Jurors’ verdicts based on their intimate conviction: Influence of magistrate’s opinion on confirmatory information processing

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Abstract: A large body of research has focused on legal decision-making. However, few studies have tested the impact on evidence processing of the intimate conviction (IC) instruction, a decision rule based on impression formation that is used in mixed courts of lay and professional judges in civil law systems. The present study examined 1) the influence of the IC instruction (vs. induction of rational information processing) on confirmatory information processing (CIP) in a judicial judgment context, and 2) the impact of a professional judge (i.e., magistrate)’s pro-accusation (vs. pro-defense) opinion prior to the deliberation phase on lay jurors’ CIP under impression (vs. rational) induction. Sixty-nine mock jurors (students) watched video extracts of a criminal appeal hearing of a harm-to-person case. Results confirmed our prediction: in the pre-deliberation phase, participants who had been given an impression decision rule exhibited a stronger pro-accusation CIP bias (biased assimilation, but not selective exposure); in the post-deliberation phase, impression induction only enhanced CIP bias when the jurors agreed with the magistrate’s opinion, whereas rational induction only enhanced CIP bias when the jurors disagreed with the magistrate’s opinion. These results are discussed in terms of psychological reactance in the context of decision-making processes.

Subjects: Criminology and Law; Applied Social Psychology; Cognitive Psychology

ABOUT THE AUTHOR
Catherine Esnard conducts researches on socio-cognitive bias and normative regulations of social judgements and decision-making in professional or social settings. In this framework, she developed a research program focused on the impact of the intimate conviction instruction on evidence processing and legal decision among lay judges. In the field of legal psychology, her researches also focused on the cognitive processes of judicial evidence through visual and auditory attention in connection with the emotional evidence.

PUBLIC INTEREST STATEMENT
We have a lot of knowledge on legal decision-making but we don’t really know what could be the impact of the intimate conviction instruction (ICI) on evidence processing and consequently on legal decision. The ICI is a decision rule based on impression formation that is used in mixed courts of lay and professional judges in civil law systems. The present study examined if the ICI could increase a confirmatory information bias among lay judges (i.e., jurors) and if this effect could be dependent on the influence of a professional judge (i.e., magistrate). Conducted among students in simulated situation of jurors, this study showed that, before the deliberation, the ICI increased a confirmatory information bias in favour of the accusation. After the deliberation, the ICI enhanced this bias only when the jurors agreed with the magistrate’s opinion. These results fuel the current discussion about the impact of ICI in criminal courts.
1. Introduction

The intimate conviction (IC) instruction, one of the features of legal systems based on civil law, governs the decision-making process in most continental judicial systems (e.g., France, Germany and Belgium). This instruction refers to a decision principle whereby magistrates and jurors have “to question themselves in silence and reflection and to seek in the sincerity of their conscience what impression has been made on their reason by the evidence brought against the accused and the arguments of his defense” (Article 353 of the French Code of Criminal Procedure; see Appendix). The IC principle guides the judges in their assessment of the evidence (e.g., expert reports, witnesses’ testimony), from the initial sessions of the assize court to the deliberation. However, this assessment must be driven by impersonal motives, if the impartiality of the judgment is to be guaranteed. The IC principle must therefore exclude any processing based on prejudices, stereotypes or feelings, such as hate, pity or anger (Tournier, 2008). But can the IC instruction guarantee this impartiality? The literature in social and cognitive psychology applied to judicial decision-making shows that lay jurors are influenced by distorting factors that damage the quality and validity of their judgment (Devine, Clayton, Dunford, Seying, & Pryce, 2001; Rainis, Alain, & Denève, 2004). To our knowledge, however, only one study (Esnard, Dumas, & Bordel, 2013) has so far examined the impact of IC on legal decision-making. Results suggested that the IC instruction favors confirmatory information processing (CIP; Fischer & Greitemeyer, 2010), that is, the tendency to search for, interpret, and recall information in a way that confirms one’s pre-existing beliefs or hypotheses (Darley & Gross, 2000). However, Esnard et al. (2013)’s study only concerned jurors’ pre-deliberation judgments. To go one step further, the present research therefore explored how a magistrate’s opinion expressed during the deliberation session influences jurors under IC instruction.

Another feature of civil law legal systems that can impact judicial decision-making is the mixed jury, made up of lay and professional judges (i.e., jurors and magistrates). A cursory review of the various types of lay participation shows that mixed courts differ across European criminal justice systems based on civil law. In Germany, for example, the court has a panel of one professional judge and two lay assessors. In the Swedish court system, one professional judge tries all criminal cases, and three lay judges (three professional and two lay judges in the court of appeal) try family law cases. In French assize courts, where criminal cases are tried, three professional judges (the president of the court and two assessors) sit alongside six jurors at first instance level, and nine jurors at appeal level. Since the French Revolution, the mixed jury has constituted an essential link between citizens and the justice system. However, it is also the subject of criticism. In particular, it is claimed that because they have no legal training, jurors are particularly sensitive to the prestige, experience and eloquence of the legal professionals (Duflot-Favori, 1988; Finkelstein, 2002; Kovera, Gresham, Borgida, Gray, & Regan, 1997). Furthermore, in France, since the Act of 10 August 2011 on citizens’ participation in the criminal justice system, the number of jurors in the assize courts has decreased, falling from nine jurors to six at first instance, and from 12 jurors to nine at appeal. In this context, numerous legal experts (Machura, 2011) have highlighted the risk of magistrates directing the jury on sentencing. Moreover, the court controls the order in which evidence is given, the presiding magistrate summarizes and comments on the evidence, and he or she even has the right to ask the lay judges to reconsider their verdicts (Hans, 2003; Jackson & Kovalev, 2006). Consequently, the civil law system can generate a degree of passivity among lay judges during the deliberation process and, as observed among Swedish lay judges, lay majority verdicts rarely contradict those of professional judges (Diesen, 2001). Moreover, it appears that magistrates and jurors can exhibit a confirmation bias, especially when the evidence is ambiguous (Ask, Rebelius, & Granhag, 2008).
The aim of the present study was to reduce the gaps in both theoretical and empirical knowledge about the psychological processes of jurors under IC instruction in a mixed jury context. Its first objective was thus to test whether mock jurors exhibit CIP when they process evidence under IC instruction. Its second objective was to examine the influence of the magistrate’s opinion on post-deliberation CIP among jurors under IC instruction.

1.1. Judicial judgment based on intimate conviction

The cognitive processes underlying judicial judgments can be represented by the following dual model: a systematic mode based on aware and controlled information processing, and a heuristic mode based on more superficial, automatic, fast and summary information processing. More specifically, Epstein’s cognitive-experimental self-theory (CEST) differentiates between the experiential mode (i.e., based on subjectivity, affect and emotion) and the rational mode (i.e., based on logical analysis). CEST has been used to support many studies in the field of judicial judgment (Gardner, Lidz, Mulvey, & Shaw, 1996; Krauss & Lee, 2003; Krauss & Sales, 2001). For example, experimental studies (Krauss, Liberman, & Olson, 2004) have shown that mock jurors in an experiential mode (i.e., induced by a task where they have to concentrate on their emotional state before performing the judgment task) focus more on subjective evidence about the defendant (e.g., the defendant’s biography) than mock jurors in a rational mode (i.e., induced by a mathematical task before the judgment task), who focus more on objective evidence (e.g., history of violence).

In this framework, Esnard et al. (2013), in a study based on a video of a criminal appeal hearing, showed that the IC instruction generates particular types of information processing and legal decisions. These authors compared the IC instruction used in French criminal courts (see Appendix) with the opposite instruction (i.e., rational information processing coupled with a motivation requirement) and a control condition (i.e., no instruction). The IC instruction resulted in the recall of more evidence than the non-IC instruction. It also encouraged experiential rather than rational information processing (Epstein, 1994). No significant difference was observed between the IC instruction group and the control group, suggesting that the IC-induced mode is close to a spontaneous one. Moreover, this study found that the different instructions resulted in different legal decisions. Individual judgments were more unfavorable toward the defendant when IC processing was induced, rather than rational processing, with the former resulting in more pro-acusation decisions than the latter. Because this study used an appeal case (the defendant had originally been sentenced to 10 years’ imprisonment), the authors suggested that the IC instruction encourages a confirmatory bias. In line with this suggestion, we predicted that participants under IC instruction in our study would be in a CIP situation.

1.2. Judicial judgment and confirmatory information processing

CIP refers to the tendency to favor decision-consistent information over decision-inconsistent information during information evaluation and searching, resulting in biased assimilation and selective exposure (Fischer & Greitemeyer, 2010; Frey, 1986; Hart et al., 2009; Kray & Galinsky, 2003). Assimilation bias refers to the tendency of individuals to assess decision-consistent information as more credible and important than decision-inconsistent information (Greitemeyer & Schulz-Hardt, 2003). Selective exposure refers to the tendency of individuals to actively seek and select decision-consistent information in the environment (Fischer, Greitemeyer, & Frey, 2008). In the CIP experimental paradigm, participants begin by making a preliminary decision (e.g. vote for one of two political parties or decision about a working contract prolongation). They are then offered access to decision-consistent and decision-inconsistent items of information, and asked to assess the importance and credibility of these items (i.e., measure of assimilation bias). Next, they select the items they want to read in full (i.e., measure of selective exposure). At the end, they make their final decision. CIP depends on individuals’ goals, in terms of motivational and cognitive processes (Fischer & Greitemeyer, 2010; Hart et al., 2009). Individuals engaged in a motivational process are motivated to expose themselves to decision-consistent information and/or avoid decision-inconsistent information, in order to reduce the discomfort of dissonance arousal. When
they are engaged in a cognitive process, individuals are rational and seek to achieve the most accurate decision, based on the best quality of information. However, because their assessment of the information is nonetheless dependent upon their initial decision, their perceptions of information quality are biased, and they systematically favor decision-consistent information. In the field of legal decision research, several studies have shown that judicial decisions are sensitive to an anchoring effect that is equally prevalent among magistrates and jurors (Englich & Mussweiler, 2001; Englich, Mussweiler, & Strack, 2005; Farina, Arce, & Novo, 2003). Nevertheless, few studies have highlighted the relevance of investigating CIP in the context of legal decision-making (Fischer, Schulz-Hardt, & Frey, 2008; Study 1). In a context of managerial decision-making, Fischer, Fischer, Weisweiler, and Frey (2010) investigated the impact of decision-making mode on CIP, contrasting a deliberate mode (i.e., participants were instructed to think about the pros and cons for 5 minutes before making their preliminary decision), an intuitive mode (i.e., participants were instructed to make their preliminary decision as spontaneously and intuitively as possible), and a distracted mode (i.e., participants performed a distraction task before making their preliminary decision; control group). Results showed that both the deliberate and intuitive groups exhibited CIP, compared with the control group. In a second study, the authors showed that these two modes gave participants a reason for their decision that strengthened their confidence in that decision which, in turn, resulted in CIP. These results suggest that an instruction requiring the legal decision to be based on impression or objectivity results in CIP in both cases. Mock jurors are likely to use accuracy as their motivation for reaching the best decision (Bornstein, 1999). Accordingly, if an instruction tells them how to reach the best decision, they will presumably follow that instruction’s guidance. The decision rule contained in the IC instruction suggests that partiality is acceptable, whereas a decision rule requiring the legal decision to be based on rationality suggests that partiality is not acceptable. Thus, although both decision rules result in CIP, the impression decision rule contained in the IC instruction results in a stronger bias than the rational decision rule. In the context of a mixed jury, we would expect the influence of the magistrate’s opinion to strengthen this CIP.

1.3. Influence of the magistrate’s opinion

A large body of research has examined how jurors engage in deliberation (e.g., Cornwell & Hans, 2011; Devine et al., 2001; Hastie, Penrod, & Pennington, 1983). Studies have analyzed the influence of a number of variables, such as jury size, jury deliberation style (verdict-driven vs. evidence-driven), attorneys and experts (e.g., psychologists, psychiatrists), on evidence processing and verdicts in the courtroom (Kaplan & Martin, 1999; Martin, Kaplan, & Alamo, 2003). However, as underlined by Bartol and Bartol (2015), few experimental studies have tested the impact of the source of expert influence (e.g., professional judge) on lay judges’ evidence processing and decision-making. Howland and Weiss (1951)’s study showed that high prestige (i.e., that of an expert) usually increases the credibility of a source’s communication and generates immediate adhesion to that credible source. However, a persuasive communication mode can also be counterproductive, precipitating psychological reactance. According to reactance theory (Brehm & Brehm, 1981; Miron & Brehm, 2006), if individuals feel that any of the free behaviors, choices or opinions in which they can engage are reduced, eliminated or threatened, the motivational state of psychological reactance will be aroused, with the aim of restoring the threatened or eliminated behavior or opinion. To our knowledge, this effect has only been observed in one mock jury experiment (Lenehan & O’Neill, 1981). Students read a partial transcript of a rape case where damaging evidence was introduced against either the defendant, the victim or an inconsequential witness. This evidence was ruled either admissible or inadmissible by the judge, and the judge’s closing summary was either oriented against the defendant or the victim, or was neutral. Results showed that when the evidence and the judge’s summary were both oriented against the defendant, the mock jurors’ verdicts showed reactance effects: their verdict was affected by evidence ruled inadmissible, and their assessment of the probability of guilt was therefore diametrically opposed to the judge’s summary. In this case, the mock jurors may have felt too much pressure in the judge’s argumentation to convince them. No similar effect was observed when the judge’s summary was against the
victim. Moreover, the mock jurors also assessed the judge's closing summary as being more directive when he was inconsistent (conflict between admissibility ruling and summary) than when he was consistent. According to Lenehan and O'Neill (1981, p. 239), the mock jurors “were not so much reacting to the threat to freedom, as they were to the fact that the judge’s inconsistency made their task more difficult”. This study suggested that jurors’ verdicts may be influenced both when an authority figure such as a magistrate makes the juror’s choice more difficult with apparently inconsistent views or actions, and when they perceive that a magistrate wants to persuade them that all the arguments are stacked against the defendant.

Given these results, the IC instruction, a decision rule based on impression that encourages decision-making grounded in subjectivity, free choices and opinions, could decrease jurors’ psychological reactance, in that jurors who are focused on reducing their uncertainty may be more susceptible to the magistrate’s opinion, especially when that opinion strengthens their preliminary decision. By contrast, a decision rule based on rationality that encourages decision-making grounded in objectivity could increase jurors’ psychological reactance, in that jurors who are suspicious of sources of influence may be less susceptible to the magistrate’s opinion.

2. Overview and hypotheses
Although jurors’ judicial decision-making has been widely documented, there are scant empirical data about jurors’ psychological processing under IC instruction and in a mixed jury. Experimental studies conducted within the CEST framework (Epstein, 1994), and more specifically Esnard et al. (2013)’s results, suggest that mock jurors under IC instruction process evidence in an experiential mode. The aim of the present study was to determine whether, as suggested by Esnard et al. (2013), these mock jurors exhibit CIP (Fischer & Greitemeyer, 2010). However, the present study adopted a slightly different methodological framework from Esnard et al. (2013). These authors used the full legal IC instruction provided in the judicial context, whereas in the present study, we only used the part that focuses on forming an impression. From this experimental perspective, we hypothesized (H1) that although both decision rules result in CIP, an impression decision rule induced by the IC instruction results in a stronger CIP bias against the defendant in a pre-deliberation phase than a rational decision rule. More specifically, we expected to observe a stronger pro-accusation assimilation bias and selective exposure biases under the impression decision rule than under the rational decision rule.

We further hypothesized (H2) that the magistrate’s opinion has an impact on CIP that is reflected in individual post-deliberation judgments. CIP arises when individuals are motivated to reduce the discomfort of their dissonance arousal and, by so doing, their uncertainty. Consequently, we expected an impression decision rule to increase the mock jurors’ motivation to reduce their uncertainty and thus to follow the magistrate’s opinion. This would be reflected in a stronger CIP bias when the mock jurors perceived that the magistrate’s opinion reinforced their preliminary decision than when they perceived that the magistrate’s opinion did not do so. In this last configuration, we would observe a psychological reactance effect, as described by Lenehan and O’Neill (1981). Individuals engaged in a cognitive process may also exhibit CIP in their quest for the best quality of information and the most accurate decision. Consequently, we expected a rational decision rule to increase suspicion toward sources of influence such as the magistrate’s opinion. This would be reflected by a greater CIP bias when the mock jurors disagreed with the magistrate’s opinion than when they agreed with it.

3. Method

3.1. Participants and design
Sixty-nine first-year psychology undergraduates from the University of Poitiers, France (63 women, 6 men; M_age = 18.68 years, SD = 1.06, range: 17–22) took part in the study in exchange for a course credit. The study came in two parts: before deliberation and after deliberation. In these two parts, the design included two between-participants factors: 2 (decision rule: impression vs. rational) x 2
3.2. Procedure and materials

Participants were invited to the laboratory in groups of eight or nine. In accordance with the mock jury paradigm (Bornstein, 1999), they were asked to take on the role of jurors in a criminal court, which implied that they would have to give a legal decision, which is their verdict on a criminal case. They signed the consent form and were seated in front of a TV screen for watching a video.

Just before watching the video, the manipulated decision rule was introduced. Participants were instructed to process the case's evidence by striving either to rely on their personal impression (impression group) or to be as objective and rigorous as possible (rational group). This instruction, given to participants before they viewed the video, was repeated before the deliberation phase. The repetition of the instruction before and after the video was in line with the current French criminal procedure. The IC instruction is included in the oath that jurors take at the beginning of the trial and is given anew when they retire to deliberate.

These video including extracts of a criminal appeal hearing (25 minutes) was based on Esnard et al. (2013)'s experimental material. The authors underlined that in France, the Act of 15 June 2000 allows a case to be re-judged in its entirety by the appeal court, thus obviating the need to rely on the original decision. However, the above-mentioned study suggested that the fact that the defendant has already been found guilty once (negative preliminary information) might well have an impact on the appeal court's decision. In the original trial, the defendant had been sentenced to 10 years' imprisonment for attempting to murder his best friend when he found out that he was having an affair with his wife. For his appeal, the defendant appeared in front a new court and a new jury. He did not deny the facts. Thus, the judgment did not concern the defendant's culpability but rather his intentionality, mitigating circumstances, and the potential revision of the initial custodial sentence in the light of new testimony, notably from his ex-wife. The video included information about the judicial history of the case and the main testimonies.

At the end of the video, the participants responded individually to the legal decision, assimilation bias, and selective exposure measures, in accordance with the CIP paradigm (Fischer, Jonas, Frey, & Schulz-Hardt, 2005; Fischer, Schulz-Hardt, et al., 2008).

Then, participants were told that they would have to exchange arguments about the case and weigh up information about the case during a deliberation phase. They were told that they would have to participate in this deliberation process as seriously as though it were real and the fate of the defendant were in their hands. Participants were told that they were free to organize themselves as they wished, in order to reach a unanimous verdict within the space of 20 minutes. If they were all in agreement from the very outset, they were instructed to review the evidence. At the end of the delay of 20 minutes, they were asked to fill up a group answer sheet with their verdict. If they could not reach a unanimous verdict, they were instructed to answer a different answer sheet for each verdict. The decision rule instruction was repeated and the manipulated magistrate's opinion was introduced.

The experimenter told participants “In criminal trials, the presiding judge, the magistrate you saw in the video, takes part in the jury's deliberation. Of course, he is not present today, so I am going to read a transcript of what he said off the video”. The experimenter then read either the pro-accusation or pro-defense fictitious opinion of the magistrate, which was based on the evidence presented in the video. The pro-accusation opinion was: “In view of the acts that the accused, Xavier B., is alleged to have committed, and given his impulsiveness and the fact that Guy G.’s life was saved by a false tooth, I think that the accused, Xavier B., had a very real intention of killing Guy G., and I therefore think that the accused should not benefit from mitigating circumstances.” The pro-defense opinion was: “In view of the acts that the accused, Xavier B., is alleged
to have committed, and given that he never had any problem with the justice system before this
tragedy and the fact that his former wife had premeditated the adultery scene, I think that the
accused should benefit from mitigating circumstances.”

When all the instructions had been given, the experimenter left the room and the deliberation
began. Once the deliberation had ended, participants again individually completed the legal
decision, assimilation bias and selective exposure measures. Finally, participants provided their
demographic data (i.e., sex and age), and were thanked and debriefed.

3.3. Measures

We chose a method of data analyse that allowed us to use a subtler measure of the preliminary
decision (rating on a Likert-like scale instead of a dichotomous choice), and to test bias based on
confidence in that decision. The measures used in this study were similar to those used in CIP
studies (Fischer, Greitemeyer, et al., 2008; Fischer et al., 2010) in order to obtain an assimilation
and selective exposure bias scores as described below. However, the final scores were different
from the usual bias scores used in CIP studies. In the CIP studies, bias scores are computed
considering the preliminary decision and thus can result in a pro-accusation or pro-defense bias
according to the participant’s choices of information (Fischer, Greitemeyer, et al., 2008; Fischer
et al., 2010). In the present study, we computed pro-accusation assimilation and selective expo-
sure bias scores for all the participants, regardless of their preliminary decision. The presence of
a bias was tested by including the preliminary decision as a factor in the statistical analysis.
A significant impact of preliminary decision on pro-accusation scores was used as an indicator
of bias (i.e., the pro-accusation score varied according to the preliminary decision).

3.3.1. Legal decisions

Participants were asked to rate the defendant’s intention to commit the crime whether he should
benefit from mitigating circumstances (MC), and their level of confidence in their decision of
mitigating circumstances (Confidence in MC) on 10-point scales ranging from 1 (Not at all) to 10
(Totally). Participants answered these questions three times: individually after watching the video
and before the deliberation phase, collectively then individually at the end of the deliberation
phase. Only the first and third sets of questions are of relevance to the present paper.

3.3.2. Assimilation bias

After participants had individually provided their initial legal decision, they were informed that
additional information from the police file was available and that they would have the opportunity
to change their decision if they felt the need to do so. This additional information consisted of eight
single-sentence statements. Four were in favor of the accusation, and four in favor of the defense.
These statements were based on evidence from the actual case. For example, one of the state-
ments in favor of the accusation was “[The defendant] loaded longer bullets in his weapon before
going to [the victim’s] house”, and one of the statements in favor of the defense was “[The
defendant] had never been in trouble with the law and used to lead a normal life before these
events”. In a pre-test phase, a sample similar to our experimental group (N = 20) had rated these
statements as significantly favoring the accusation or the defense as expected. Participants were
asked to rate the importance and credibility of the eight statements on 10-point scales ranging
from 1 (Not at all) to 10 (Totally). Four versions of the questionnaire displaying the statements inour different orders were randomly distributed across participants. Credibility and importance
ratings were collapsed into a single evidence evaluation score for the defense (before deliberation: $r = .48, p = .0001$; after deliberation: $r = .32, p = .0006$) and a single evidence evaluation score for the
accusation (before deliberation: $r = .48, p = .0001$; after deliberation: $r = .48, p = .0001$). A pro-
accusation assimilation bias score was computed for all the participants by subtracting the mean
evaluation score for the pro-defense statements from the mean evaluation score for the pro-
accusation statements. One score was computed with participants’ answers given before the
deliberation phase, and a second score was computed with participants’ answers given after the
deliberation phase.
3.3.3. Selective exposure

Participants were then told they could have access to eight extracts of testimonies from the police file in order to provide them more detailed information on each of the eight statements they read just before (the same single-sentence statements as in assimilation bias procedure: four pro-accusation and four pro-defense statements), as the real jurors can do during the deliberation. They could see eight red folders corresponding to the eight extracts of testimonies arranged on a table behind them. They were asked to choose and mention on the list of the eight statements which document they would like to read. They were informed that they could choose as many documents as they wished, from none to eight. Answers were dichotomous (“Yes, I would like to read this document” vs. “No, I do not want to read this document”). Four versions of the questionnaire were constructed, based on the statement order for the assimilation bias measures. Exposure scores for the defense and accusation were computed by summing the number of selected documents. A pro-accusation selective exposure exposure score was computed by subtracting the exposure score for the defense testimonies from the exposure score for the accusation testimonies. As with the assimilation bias, one score was computed with the participants’ answers given before the deliberation phase, and a second score was computed with the participants’ answers given after the deliberation phase.

4. Results

4.1. Before deliberation

4.1.1. Preliminary analyses

Means (and standard deviations) for mitigating circumstance (MC) attributions,\textsuperscript{1} confidence in MC attributions, pro-accusation assimilation bias and pro-accusation selective exposure are displayed in Table 1. The manipulation of the decision rule did not significantly affect either MC attributions or confidence in MC ratings (\( t_s < 1 \)) (See Table 1). These two variables (MC attributions and confidence in MC) were not correlated (\( r = .06, p = .594 \)).

Pro-accusation assimilation and selective exposure biases were significantly and positively correlated (\( r = .38, p = .001 \)). MC attributions were significantly correlated with both the pro-accusation assimilation bias (\( r = -.60, p = .0001 \)) and the pro-accusation selective exposure bias (\( r = -.43, p = .0001 \)). By contrast, confidence in MC attributions was not significantly correlated with either the pro-accusation assimilation bias (\( r = .19, p = .113 \)) or the pro-accusation selective exposure bias (\( r = .06, p = .610 \)). No significant correlation was observed between the participants’ demographic variables (i.e., age and sex) and either their legal decisions (\( p_s > .406 \)) or the two pro-accusation biases (\( p_s > .201 \)). Thus these variables were not included in the following analyses.

| Decision rule         | Rational (Mean SD) | Impression (Mean SD) |
|-----------------------|--------------------|----------------------|
| MC attributions       | 5.97 (1.70)        | 5.82 (2.13)          |
| Confidence in MC      | 7.06 (1.79)        | 7.35 (1.59)          |
| Pro-accusation AB     | 1.22 (1.35)        | 0.55 (1.82)          |
| Pro-accusation SE     | .57 (1.63)         | .53 (1.21)           |

\textsuperscript{1}MC attributions and confidence in MC attributions are not normally distributed.
4.1.2. Assimilation bias

In a linear regression analysis, the pro-accusation assimilation bias score was regressed on decision rule (coded 1 = impression; −1 = rational), MC attributions (z scores) and the interaction between the two. The main effect of decision rule was not significant (t < 1). The main effect of MC attributions on the assimilation bias score was significant and negative (β = −.56, SE = .207, t = −5.80, p = .0001, 95% CI [−1.61, −0.78]). Furthermore, this main effect was qualified by the interaction between MC attributions and decision rule (β = −.19, SE = .207, t = −1.99, p = .049, 95% CI [−0.82, 0]; see Figure 1). The simple effect of MC attributions was significant in both decision rule groups, but was stronger in the impression group (β = −.74, SE = .253, t = −6.37, p = .0001, 95% CI [−2.13, −1.09]) than in the rational group (β = −.38, SE = .330, t = −2.38, p = .023, 95% CI [−1.46, −0.11]).

Figure 1. Pro-accusation assimilation bias as a function of decision rule and mitigating circumstance (MC) attributions before the deliberation.

4.1.3. Selective exposure bias

The same linear regression analysis as above was conducted to test our hypothesis for pro-accusation selective exposure. The results confirmed the presence of a selective exposure bias, with a significant main effect of MC attributions (β = −.45, SE = .162, t = −4.008, p = .0001, 95% CI [−0.97, −0.32]). Neither the main effect of decision rule (β = −.11, SE = .157, t = −1.03, p = .307, 95% CI [−0.47, 0.15]) nor the interaction between the two variables (t < 1) was significant.

Table 2. Means (Standard Deviations) for Mitigating Circumstance (MC) Attributions and Confidence in MC Attributions, Pro-Accusation Assimilation Bias (AB) and Selective Exposure (SE) as a function of the decision rule and magistrate’s opinion manipulations after the deliberation

| Decision rule | Rational | Impression |
|---------------|----------|------------|
| Magistrate’s opinion |          |            |
| MC attributions | 5.11 (2.05) | 6.82 (1.33) | 6.19 (1.27) | 5.33 (2.16) |
| Confidence in MC | 7.78 (1.21) | 7.35 (1.32) | 8.19 (1.79) | 8.67 (1.81) |
| Pro-accusation AB | 1.12 (1.82) | −0.75 (2.15) | 0.17 (2.13) | .87 (1.76) |
| Pro-accusation SE | 0.61 (1.74) | −0.71 (2.02) | −0.63 (2.24) | 0.28 (1.48) |
4.2. After deliberation

4.2.1. Preliminary analyses

Means (and standard deviations) for MC attributions, confidence in MC attributions, pro-accusation assimilation bias and pro-accusation selective exposure bias are displayed in Table 2. MC attributions were not significantly affected by the main effect of either decision rule (t < 1) or magistrate’s opinion (β = .11, SE = .214, t = 1.003, p = .319, 95% CI [−2.13, 0.64]), but the interaction between the two variables was significant (β = −.34, SE = .214, t = −3.00, p = .004, 95% CI [−1.06, −0.21]). In the rational group, participants who heard the pro-defense magistrate’s opinion attributed significantly more MC to the defendant than participants who heard the pro-accusation magistrate’s opinion (t(33) = 2.90, p = .007), whereas the reverse pattern was observed in the impression group, though without reaching significance (t(32) = −1.37, p = .178). Moreover, participants who heard the pro-accusation magistrate attributed marginally more MC to the defendant if they had been instructed to follow an impression decision rule rather than a rational decision rule, t(32) = 1.80, p = .080. By contrast, participants who heard the pro-defense magistrate attributed significantly fewer MC if they had been instructed to follow an impression decision rule rather than a rational decision rule (t(33) = −2.43, p = .021).

Regarding confidence in MC attributions, the main effect of decision rule was significant (β = .27, SE = .188, t = 2.29, p = .025, 95% CI [0.05, 0.80]), whereas neither the main effect of magistrate’s opinion (t < 1) nor the interaction between the two (β = .14, SE = .188, t = 1.20, p = .233, 95% CI [−0.14, 0.60]) was significant. Participants in the impression group were more confident in their MC attributions than participants in the rational group. MC attributions and confidence in MC attributions were not significantly correlated (r = −.14, p = .242).

The pro-accusation assimilation and selective exposure biases were significantly and positively correlated (r = .40, p = .001). MC attributions were significantly correlated with the pro-accusation assimilation bias (r = −.76, p = .0001) and marginally correlated with the pro-accusation selective exposure bias (r = −.22, p = .065). The more MC participants attributed to the defendant, the lower their pro-accusation assimilation bias scores.

Confidence in MC attributions was also significantly—but positively-correlated with the pro-accusation assimilation bias, that is, the more confident participants were in their MC attributions, the higher their pro-accusation assimilation bias score (r = .30, p = .01). The correlation with the pro-accusation selective exposure bias was not significant (r = .15, p = .201).

No significant correlation was observed between participants’ demographic variables (i.e., age and sex) and either their legal decision (ps > .427) or their pro-accusation biases (ps > .462). Thus these variables were not included in the following analyses.

4.2.2. Assimilation bias

A multiple linear regression was conducted with pro-accusation assimilation bias scores regressed on decision rule (coded 1 = impression; −1 = rational), magistrate’s opinion (coded 1 = pro-defense opinion; −1 = pro-accusation opinion), MC attributions (z scores), the three two-way interactions of the variables, and the three-way interaction of the variables. The main effect of MC attributions was significant, with a negative impact indicating the presence of an assimilation bias (β = −.89, SE = .190, t = −9.65, p = .0001, 95% CI [−2.21, −1.45]). The main effects of decision rule and magistrate’s opinion were not significant, nor were any of the two-way interactions (ts < 1). The three-way interaction was significant (β = .30, SE = .190, t = 3.56, p = .001, 95% CI [0.29, 1.05]; See Figure 2).

Figure 2. Pro-accusation assimilation bias as a function of magistrate’s opinion and mitigating circumstance (MC) attributions in the two decision rule groups after the deliberation.
In the rational group, the main effect of MC attributions was significant ($\beta = -0.84, SE = .277, t = -6.43, p = .0001, 95% CI [-2.34, -1.21])$, but the main effect of the magistrate’s opinion was not significant ($\beta = -0.03, SE = .264, t < 1$). The interaction between the two variables was significant ($\beta = -0.24, SE = .277, t = -2.09, p = .044, 95% CI [-0.14, -0.01]$). The main effect of MC attributions was significant in both subgroups, but with a stronger effect in the pro-defense magistrate subgroup ($\beta = -0.78, SE = .484, t = -4.87, p = .0001, 95% CI [-3.39, -1.32]$) than in the pro-accusation magistrate subgroup ($\beta = -0.72, SE = .285, t = -4.20, p = .001, 95% CI [-1.80, -0.59]$). Participants who initially attributed high MC (i.e., pro-defense) were less pro-accusation biased when the magistrate was pro-defense rather than pro-accusation ($t = -2.02, p = .051$). The reverse pattern was observed for participants who initially attributed low MC (i.e., pro-accusation), but the simple slope did not reach significance ($t = 1.15, p = .257$). As we had expected with regard to the assimilation bias, whatever the magistrate’s opinion, the more pro-accusation the participants were initially, the more positively they evaluated the pro-accusation evidence. Conversely, the more pro-defense the participants were initially, the more positively they evaluated the pro-defense evidence. Moreover, the pro-accusation assimilation bias was stronger when participants disagreed with the magistrate (pro-accusation participants and pro-accusation magistrate) than when they agreed with him (both pro-defense).

In the impression group, we observed the same significant effects, but in a different direction. The main effect of MC attributions ($\beta = -0.95, SE = .258, t = -7.30, p = .0001, 95% CI [-2.41, -1.35]$) and the magistrate’s opinion x MC attributions interaction ($\beta = -0.37, SE = .258, t = 2.98, p = .006, 95% CI [0.24, 1.30]$) were both significant. As observed in the rational group, the main effect of MC attributions was significant in both subgroups. However, in this case, the effect was stronger in the pro-accusation magistrate subgroup ($\beta = -0.73, SE = .258, t = -4.32, p = .001, 95% CI [-1.66, -0.56]$) than in the pro-defense magistrate subgroup ($\beta = -0.85, SE = .436, t = -6.10, p = .0001, 95% CI [-3.59, -1.72]$). Simple slope analyses revealed that participants who initially attributed low MC were significantly more pro-accusation biased when the magistrate was pro-accusation than pro-defense ($t = -2.35, p = .026$). By contrast, participants who initially attributed high MC were significantly more pro-accusation biased when the magistrate was pro-defense than pro-accusation ($t = -2.35, p = .026$). As observed in the rational group, whatever the magistrate’s opinion, the more pro-accusation participants were initially, the more positively they evaluated the pro-accusation evidence. Conversely, the more pro-defense participants were initially, the more positively they evaluated the pro-defense evidence. In contrast to the rational group, the pro-accusation assimilation bias was stronger when participants agreed with the magistrate (both pro-accusation) than when participants disagreed with the magistrate (participants pro-defense and magistrate pro-accusation).
4.2.3. Selective exposure

A multiple linear regression was conducted with pro-accusation selective exposure regressed on decision rule (-coded 1 = impression; −1 = rational), magistrate’s opinion (1 = pro-defense opinion; −1 = pro-accusation opinion), attributions (z scores), the three two-way interactions of the variables, and the three-way interaction of the variables. No significant result was observed (decision rule: \(t < 1\); magistrate’s opinion: \(t < 1\); MC attribution: \(\beta = \ldots, SE = .235, t = \ldots, p = .200, 95\% CI [0.87, 0.18]\); Decision rule \& magistrate’s opinion: \(\beta = \ldots, SE = .235, t = \ldots, p = .083, 95\% CI [-0.06, 0.88]\); Decision rule \& MC attribution: \(\beta = \ldots, SE = .265, t = \ldots, p = .276, 95\% CI [-0.23, 0.82]\); magistrate’s opinion \& MC attribution: \(t < 1\); Decision rule \& magistrate’s opinion \& MC attribution: \(t < 1\)).

5. Discussion

This study was conducted to test jurors’ evidence processing according to IC decision rules, before and after a jury deliberation and after becoming aware of the magistrate’s opinion. More specifically, we focused on evidence processing within the framework of CIP (Fischer & Greitemeyer, 2010), namely the tendency to favor decision-consistent information over decision-inconsistent information during information evaluation (assimilation bias) and searching (selective exposure bias). This study was conducted in a legal context of harm to a person, in line with the study conducted by Esnard et al. (2013), who suggested that the fact that the defendant was found guilty in the first trial (negative preliminary information) may well have an impact on the appeal court’s decision, orienting jurors toward a pro-accusation verdict.

As predicted by our first hypothesis, participants exhibited a stronger pro-accusation assimilation bias in the pre-deliberation phase when they had been told to abide by an impression decision rule rather than a rational decision rule. However, no such effect was observed on the selective exposure bias.

As predicted by our second hypothesis, the opinion expressed by the magistrate just before the deliberation phase affected the jurors’ legal information processing in the post-deliberation phase in different ways, depending on whether they had been told to abide by the impression or rational decision rule but also depending on whether the magistrate was favorable to the accusation or to the defense.

In the impression condition, when the magistrate was favorable to the accusation, participants exhibited a stronger pro-accusation assimilation bias when they were initially favorable to the accusation (as measured by MC attributions) than when they were initially favorable to the defense. In other words, we can assume than an IC instruction increases the assimilation bias when jurors hear an argument that is in agreement with their preliminary decision. This assimilation bias decreases when they hear an argument that does not agree with their preliminary decision (favorable to accusation) and is apparently not consistent with the evidence (magistrate favorable to defense). Finally, the IC instruction enhances CIP, particularly when jurors can follow the magistrate’s opinion. In a disagreement configuration, jurors may exhibit a psychological reactance effect.

By contrast, in the rational decision condition, when the magistrate was favorable to the defense, participants exhibited a stronger pro-accusation assimilation bias when they were initially favorable to the accusation than when they were initially favorable to the defendant. In other words, the rational instruction increases the assimilation bias when jurors hear an argument that disagrees with their preliminary decision and when, moreover, the magistrate seems to hold a view that is not consistent with the evidence. Finally, rational induction enhanced CIP, particularly when the magistrate’s opinion triggered a psychological reactance effect among jurors. In the agreement configuration, jurors could follow the magistrate’s opinion, particularly when the views of both magistrate and jurors were not consistent with the evidence.
As in the pre-deliberation phase, no such effects were observed on the selective exposure bias. Thus, in contrast to previous research on CIP (Fischer & Greitemeyer, 2010; Hart et al., 2009), the present study was characterized by a lack of convergence between assimilation and selective exposure bias results. More specifically, the independent variables had a significant impact on assimilation but not on selective exposure. The present study shows that these two indicators are correlated but are not impacted in the same way by the decision rules. Consequently, it seems interesting to analyse them separately rather than to turn to an aggregated score. Our results did not support Fischer et al. (2010)’s results, of course, but we can assume that the present study reports one of the specificities of judicial decision. Moreover, because no manipulation check was used to compare participants’ cognitions in the personal impression and rational conditions, we can’t exactly understand what cognitive process underline the tow decision rules. Further studies are needed to clarify these points.

Beyond this previously mentioned question, the ecological validity of this study could be improved at different levels. Firstly, the present study focused on individual processing and it showed some differences about individual-level bias before and after deliberation. To improve the ecological validity of these results, it is necessary to consider the decision-making at a groupal level, in particular during the deliberation. Devine (2012) emphasized the inconsistencies regarding the effects of deliberation reported in the literature. Notably, Kerr, Niedermeier, and Kaplan (1999) showed that deliberation may decrease individual biases when evidence strongly favored one side (accusation or defense), but may increase theses biases when evidence was moderately strong or ambiguous. As underlined by Groscurt and Tallon (2009), there is a lack of knowledge about collective evidence processing during the deliberation phase. Secondly, participants in this study are students and mostly women. Mock jurors should be more representative of the actual population of jurors in terms of sex, age, social and professional background. Furthermore, a bigger sample would increase the robustness of the results. Thirdly, a trial includes more information than videotape and, as a consequence, induces a greater cognitive load. We would expect this pressure to be greater in a mixed court when there is a real case to judge. We could imagine a new experimental design with mock jurors in a role-playing situation. Previously, these mock jurors would be informed about the legal procedure, in particular about the legal instruction of intimate conviction.

6. Conclusion
This experimental study provided several insights into implicit sociocognitive processes that are not discernable at a declaratory level, but which may subtend jurors’ construction of judicial decisions. Consequently, these results have some implications for legal decision making in assize courts. In a French context where the legitimacy of a mixed jury is discussed, we would certainly recommend more clearly stressing the importance of considering contradictory evidence for the accusation and defense, in order to reduce the possible confirmation bias generated by the instructions given to jurors. Our results highlight the need for greater interest in and deeper investigation of the processes subtending the effect of the IC instruction on the construction of judicial decisions, in order to be able to clearly inform judicial systems.

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Note
1. MC attribution and defendant’s intentionality scores were negatively and significantly correlated both in pre-deliberation phase ($r = -.31, p = .009$) than in post-deliberation phase ($r = -.44, p = .0001$).
Appendix

ARTICLE 353 OF THE FRENCH CODE OF CRIMINAL PROCEDURE

The law does not ask the judges to account for the means by which they convinced themselves; it does not charge them with any rule from which they shall specifically derive the fullness and adequacy of evidence. It requires them to question themselves in silence and reflection and to seek in the sincerity of their conscience what impression has been made on their reason by the evidence brought against the accused and the arguments of his defense. The law asks them but this single question, which encloses the full scope of their duties: “Are you inwardly convinced?” (Transl. Legifrance).

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