suspects pointed a gun towards the direction of the eyewitness.³² Third, one suspect wore a grey hoody, while the other wore a backwards black hat.³³

After the robbery, the eyewitness mentioned to a detective that she believed one of the two suspects had robbed her a week prior—the only notable difference in appearance was that he now had gold teeth. Nine days after the initial robbery, the detective returned with a photograph of a suspect who matched the identity of the perpetrator and told the eyewitness that he wanted her to look at a photograph of a suspect he had good reason to believe committed one or both of the robberies. He advised her to look at it in order to determine if she recognized the perpetrator. She looked at the photo for approximately five seconds and said she thought it was him. She thought that the suspect with gold teeth robbed her both times. Seventeen days later, the detective returned with a photo array and asked the eyewitness to identify the robber. She picked out the suspect and the detective confirmed that she was correct. She then stated that she was one hundred percent confident. Six days later, the detective served the already incarcerated suspect (for an unrelated robbery) with a warrant for his arrest.

Several features of the identification procedures discussed above are problematic and contribute to the overall suggestiveness of the identification procedure. First, both of the above identification procedures used biased lineup instructions.³⁴ Second, the detective who conducted the photo array was not blind to the suspect's identity.³⁵ Third, the detective presented one of the suspects in a mugshot before subsequently presenting the same suspect in a

³¹ See, e.g., Christian A. Meissner & John C. Brigham, *Thirty Years of Investigating the Own-Race Bias in Memory for Faces: A Meta-Analytic Review*, 7 PSYCHOL. PUB. POL'Y & L. 3 (2001).

³² See, e.g., Nancy Mehrkens Steblay, *A Meta-Analytic Review of the Weapon Focus Effect*, 16 L. & HUM. BEHAV. 413 (1992).

³³ See, e.g., Brian L. Cutler, *A Sample of Witness, Crime and Perpetrator Characteristics Affecting Eyewitness Identification Accuracy*, 4 CARDOZO PUB. L. POL'Y & ETHICS J. 327 (2006).

³⁴ See, e.g., Nancy Mehrkens Steblay, *Social Influence in Eyewitness Recall: A Meta-Analytic Review of Lineup Instruction Effects*, 21 L. & HUM. BEHAV. 283 (1997).

³⁵ Sarah Greathouse & Margaret B. Kovera, *Instruction Bias and Lineup Presentation Moderate the Effects of Administrator Knowledge on Eyewitness Identification*, 33 L. & HUM. BEHAV. 70, 80 (2009).

photographic lineup procedure.³⁶

In addition to the poor viewing conditions and suggestive procedures, there was also a considerable length of delay between the crime and the subsequent identification procedures; and when the identification procedure was finally conducted, the investigator provided affirmative feedback before the eyewitness stated that she was one hundred percent confident.³⁷

F. Dependent Variables

The questionnaire prompted participants to rate the culpability of the perpetrator, the likelihood that the eyewitness conditions will lead to an accurate eyewitness identification, and the suggestiveness of the lineup procedures used by the police. The ratings were recorded on seven-point (1–7) Likert scales. Lower scores mean that the suspect is more likely to be guilty, the eyewitnessing conditions less impoverished, and the identification procedures are more suggestive.

VI. RESULTS

Defendant culpability ratings ranged from 1 to 6 ($M = 2.73$; $SD = 1.284$). Ratings of the favourability of the eyewitnessing conditions ranged from 1 to 7 ($M = 3.48$; $SD = 1.702$). Ratings of the suggestiveness of the identification procedures ranged from 1 to 7 ($M = 2.56$; $SD = 1.286$).

Figure 1 shows the mean culpability, eyewitnessing conditions, and suggestiveness ratings for the two instruction conditions. We conducted separate t-tests in order to examine whether the ratings differed by condition. As hypothesized, the suspect/defendant was perceived as less likely to be guilty in the referred condition than in the fresh condition, $t(146.329) = -2.784$; $p = 0.006$; $d = 0.434$. Participants in the “fresh” condition ($M = 2.46$; $SD = 1.08$), however, varied significantly less than participants in the “referred” condition ($M = 3.01$; $SD = 1.41$); $F = 6.230$; $p = 0.014$. The eyewitnessing conditions were perceived as more impoverished in the referred condition ($M = 3.85$; $SD = 1.68$) than in the fresh condition ($M =$

³⁶ C.A. Goodsell et al., *Effects of Mugshot Commitment on Lineup Performance in Young and Older Adults*, 23 APPLIED COGNITIVE PSYCHOL. 788, 789 (2008).

³⁷ See Gary L. Wells & Amy L. Bradfield, “Good, You Identified the Suspect”: Feedback to Eyewitness Distorts Their Reports of the Witnessing Experience, 83 J. APPLIED PSYCHOL. 360, 374 (1998).

3.10; $SD = 1.65$), $t(157) = -2.835$; $p = 0.005$; $d = 0.440$). Unexpectedly, participants did not differ by condition on ratings of the identification procedures.³⁸

Next, for exploratory purposes, we examined whether the instruction manipulation had comparable effects for the undergraduate and law student samples. We conducted separate 2 (sample: undergraduate versus law school) X 2 (instruction condition: fresh versus referred) between subjects ANOVAs. The only consistent finding was main effects for sample. Law students ($M = 3.45$; $SD = 1.42$) rated the suspect/defendant as less likely to be guilty than did undergraduate students ($M = 2.54$; $SD = 1.18$), $F(3, 154) = 8.974$, $p = 0.000$, $d = 0.709$. Law students ($M = 4.64$; $SD = 1.66$) rated the eyewitnessing conditions to be more impoverished than did undergraduate students ($M = 3.17$; $SD = 1.59$), $F(3, 155) = 10.533$; $p = 0.000$; $d = 0.864$. Law students ($M = 1.55$; $SD = 0.87$) rated identification procedures to be more suggestive than did undergraduate students ($M = 2.83$; $SD = 1.25$), $F(3, 155) = 11.846$; $p = 0.000$; $d = 0.995$.

VII. DISCUSSION

Overall, these data support our hypothesis that case reviewer instructions induce top-down case-processing. Participants who were informed that the case was “referred” by an innocence advocacy organization rated the defendant as less likely to be guilty, and the eyewitnessing conditions as less conducive to making an accurate identification, as compared with participants who were informed that the case was “fresh” and not previously adjudicated, despite the fact that the case discovery was identical for all participants. Although we do not have a direct measure of case processing, we infer that the instructions in the “referred” case condition led to more top-down processing as compared with the instructions in the “fresh” case condition. Although the findings were consistent for two of the three key outcome variables—ratings of the defendant culpability and the eyewitnessing conditions—we were surprised that the ratings of the suggestiveness of the identification procedures did not support our hypothesis. It is possible that our manipulation of suggestiveness was too subtle.

For exploratory purposes, we examined the difference in ratings

³⁸ Using a two-tailed test, this difference was not significant, $t(157) = -1.014$, $p = 0.312$, $d = 0.161$.

between our undergraduate and law students. Our main interest was examining whether the instructions had differential effects for undergraduate and law students. Could it be, for example, that law students would be more inclined to focus on the evidence, and are less influenced by the instructions as compared to the undergraduate students? Our analyses revealed that the instructions had comparable effects in the two samples. We did find, however, that law students' evaluations were significantly more favourable for the defence on all three outcome measures as compared to the undergraduate students' evaluations. Given the numerous potential differences between these groups, we have no way to attribute the pattern of results to any one difference (e.g., training). Further, we have no way of concluding that one group was more accurate than the other. Thus, all we can conservatively conclude is that this law student sample was more skeptical of the evidence than was this undergraduate sample.

Our study had several limitations. First, we used the same case for all participants, so we have not precluded the possibility that the results are case-limited. Future research should examine the extent to which our findings hold with different case materials. A second limitation pertains to ecological validity. In the present study, participants spent between thirty minutes and one hour reviewing a case discovery of less than 3000 words and answering a few short questions. The actual post-conviction review process is more thorough. In a given case, case reviewers may sift through hundreds or thousands of pages of trial and appellate transcripts. Case reviewers might discuss the case with other reviewers and conduct case investigations. It will be important to examine the relative influence of top-down and bottom-up processing within a more thorough and realistic case reviewing process. Despite these possible limitations, our findings are consistent with other research on top-down processing in legal contexts.³⁹

If our findings prove to be replicable and reliable, they have implications for current post-conviction review practices. First, to the extent that law schools and undergraduate programs are considering whether supervisors should pre-screen case files before assigning them to students, these findings suggest that such pre-screening has the potential to foster unintended and undesirable top-down case processing. To minimize the top-down processing effect, students themselves can be tasked with responsibility for

³⁹ See, e.g., Dror et al., *supra* note 29, at 806–07.

engaging in the first level review of case applications. Others have observed that involving students in first level case screening has pedagogical benefits.⁴⁰ Our findings suggest that it might also improve the quality of the students' assessments of the merits of the cases.

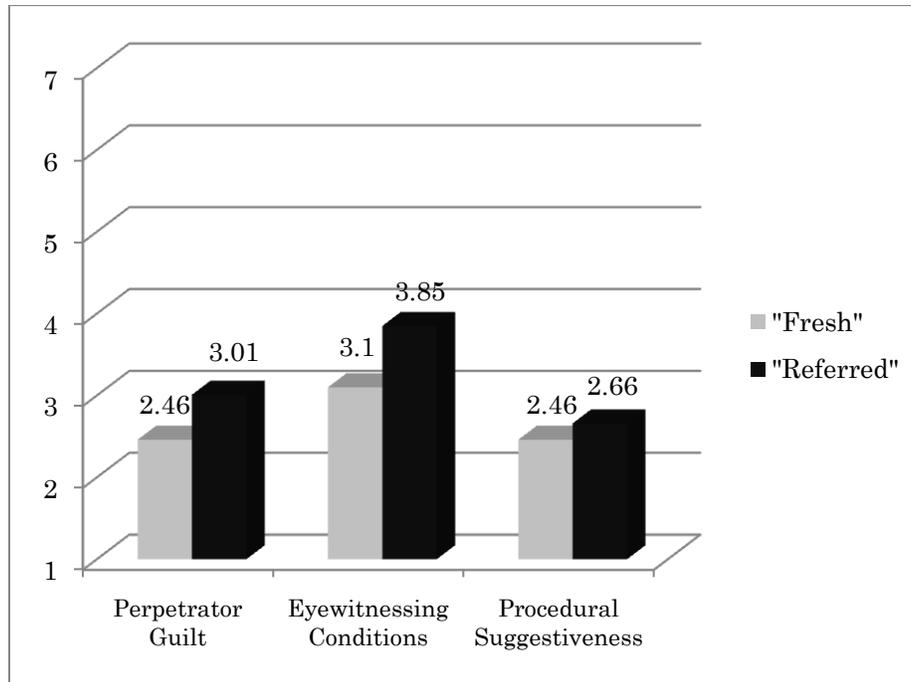
Second, our findings suggest that it would behoove innocence advocacy organizations to consider the development of safeguards to discourage top-down case processing, and encourage bottom-up processing. Such reviews should be based on an evaluation of the evidence itself, and not on the conclusions of earlier reviews and others' options. One possible safeguard might be the development of case reviewer instructions that encourage bottom-up processing. For example, unbiased lineup instructions are thought to discourage eyewitnesses from external influences and encourage memory-based judgments; these instructions reduce the risk of false identification.⁴¹ Likewise, case reviewing instructions can be developed to encourage reviewers to not draw conclusions based on previous reviews and opinions of others, but rather should focus on a *de novo* review of the evidence. Such instructions can be pilot-tested using methods like those used in the current study to test their effectiveness.

Finally, one other implication of our findings deserves note. It is possible that top-down processing also affects the way in which others in the criminal justice system—including perhaps judges or prosecutors—respond to post-appellate challenges to convictions based on claims of innocence. If judges and prosecutors are affected by the knowledge that an innocence project has screened the cases and determined that a case has a strong claim of innocence before proceeding, top-down processing might make those judges and prosecutors somewhat more receptive to those post-conviction challenges than to challenges brought by *pro se* criminal defendants or other counsel. Because this study relied upon law students and undergraduates, and not actual judges and prosecutors, and because there are multitudes of other factors that can influence judges and prosecutors, further study would be required to confirm whether those actors are susceptible to top-down processing in this context as well.

⁴⁰ Findley, *supra* note 28, at 268 (“student involvement in screening cases has significant educational merit”); Medwed, *supra* note 25, at 1142 (noting that students’ “extensive involvement in this area of our work seems to have many pedagogical advantages”).

⁴¹ Steblay, *supra* note 34, at 294–95 (noting the significant impact of biased instructions on witness accuracy).

FIGURE 1. EFFECT OF INSTRUCTIONS ON CASE EVALUATIONS



Note: Lower scores indicate more likely to be guilty, more favourable eyewitnessing conditions, and more suggestive identification procedures.