

# Reducing Sympathy Bias: The Impact of Statutory Interpretation Methods

*Ori Katz\**

*Bar Ilan University*

[ori.katz1@biu.ac.il](mailto:ori.katz1@biu.ac.il)

This article examines the moderating effect of statutory interpretative methods on sympathy bias in legal decision-making. Previous research has shown that sympathy toward litigants can lead to biased decisions, particularly in cases of legal ambiguity. Two pre-registered studies, including 300 laypersons and 339 legal practitioners, experimentally tested the effect of various interpretative methods on sympathy bias. The results reaffirm the existence of sympathy bias, and demonstrate that participants were less swayed by sympathy when instructed to interpret the law by focusing on its plain meaning rather than the legislature’s intention or policy considerations. These findings suggest that a focus on the text of a legal rule can serve as a debiasing technique against sympathy bias. Interestingly, this moderating effect was not mediated by the effect of the interpretative method on the rule’s clarity or the decision’s predictability. The findings contribute to ongoing debates about judicial bias and statutory interpretation.

## 1. INTRODUCTION

“[T]o seek justice is to seek something free of bias” (Aristotle 1883, p. 155). Alas, humans are inherently biased, and unconsciously influenced by their motivations. Many studies have shown that latent motivation may unconsciously shape reasoning when one evaluates evidence, takes a normative stand, or interprets legal rules (Kunda 1990; Sood 2013; Zamir and Teichman 2018, pp. 58–61; Katz 2021, pp. 62–65). One typical example is when a judge feels sympathy for a litigant and is thus more likely to rule in their favor—even if the reason for that sympathy is legally irrelevant. In cases of legal ambiguity, judges may be prompted to interpret the law in a manner

---

\* Assistant Professor, Faculty of Law, Bar-Ilan University, Israel. I would like to thank Oren Bar-Gill, Yehonatan Givati, Alon Harel, Kobi Kastiel, Gilad Mills, Haggai Porat, Yael Rimer-Cohen, Holger Spamann, Alexander Stremitzer, Eyal Zamir, Tom Zur, and the participants of the American Association of Law and Economic (ALEA) Conference, the Visiting Researcher Colloquium at Harvard Law School, the Conference on Empirical Legal Studies (CELS), the European Association of Law & Economics (EALE) Conference, and the Faculty Seminar at Reichman University for helpful suggestions and insights. This study was supported by the Aharon Barak Center for Interdisciplinary Legal Research, Rothschild Fellowship, and the Fulbright Program.

that supports the litigant they sympathize with (Wistrich, Rachlinski, and Guthrie 2015; Spamann and Klöhn 2016). This may undermine the pursuit of justice and the fair application of the law.

Thus, for example, in one vignette study, judges were more likely to discharge a credit-card debt when it was used for a sympathetic purpose, such as caring for a sick family member, than for a leisure trip on Spring Break (Wistrich, Rachlinski, and Guthrie 2015, pp. 887–890). Another vignette study found that judges awarded higher compensation to a lessee when the lessor delayed the move-in day when the latter was described as being of poor moral character (Liu and Li 2019, pp. 637–640).

Scholars have long sought ways to overcome biases in decision-making—including the tendency to allow personal feelings of sympathy to influence judicial decisions (Kantorowicz-Reznichenko, Kantorowicz, and Weinshall 2022; Liu 2018; Katz and Zamir, forthcoming). In this article, I explore the role of legal rules in addressing this issue. Specifically, I test, for the first time, whether the methods used to interpret ambiguous legal rules can affect the prevalence of sympathy bias in judicial decision-making.

Generally speaking, when interpreting a legal rule, a judge may consider the *law's text*, the *legislature's intentions*, or the *policies underlying the law* (Cross 2008, p. 2). Statutory interpretation methods are characterized by how they define and prioritize these elements. For example, some methods may give more weight to the text of a given rule, while others may focus on the legislature's intentions or underlying policies.

Through the prism of this (rather simplistic) tripartite taxonomy, I explore how (and whether) changing the focus of interpretation from one element to another can serve as a debiasing technique against sympathy bias. According to one potential conjecture, a method of statutory interpretation (MSI) that focuses on the legal text is less vulnerable to sympathy bias than MSIs that concentrate on the drafter's intention or the underlying policy considerations. When one focuses on the legislature's intentions or the desirable policy, there are myriad sources of such intentions or policies. Besides the text itself, these include legislative history, uncertain speculation, and a variety of policy considerations. Such broad discretion arguably makes decision-makers more likely to be influenced by legally irrelevant factors. In contrast, when one focuses on the text itself, the text is the primary source for interpretation. Thus, by instructing

interpreters to focus on the text, they can be guided by a defined source and are less likely to be swayed by legally extraneous factors.

Alternatively, since any MSI takes the text into account, the inclusion of additional elements for consideration, such as legislative intention or policy, might actually narrow the set of admissible interpretations. Consequently, a Plain Text MSI could plausibly possess greater flexibility and susceptibility to bias.

The latter point pertains to an alleged association between clarity, predictability, and impartiality. It stands to reason that an MSI yielding clearer and more predictable interpretation reduces the scope for legally irrelevant factors to impact the interpreter's judgment. Thus, if a text *per se* is vague, and a Plain Text MSI broadens discretion in interpretation, it could potentially amplify sympathy bias. However, if, as some textualists argue, the text is inherently clearer than presumed intentions or desired policy, and its interpretation is more predictable—it is expected to reduce sympathy bias.

To answer this research question and understand the underlying mechanism by which MSI influences sympathy bias, I conducted two pre-registered studies, including 300 laypersons in Study 1 and 339 legal practitioners in Study 2.<sup>1</sup> Participants were asked to interpret an ambiguous legal rule in four different vignettes. For example, in the *Littering* vignette, the dilemma was whether leaving plastic dispensers containing drinking water is considered “littering” according to the law's definition as provided to participants. Participants were randomly instructed to employ one of the three MSIs introduced above: focus on the text's plain meaning; focus on how the drafter would have intended the rule to be interpreted; or focus on the most reasonable legal policy. Importantly, participants were not provided with any legislative materials or context on policy, thereby confining the scope of the results to scenarios where policy considerations and legislature's intentions are mere conjectures of the decision-makers.

There were two versions for each vignette: in one version, it was easier to sympathize with the litigant, and in the other, it was more challenging. Thus, in one version of the *Littering* vignette, the water was supposed to be consumed by hikers; in the other, it was designated for drug smugglers. The findings reaffirmed previous evidence of sympathy bias in legal decision-making.

---

<sup>1</sup> See pre-registration for Study 1: [https://aspredicted.org/blind.php?x=P6P\\_1GL](https://aspredicted.org/blind.php?x=P6P_1GL), and pre-registration for Study 2: [https://aspredicted.org/blind.php?x=315\\_1LT](https://aspredicted.org/blind.php?x=315_1LT).

In Study 1, laypersons exhibited sympathy bias in all four vignettes. In Study 2, legal practitioners showed bias in two of the four vignettes. Notably, the Sympathy condition affected decisions in Study 2, even when the factors that differed between the two conditions (hereinafter—*biasing factors*) were not mentioned in the written reasoning participants provided.

As to the main research question, the findings from both studies reveal a moderating effect of the Plain Text MSI on sympathy bias. Participants were significantly less affected by sympathy when instructed to interpret the law by focusing on its plain meaning than when asked to focus on the legislature’s intention or to consider policy considerations.

I also measured the rules’ clarity and predictability, to test their effect on sympathy bias. The clarity was assessed by a separate survey where participants were asked to report to what extent the text, the drafter’s intention, and the reasonable policy provided a clear answer to each interpretative dilemma, while excluding the biasing factors. Subjective and objective methods assessed predictability. Participants were asked to report how many judges they believe would agree with their interpretation. In addition, the variance in decisions under each vignette, Sympathy condition, and MSI was assessed, to provide an objective predictability score. Interestingly, the moderating effect of the textualist MSI was not mediated by its effect on clarity or predictability.

This article contributes to two highly-debated bodies of research: judicial bias, and statutory interpretation. Since judicial impartiality is essential for promoting justice, enhancing trust in the legal system, and create proper incentives outside of court, researchers looked for tools to overcome judicial biases in general, and sympathy bias in particular (Kantorowicz-Reznichenko, Kantorowicz, and Weinshall 2022; Z. Liu 2018). This article continues that approach, and suggests that a Plain Text MSI can serve as a debiasing mechanism, and help produce impartial decisions. The debiasing effect of the Plain Text MSI is an essential consideration in the ongoing debate over MSIs. *Ceteris paribus*, an MSI is more desirable if it leads to less biased decisions. To be sure, this study does not lend all-things-considered support to a textualist approach—nonetheless, any discussion of the use of various MSIs should bear these findings in mind.

The remainder of this paper proceeds as follows: Section II briefly reviews the literature on sympathy bias in judicial decision-making and the literature on MSIs through the lens of the aforesaid tripartite taxonomy. Section III sets out the hypothesis regarding the associations

between MSIs and sympathy bias, and its possible underlying mechanism. Section IV presents the two studies and their findings, and discusses their implications and limitations. Finally, Section V concludes and suggests paths for future research.

## **2. THEORETICAL BACKGROUND**

### **2.1 Sympathy and Judicial Decision Making**

Decision-making and reasoning are often influenced by latent motivations, rather than rational thinking (Kunda 1990; Sood 2013). Emotions frequently serve as one of these motivations (Dolan 2002, p. 1194; Wistrich, Rachlinski, and Guthrie 2015, pp. 862–863). People’s feelings may distort their thinking process to reach an outcome in line with their emotional inclinations. In the legal context, many studies have shown that extra-legal factors—that are presumably irrelevant to the case at issue—influence judges and other decision-makers by triggering their sympathy (or antagonism) toward one side of the dispute.

One common sympathy trigger studied experimentally in legal contexts is political affiliation—namely, decision-makers tend to support those who share similar political values, even when these beliefs are not rationally associated with the decision they are asked to make. Avani Mehta Sood and John Darley (2012, pp. 1336–1345) found this bias in attributing harm to a given activity. Their study shows that when the law requires a finding of “harm” to impose a criminal penalty, people interpret an act of public nudity as causing more harm if the nudist was championing a political view that is at odds with their own. Similarly, Elena Kantorowicz-Reznichenko, Jarosław Kantorowicz, and Keren Weinshall (2022) found this bias in Polish participants when they were asked to approve an application to hold a demonstration *for* or *against* abortion. Dan Kahan et al. (2016) used two cases of ambiguous legal rules to test this bias. They found that laypeople and law students interpret legal rules in a manner that supports people of similar political views as their own, while judges and lawyers do not demonstrate that bias.

Often, however, sympathy toward litigants is not associated with political affiliation. In a series of experimental studies using actual judges, Andrew J. Wistrich, Jeffrey J. Rachlinski and Chris Guthrie (2015) showed that judges are biased by their emotional reactions toward litigants. In various legal contexts, judges were asked to interpret the law in a hypothetical case, where the

sympathy one might feel toward the litigant was manipulated in a between-subject design. They were found to interpret the law in a manner that supports sympathetic litigants more than unsympathetic ones. Similar results were found in the experimental study by Holger Spamann and Lars Klöhn (2016), in which judges were asked to decide on a case based on an actual appeal heard at an international tribunal. The judges were assigned one of two defendants (of legally irrelevant characteristic variation) and one of two precedents (in favor or against the defendant's position). While defendant characteristics significantly affected affirmance rates that differed by up to 45%, the precedents had no such effect. Interestingly, the judges did not mention the defendant's attributes in their written reasons, citing only legalistic and policy considerations—suggesting that they were unaware of their sympathy bias. In another study, John Zhuang Liu and Xueyao Li (2019) replicated the sympathy bias using Chinese judges. They showed that judges employ various legal techniques to rationalize their biased decisions—including strategically interpreting vague standards, legal concepts, and facts. My Bergius et al. (2020) found that Swedish judges awarded significantly less damages in a vignette of a libel suit, when they were informed that the plaintiff had been convicted of libel a year earlier. Laypersons who interpret ambiguous rules are also affected by their empathy toward litigants. Using both correlational and experimental questionnaires, Jennifer LaCosse and Victor Quintanilla (2021) found that greater empathy for rule transgressors when interpreting indeterminate rules was associated with a lower likelihood of deciding that the rules had been violated. However, sympathy does not bias decisions in every context. For instance, when asked to decide a run-of-the-mill auto accident case, 61 federal judges exhibited no effect by legally irrelevant sympathies (Klerman and Spamann 2022).

Sympathy bias is not necessarily triggered by totally irrelevant factors. In some instances, factors that may be relevant in terms of policy or morality would still be deemed *legally* irrelevant, so their influence could be considered as bias. For example, in one scenario by Wistrich, Rachlinski, and Guthrie (2015), judges were asked whether pasting a fake visa onto a genuine passport constituted a forgery of an identification document—which, in turn, affected the defendant's sentence. Half of the judges were told that the immigrant had been hired to track down someone who had stolen from a drug cartel, while the other half were told that he entered the country to earn money to pay for his nine-year-old daughter's liver transplant. While the purpose of the illegal immigration might be relevant in sentencing, the legal issue was narrow and only concerned whether pasting in a fake visa constitutes a forgery under the law. Thus, the fact that

the purpose of immigration influenced judges indicates sympathy bias, even though it is relevant to the general question of sentencing.

Studies also show ways of mitigating such biases—as writing down the decision, having a deliberation period before deciding the case, or signing a declaration to be impartial (Kantorowicz-Reznichenko, Kantorowicz, and Weinshall 2022; Liu 2018; Katz and Zamir, forthcoming). This article investigates whether using different methods of interpretation also has a moderating effect on sympathy bias. In the following sub-section, various statutory interpretation methods are discussed.

## **2.2 Methods of Statutory Interpretation**

One of the primary roles of judges is to interpret statutes and other legal norms. Over the years, jurists have developed many methods of interpretation. For the present article, I shall not dwell on the nuances between various interpretive methodologies, or discuss the objections to each method in depth. Instead, I shall provide a brief, broad-strokes review of the primary methods used through the lens of the three essential elements being interpreted: the *legal text*; the *drafter's intentions*; and the *most reasonable legal policy* (Cross 2008, p. 2). I will then discuss how these three elements might affect the sympathy bias of decision-makers.

***The legal text.*** Every MSI begins with the text—yet the precise weight given to the text by its interpreters may vary. The approach that gives priority to the text over other sources is known as *textualism*. A textualist does not look for the drafter's intention, legislative history, or the purpose of the statute when interpreting rules, but instead focuses on the plain meaning of the text—at least when it is clear (Eskridge 1989; Scalia 1998; Manning 2001, pp. 15–16). One common criticism of this account is that a text never has a plain meaning, and always requires further interpretation in light of a given context (Cross 2008, p. 26). While textualists may differ in their response to this criticism, and some occasionally draw on sources besides the text's literal meaning (Doerfler 2022, pp. 279–280), all textualists believe that a text usually has a “plain meaning” that can, and should guide, the interpreter.

***Drafter's intention.*** Others, often called *intentionalists*, posit that legal rules should be interpreted to reflect the drafter's intent (Alexander and Prakash 2003; Cross 2008, pp. 10–11). Thus, when interpreting the law, one should pay attention to various pieces of evidence that may

shed light on the lawmaker's intent. Intentionalism is mainly founded on the idea of democracy—namely, that judges should abide by the intentions of democratically elected representatives. Frequently, discussing the actual intent is unproductive, or even sensible, since the legislative body consists of many members of diverse, and sometimes, conflicting intentions (Manning 2003, pp. 2408–2419; Scalia, Garner, and Easterbrook 2011, pp. 391–396). Thus, intentionalists primarily refer not to the lawmakers' actual psychological state, but rather to the intentions of the legislative body as a whole—which is a more abstract construct, that can be determined by formal or explicit statements by the legislatures about the rationale of a given rule (Greenberg 2021). The difficulties in deciphering the legislature's intent have prompted critics to argue that such a paradigm is indeterminate (Cross 2008, pp. 10–11).

***The most reasonable legal policy.*** Another method of legal interpretation shifts the focus of the interpretation process from “what is” (such as the drafters' intention, or the legal texts) to “what ought to be.” It argues that the interpreter should not aim to extract the meaning that was incorporated into the rule, but to read the rule in a prospective/idealized manner that would make the most sense. Several approaches espouse this notion of interpretation. According to *purposivism*, for instance, the interpreter should be guided by the purpose that ought to be assigned to the legal rule (Barak 2011; Eskridge and Frickey 1993, p. 2043; Hart and Sacks 1994, pp. 1374–1378). Purposivism may also be seen as a form of intentionalism—where the intentions that the interpreter seeks are objectified (Greenberg 2021). Another approach that focuses on what ought to be is *pragmatism*.<sup>2</sup> For a pragmatist, the judge's goal is to reach a decision that produces the best results. Accordingly, she must not take the legal text *per se* or the drafters' intentions as binding when these are at odds with achieving this goal (Posner 1998, p. 238; Cross 2008, pp. 103–105). Many faulted such approaches for the interpretative freedom they leave to the judge, which makes interpretation less determinate (even less so than intentionalism) and therefore infringes principles of democracy and the rule of law (Eskridge 1992, pp. 1744–1745; Cross 2008, pp. 40–43; Stein 2021, pp. 1397–1398).

The text, the drafter's intentions, and the desirable policy are in the background of any statutory interpretation dilemma. However, judges often employ a pluralist approach that integrates the three elements when interpreting the legal rule. Judges thus often differ not in their decision to

---

<sup>2</sup> On the similarities between *pragmatism* and *purposivism*, see Stein (2021), p. 1397.



rely in their ruling on the plain text, on evidence of the drafters' intentions, or on policy considerations, but in the relative weight they accord to each of these (Eskridge and Frickey 1990; Griffin 1993; Berman 2011, pp. 413–414; Cross 2008, pp. 17–19, 142–157). Nonetheless, discussing the effect of MSIs through this tripartite taxonomy is helpful, since it highlights the unique aspects of each element, and allows us to implement these insights in a nuanced world. In any event, it is undoubtedly beneficial when examining this issue experimentally—as this study does.

### **3. THE RESEARCH QUESTION—MSIS AND SYMPATHY BIAS**

The effect of MSIs on sympathy bias materializes through two conceivable mechanisms. First, different MSIs can help decision-makers ignore irrelevant information to different degrees. One might argue that interpreters guided to focus solely on the text may be less affected by legally irrelevant factors. While textualists focus on one main piece of evidence—the text—other approaches rely on a variety of sources to interpret the law. Therefore, even when the legal text is ambiguous, a judge who follows a Plain Text MSI is effectively more attentive to the text and therefore may be less swayed by other sources, including extra-legal factors (Baude and Doerfler 2017, p. 553). Conversely, other MSIs permit myriad relevant circumstances to be considered, and can be therefore more susceptible to inadvertently factor in legally irrelevant elements. Studies have shown that laypersons and judges find it difficult to ignore irrelevant information, even when instructed to do so (Wistrich, Guthrie, and Rachlinski 2005; Steblay et al. 2006; Zamir and Teichman 2018, pp. 545–550). Nonetheless, the impact of irrelevant information can be reduced in some contexts (Shereshevsky and Noah, 2017; Oakes et al. 2021). Thus, one possibility is that a Plain Text MSI can serve that purpose.

On the other hand, restricting a judge from considering relevant factors such as intentions and policy considerations may unintentionally result in the opposite effect of taking into account irrelevant factors. Judges are motivated, among other things, by the pursuit of justice. Occasionally, limited discretion conflicts with their ability to do that, which drives them to apply discretion even broader than what the law would allow. If a judge is already diverging from legal compliance, for instance, by veering away from the textualist standpoint, she may be more likely

to consider factors that are legally irrelevant when exercising her discretion than when she works within the legal framework.

MSIs could also reduce sympathy bias through their effect on clarity and predictability. When a rule generates a clear, predictable outcome, judges have less leeway to exercise discretion, and legally irrelevant factors are less likely to creep into their decisions. However, when the rule itself is vague, and the interpretation can go either way, judges are more likely to be unconsciously swayed by their emotions toward the litigants. Textualists posit that a legal text is comparatively determinate, and narrows judicial discretion—whereas *the drafter's intentions* and *the reasonable policy* are malleable and undetermined notions. This relative determinacy does not mean that a legal text equals absolute legal certainty. Nonetheless, textualists posit that a legal text is clearer, and its interpretation is more predictable, than other sources. Therefore, they argue, judges adopting the textualist approach are less vulnerable to conscious and unconscious biases (Scalia 1998, pp. 17–18). Moreover, a textualist approach is commonly perceived as constraining judicial discretion, since it limits the sources a judge can use in interpretation (Easterbrook 1988, p. 62; Sonpal 2002, p. 2196; Cross 2008, p. 47). When given broad discretion in choosing legal sources for their rulings, judges may be affected by irrelevant factors.

This argument—that focusing on the text enhances predictability—has been contested by opponents to textualism, who point to the inherent vagueness of texts (Llewellyn 1950; Doerfler 2022, pp. 271–275; Frankfurter 1947, pp. 548–549). This claim may be supported by studies that demonstrated differences between the actual ordinary meaning of given texts, and what judges *thought* they meant (Macleod 2019; Tobia 2020). In addition, it may be argued that reliance on fewer materials increases indeterminacy in the face of ambiguous rules, and drawing on different interpretive sources enhances predictability—making decisions less biased (Cross 2008, p. 163).

Some observational studies have suggested that, in the context of ideological biases, a textualist approach is not neutral in its application. James J. Brudney and Corey Ditslear (2005) analyzed 632 Supreme Court decisions in workplace law matters from 1969 to 2003. They found that liberal and conservative justices used language canons of interpretation (which are more textualist-oriented)—but differently: while liberal justices used them to support liberal outcomes, conservatives used them to justify conservative results. Similarly, based on 120 Supreme Court decisions involving statutory interpretation disputes between 1994 and 2002, Frank Cross (2008,

pp. 174–179) showed that conservative Justices generally used the plain-meaning rule to support conservative decisions, and liberals used it to support liberal decisions.<sup>3</sup> While these studies are not conclusive proof of the effect of MSIs on biases (Cross 2008, pp. 177–179), they do show that the claimed associations between textualism and predictability (and, hence, impartiality) are far from self-evident.

Be that as it may, the association between MSIs and predictability does vary—at least in some instances—depending on the interpretative dilemma in question. Thus, for example, focusing on the text of a rule that sets the speed limit to 35 mph is probably the best way to minimize variance in interpretation. However, in cases where the law’s purpose and the legislature’s intention are clear, but the text is vague, the textualist approach is likely to generate more variance in interpretation. Take, for example, a rule that says, “No smoking allowed inside the restaurant,” and someone smokes outside, but next to the restaurant’s porch, so their smoke enters the restaurant. Although the text does not definitively state whether the rule applies in this case, the person’s behavior clearly violates its purpose (cf. Struchiner, Hannikainen, and Almeida 2020, pp. 317–319).<sup>4</sup>

All of the above suggest that theoretical arguments do not provide a clear answer to the effect of MSIs on sympathy bias, and an empirical investigation is required to answer this question. Yet, before delving into the empirical investigation, two clarifications about the scope of this research should be restated. First, the present study is not about *which* MSI a judge should focus on—but merely concerns the narrow issue of the *moderating effect* of MSIs on sympathy bias. If, for example, a textualist approach reduces bias, it does not necessarily mean that it is superior to others, all things considered. Second, this study is not about the general issue of clarity and predictability of the legal text, the drafters’ intentions, or the desirable policy. As previously noted, comparative clarity and predictability are highly context dependent, and the legal dilemmas used

---

<sup>3</sup> In the context of contract interpretation, Eyal Zamir (1997, pp. 1728–1731) showed that of the first twenty cases cited by *American Jurisprudence 2d* as authorities for the plain-meaning rule, only two cases actually followed it. These findings suggest that the plain-meaning rule is commonly used as a rhetorical device, rather than as an actual means of constraining judicial discretion.

<sup>4</sup> Noel Struchiner, Ivar R. Hannikainen and Guilherme da F. C. F. de Almeida showed that on a 7-point Likert scale, participants were more divided as to whether the rule’s text was violated (SD=2.43), than over whether the smoker should be morally chastised for his actions (SD=1.04). More examples of such sort are provided in Table 2, in their paper. The phenomenon that greater judicial discretion may result in greater legal certainty is also apparent in the context of the use of *rules* versus *standards*—see Zamir and Teichman (2018, pp. 556–559).

in this study are not a representative sample of statutory interpretation problems. Moreover, participants were not provided with a relevant legislative history that might also affect the relative predictability of the MSIs. Thus, this study only tests the *effect* of MSIs, given their specific clarity and predictability in particular contexts.

#### **4. THE EXPERIMENTAL INVESTIGATION**

In a between-subject design, the following two pre-registered studies explore the effect of MSIs on sympathy bias. Study 1 involves laypersons, and Study 2 involves legal practitioners. Both studies comprise four vignettes—involving a flight delay, illegal immigration, littering, or texting (while driving).<sup>5</sup> Each vignette consists of a legal interpretation dilemma, in which sympathy for the litigant, and the MSI participants were instructed to follow, were manipulated.

The legal interpretation dilemmas used consist of phrases or terms that are seemingly clear, but in the vignette’s specific context, the rule’s plain meaning is ambiguous.<sup>6</sup> To heighten the ambiguity of the rules under all the MSIs, no indications of the drafters’ intentions and purposes or desirable policies were included.

For purposes of simplicity, the three MSIs presented to the participants sought to extract the gist of each element, without elaborating on what “plain meaning,” “drafter’s intentions,” or “reasonable legal policy” mean. An association between normative worldviews and support for a particular MSI might exist (Cross 2008, p. 163)—so, to ensure internal validity, I did not ask participants to use the MSI they found most sensible, but instructed them to randomly use one of

---

<sup>5</sup> Illegal immigration is based on a vignette used by Wistrich, Rachlinski, and Guthrie (2015, pp. 876–880), to test sympathy bias among actual judges. Littering is based on a vignette used by Kahan et al. (2016, pp. 436–437), to test cultural cognition bias among laypersons, law students, lawyers, and judges (the version in this article is modified to de-politicize the bias). Texting is based on a scenario in Struchiner, Hannikainen, and Almeida (2020, pp. 8–9), that examined whether people associate rules with their textual formulation or with their purpose.

<sup>6</sup> Namely, unintentional ambiguity, as opposed to instances of intentional ambiguity designed for the decision-maker to exercise wide discretion (cf. the distinction made by Cross (2008, pp. 4–6) between direct and background delegation).

the three MSIs.<sup>7</sup> Although preferred MSI might affect participants' decisions and inclination to be biased, given the randomization of the instruction it does not compromise the validity of the results.

To test the association between clarity, predictability, and sympathy bias, the clarity and predictability of the rules must be measured. To assess predictability, both subjective and objective methods were used. First, participants were asked directly what percentage of judges they believe would agree with their decision (hereinafter—the *perceived consensus*). In addition, I evaluated the degree of variation in participants' decisions for each vignette under the specific condition and MSI in question. In other words, the degree of predictability the rule provided given the particular context and MSI (hereinafter—the *predictability score*).

People's assessment of the ambiguity of a given legal rule is strongly influenced by their personal judgments about the decision at hand (Farnsworth et al. 2010). With this in mind, I conducted a separate survey (with no pre-registration), using different participants to measure the clarity of the rules under each MSI. Participants were asked directly to what extent the text, the drafter's intention, and the reasonable policy provide a clear answer to the interpretative dilemmas presented, while excluding (as much as possible) any biasing factors (hereinafter—the *perceived clarity*). For example, in the Littering vignette, participants were not told who was supposed to drink the water. By using direct and indirect methods, as well as individual-sensitive and vignette-sensitive measurements, I could get a preliminary insight into the association between clarity, predictability, MSI, and sympathy bias.

As indicated in the pre-registration, when conducting Study 1 I did not have a clear hypothesis regarding the impact of the MSI on sympathy bias. However, upon analyzing the results of Study 1, I gained insight into the moderating effect of the MSI, which was subsequently integrated into the pre-registration for Study 2.

## **4.1. Study 1—The Effect of the Interpretative Approach on the Sympathy Bias—Laypersons**

### **4.1.1. Participants**

---

<sup>7</sup> In fact, in another pre-registered study (see pre-registration here: [https://aspredicted.org/blind.php?x=1VJ\\_Z2L](https://aspredicted.org/blind.php?x=1VJ_Z2L)), I found no association between a person's preferred MSI and the intensity of their sympathy bias. However, it is hard to determine the reason for this result, given that people who prefer different MSIs may also differ in their attitudes toward the interpretation dilemmas in question and the legally irrelevant factors.

Three hundred participants from the United States were recruited through the crowdsourcing company, Prolific, and completed the questionnaire online. Thirty-eight participants who failed the attention check were excluded from the analysis. Of the remaining 262 participants, 127 were male, and 135 were female. The average age was 38.05 (SD = 14.64), and the average Political Worldview score (on a scale from 0 = *liberal*, to 100 = *conservative*) was 34.11 (SD=27.03).

#### **4.1.2. Procedure**

At the start of the online questionnaire (see [Online Appendix A1](#) for the full text), participants were told that they would be asked to interpret legal rules regarding specific disputes, and instructed to abide by one of the three MSIs. In the Plain Text MSI, participants were asked to “focus on the plain meaning of the text of the law.” In the Drafter’s-Intention MSI, participants were instructed to “focus on how the legislature would have intended the law to be interpreted.” And in the Desirable Policy MSI, participants were asked to “take into account what would reflect the most reasonable legal policy.”<sup>8</sup> They were then presented with three multiple-choice comprehension questions, which they had to answer correctly before continuing with the questionnaire. First, they had to indicate which interpretative approach they were asked to employ when answering the questionnaire. Second, they were asked to tell what that approach meant in light of the text they had just read. Lastly, they were given an example of an interpretive ambiguity dilemma, where they had to indicate which of three answers to this dilemma best exemplifies the approach they were assigned to.

Participants were then presented, in randomized order, four vignettes that discussed a statutory interpretative dilemma, involving a case of a flight delay, illegal immigration, littering, or texting. For example, in the *Flight Delay* vignette, the law states that—

in case of delay in commencement of flight of 8 hours or more, the passengers concerned shall have the right to compensation by the operating air carrier of \$400,

---

<sup>8</sup> The wording structure of the Plain Text MSI and the Drafter’s-Intention MSI differs from that of the Desirable Policy MSI. While participants were instructed to “focus on the” plain text or the drafter’s intention in the former, they were only directed to “take into account” the policy in the latter. This distinction was intentional, aiming to prevent participants from solely concentrating on the desirable policy and completely disregarding the text in their interpretation, as it is generally understood that judges should not completely ignore the text.

**regardless of fault of the operating air carrier and the damages incurred to the passengers.**

The presented facts were that a plane pushed back from the terminal after a delay of 7 hours and 55 minutes but actually took off 8 hours and 2 minutes after its scheduled departure. The legal question was whether the term “*commencement of flight*” refers to when the aircraft pushed back from the terminal (which was under the eight hours delay that entitles the passenger to statutory compensation), or when the aircraft took off (after 8:02 hours—thereby entitling the passenger to compensation). For each vignette, participants were randomly assigned to one out of two conditions: *Sympathetic*, where it is easier to sympathize with the person involved, and *Unsympathetic*, where it is harder to sympathize with them. In Flight Delay, for instance, in the Sympathetic condition, the reason for the delay was the flight crew’s negligence, and the passenger didn’t usually complain about mild inconveniences, but this delay caused him a significant inconvenience. In contrast, in the Unsympathetic condition, the delay was due to extreme weather conditions, and the delay did not cause the passenger too much inconvenience, but he frequently files consumer complaints, and tries to get compensated for anything he can.

The participants were then asked how they would answer this interpretative dilemma (a binary choice) and told to interpret the ambiguous phrase while employing their assigned MSI. After that question, they were asked how many judges out of 100 would agree with their decision (given their assigned MSI) (*perceived consensus*). To check the participants’ attention, they were also asked at the end of the survey which four out of a list of seven vignettes they were presented with, and to provide some demographic information.

Thus, this study consisted of 3 (MSI) X 2 (Sympathy) independent variables in a between-subject design, where each participant was randomly assigned to the same MSI throughout the entire questionnaire. For each vignette, participants were randomly assigned to either the Sympathetic or the Unsympathetic conditions.<sup>9</sup>

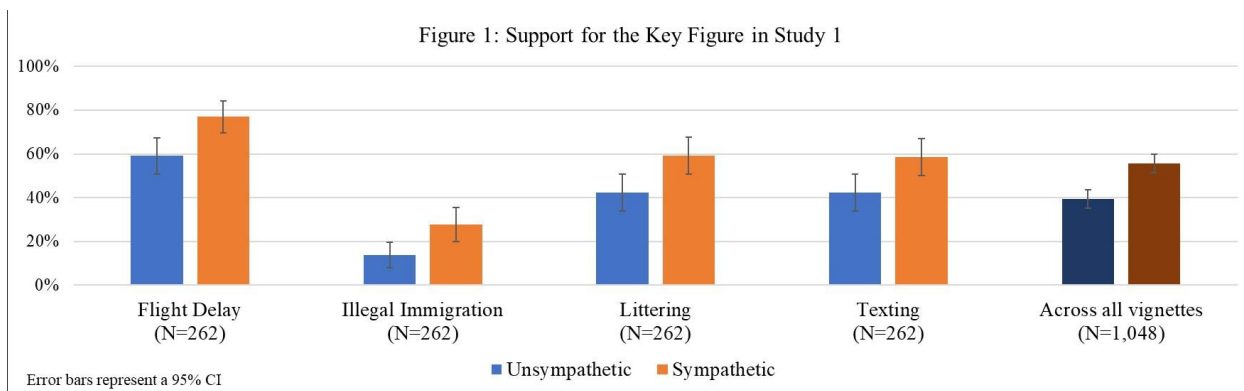
---

<sup>9</sup> Hence, participants could have been assigned to only one condition (either Sympathetic or Unsympathetic) across all four vignettes (though, due to randomization, most participants were assigned to both conditions across the different vignettes).

In addition, to assess the perceived clarity, I ran another survey, where I explicitly asked 123 other Prolific participants about the clarity of the rule of each of the four vignettes.<sup>10</sup> Participants were presented with neutral versions of the four vignettes, in a randomized order while excluding any biasing factors (as much as possible). For example, in Flight Delay, the reason for the delay, the attributes of the plaintiff, and the harm incurred by the plaintiffs were not mentioned. Regarding each vignette, participants were asked to indicate on three scales ranging from 1 to 7 whether (a) *the plain meaning* of the legal rule, (b) *the presumed intention of the legislature* when drafting the legal rule, and (c) *the presumed reasonable legal policy* provided a clear answer to this legal dilemma. Participants were also asked to indicate which interpretation of the rule was the correct one for each vignette in their neutral version (for the full text of the survey, [Online Appendix A2](#)).

### 4.1.3. Results

As shown in Figure 1, participants exhibited a sympathy bias, whereby in the Sympathetic condition, they were more likely to support the person the law applied to (hereinafter: *the Key Figure*) than in the Unsympathetic condition. The Chi square tests that were preregistered demonstrate that these effects were significant both across all vignettes ( $\chi^2(1)=27.52$ ,  $p<0.001$ ), and for each vignette separately (Flight Delay:  $\chi^2(1)=9.56$ ,  $p=0.002$ ; Illegal Immigration:  $\chi^2(1)=7.91$ ,  $p=0.005$ ; Littering:  $\chi^2(1)=7.4$ ,  $p=0.007$ ; and Texting:  $\chi^2(1)=6.74$ ,  $p=0.009$ ).<sup>11</sup>



<sup>10</sup> One-hundred and thirty participants were recruited, and 7 failed the attention check.

<sup>11</sup> A Fisher's exact test yielded similar results (Across all vignettes:  $p<0.001$ ; Flight Delay:  $p=0.002$ ; Illegal Immigration:  $p=0.006$ ; Littering:  $p=0.007$ ; and Texting:  $p=0.01$ )



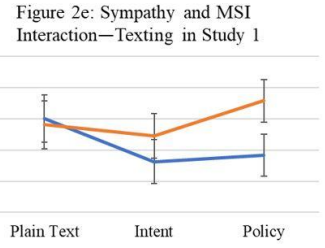
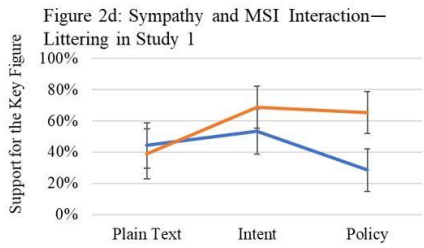
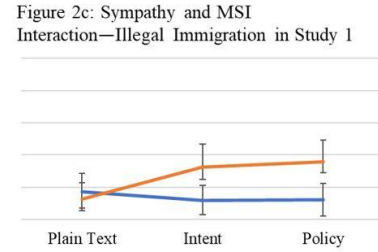
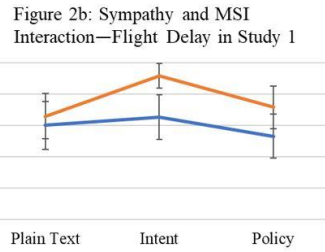
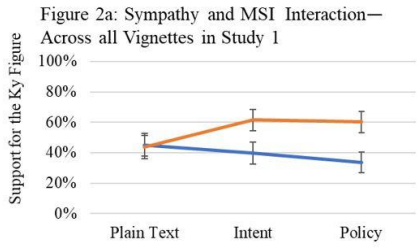
Figure 2 shows that the main effect of the sympathy bias was moderated by the MSI that participants were assigned to—whereby under the *Plain Text* MSI, participants were less biased than under either the *Intent* or *Policy* MSIs. To test the significance of this interaction, I preregistered a logistic regression with the following independent variables: Sympathy condition, MSI, interaction of sympathy and MSI, vignette, predictability measurements (perceived consensus, perceived clarity, and predictability score), order of the vignettes (whether the vignette presented first), and the age, gender, and political worldview of the participants. The results from this regression are depicted in Table 1, Model 3 (Models 1 and 2 were not pre-registered and are introduced as part of a robustness check to demonstrate the consistency of results across different models). This regression demonstrates that participants who had been assigned to the Plain Text MSI were significantly less affected by the Sympathy condition than those assigned to either the Intent or Policy MSIs.

Across all vignettes, the difference in the percentage of participants who supported the Key Figure between the Sympathetic and Unsympathetic conditions in the Plain Text MSI was -1.5 percentage points, 21.7 percentage points for the Intent MSI, and 26.4 percentage points for the Policy MSI (differences between the moderating effect of Intent and Policy were not significant). As shown in Figure 2, this effect was also apparent in each vignette separately.

To further understand the magnitude of the effect, I ran ordinary least squares (OLS) regressions (with no pre-registration) with the dependent variable being a dummy indicating whether a participant supported the Key Figure (see Table 1A in the [Online Appendix A3](#)).<sup>12</sup> The OLS coefficients show that a sympathetic litigant is supported by 20 percentage points more under Intent MSI than under Plain Text MSI, and in 23 percentage points more under Policy MSI than under Plain Text MSI (in Model 3).

---

<sup>12</sup> An OLS model yields coefficients that are easier to interpret, and are basically similar to nonlinear marginal effects estimates (Angrist and Pischke 2009, pp. 102–107).



■ Unsympathetic  
■ Sympathetic

Error bars represent a 95% CI

**Table 1:** Logistic Regression Analysis, Using Support for the Key Figure as Dependent Variables in Study 1 (N=1,048, 262 clusters)

	Model 1	Model 2	Model 3
Sympathetic	-0.08	-0.13	-0.17
<b>MSI<sup>a</sup></b>			
— Intent	-0.21	0.22	0.18
— Policy	-0.6*	-0.14	-0.21
<b>Sympathetic × MSI<sup>b</sup></b>			
— Sympathetic × Intent	0.99**	1**	<b>1.02**</b>
— Sympathetic × Policy	1.42***	1.36***	<b>1.4***</b>
<b>Vignette<sup>c</sup></b>			
— Illegal immigration	-2.23***	0.33	0.31
— Littering	-0.79***	-0.71**	-0.72**
— Texting	-0.78***	-0.58*	-0.58*
Perceived consensus		-0.03***	-0.03***
Perceived clarity		-2.18*	-2.19*
Predictability score		0.07	-0.07 <sup>+</sup>
Political worldview			-0.01**
Female			-0.4
Age			0.002
First vignette <sup>d</sup>	—	√	√
<b>R<sup>2</sup></b>	0.13	0.17	0.18

NOTES: Standard errors clustered by participants; <sup>a</sup> *Plain Text* served as a reference category; <sup>b</sup> *Unsympathetic × Plain Text* served as a reference category; <sup>c</sup> *Flight Delay* served as a reference category; <sup>d</sup> The decision was for the first vignette presented to the participants.

<sup>+</sup>  $p < 0.1$ . \*  $p < 0.05$ . \*\*  $p < 0.01$ . \*\*\*  $p < 0.001$ .

Interestingly, the logistic regression also shows that participants who supported the Key Figure thought that fewer judges would agree with their decision ( $p < 0.001$ ). Female participants were more inclined to support the Key Figure. In addition, the regressions show that for rules that were perceived as clearer in the unbiased setting, people were inclined to rule against the Key Figure.<sup>13</sup>

<sup>13</sup> An additional logistic regression (with no pre-registration) testing whether political worldview moderates the effect of sympathy found no such effect ( $p = 0.27$ ).

To better understand the underlying mechanism of the moderating effect, associations and interactions between MSIs and clarity and predictability measures were analyzed. Although this analysis was preregistered, the effects were not significant; I did not, therefore, include this analysis here, and instead provide a detailed report in [Online Appendix A4](#). Generally, this analysis indicates that: (1) in this study, there is no evidence that a Plain Text MSI increases clarity or predictability—if anything, the opposite is true; and (2) greater clarity or predictability cannot explain the debiasing nature of the Plain Text MSI, as implied by preregistered regressions that did not reveal significant interaction effects between clarity and predictability measures and MSIs on decisions.

#### **4.2. Study 2—The Effect of the Interpretative Approach on the Sympathy Bias—Legal Practitioners**

Study 1 indicates that a Plain Text MSI decreases sympathy bias. However, two main concerns should be considered when interpreting these results. First, while the MSIs' effect on legal decision-making pertains mainly to judges, the participants of Study 1 were laypersons. One might question the validity of inferring the responses of legal professionals from those of laypersons. Second, the findings in Study 1 might not result from an unconscious bias, but from the belief that under Intent or Policy MSIs, the factors I deemed irrelevant are in fact relevant. Therefore, participants were consciously (and perhaps even rationally) affected by the Sympathy condition when making their decision. For example, they may have thought that the legislature did not wish to compensate the unsympathetic passenger, and to compensate the sympathetic one. This constitutes a legitimate reason to interpret the phrase “commencement of flight” differently under the different conditions. The primary purpose of Study 2 is to address these two concerns. First, by recruiting legal practitioners instead of laypersons. Second, by requiring participants to provide written reasons for their decisions. If the written reasons disregard the biasing factors, it will suggest that the participants were unaware of these influences on their choices (Spamann & Klöhn, 2016, 272). Based on the findings from Study 1, this study possessed a distinct pre-registered hypothesis regarding the moderating impact of the Plain Text MSI.

### 4.2.1. Participants

A total of 339 legal practitioners took part in this study. They were recruited by invitation to take part in a survey distributed through the mailing list of Nevo, the leading commercial publisher of legal materials in Israel (academics and non-legal subscribers of the list, such as accountants, were excluded). To encourage participation, two participants were selected randomly to win a credit of 500 NIS (~US\$150) each for purchasing books from Nevo. Ten participants who failed the attention check were excluded from the analysis. Of the remaining 329 participants, 216 were male, and 113 were female. The average age was 48.18 (SD = 13.55). Two hundred and seventy-nine participants had professional experience in litigation (including resolving disputes). Among those, 236 represented plaintiffs, 224 represented defendants, 18 served as judges, 82 as arbitrators or mediators, and 71 as court clerks (participants could mark more than one answer).

### 4.2.2. Procedure

The study was conducted in Hebrew, and the questionnaire procedure and design were similar to those of Study 1, with the following modifications. First, participants were asked to explain their decision briefly after answering each interpretative dilemma. Second, the instructions of the Desirable Policy MSI were altered. Instead of *taking into account* what would reflect the most reasonable legal policy, participants were asked to *focus on* the interpretation that would yield the most desirable policy. This new version resembled the wording used in the Plain Text and Intent MSIs.<sup>14</sup> Third, participants were not asked about their ideological worldview; instead, they were asked to indicate the relative importance they placed on each element in statutory interpretation using three scales ranging from 0 to 10: (1) the legal text compared to the legislature's intent; (2) the legal text compared to policy considerations; (3) the legislature's intent compared to policy considerations. Finally, a modification was made to the sympathy manipulation in Texting to ensure that the manipulation did not consciously affect participants' decisions.<sup>15</sup>

---

<sup>14</sup> See *supra*, note 8.

<sup>15</sup> In Texting, a driver hit a pedestrian while sending a message via a voice-to-text function. The legal issue was whether sending a voice-to-text message is considered "sending a text message" under the law, which carries a harsher punishment. In Study 1, under the sympathetic condition, the driver was portrayed as a single mother of a child with special needs, who sent the message to ask a friend to pick up her son from school and in the process injured a

### 4.2.3. Results

In most cases, participants did not mention the biasing factors as a reason for their decision. Out of 329 valid responses for each vignette, the biasing factors explicitly influenced participants in 14 instances under Flight Delay, 5 under Illegal immigration, 17 under Littering, and were not mentioned at all in responses to the Texting vignette. These participants believed that the biasing factors were supposed to affect their decisions. In other words, they assumed that these factors are normatively relevant and *should* influence their decision. Thus, although these participants were affected by the biasing factors, they were not unconsciously affected by them. Including their responses into the analysis might create a misrepresentation of the actual *bias* participants have experienced. Consequently, I analyzed the results both with and without these responses, as I had not preregistered their exclusion.<sup>16</sup>

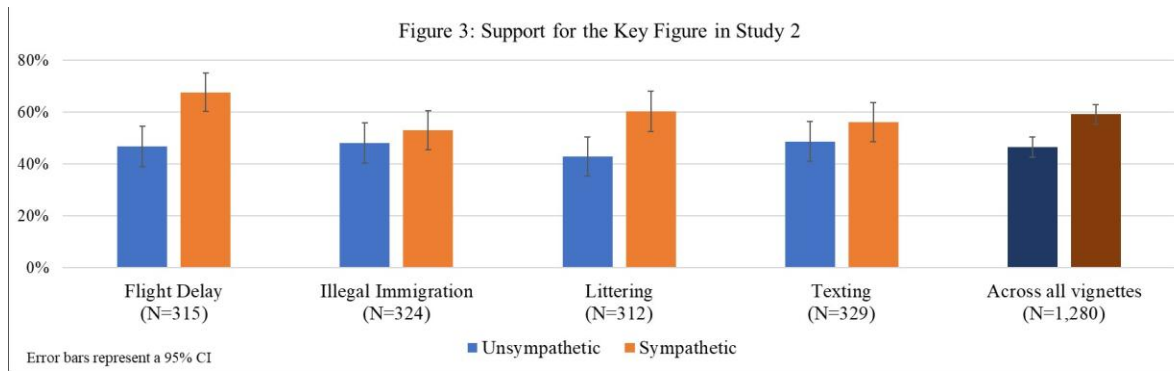
Analyzing the responses that did not indicate being affected by the biasing factors demonstrates that participants in Study 2 exhibit sympathy bias, albeit to a lesser extent than in Study 1. As shown in Figure 3, participants were more likely to support the sympathetic Key Figure in all four vignettes. Yet, only in Flight Delay and in Littering, the preregistered Chi square tests demonstrated statistically significant effects (across all vignettes:  $\chi^2(1)=20.15$ ,  $p<0.001$ ; Flight Delay:  $\chi^2(1)=14$ ,  $p<0.001$ ; Illegal Immigration:  $\chi^2(1)=0.78$ ,  $p=0.38$ ; Littering:  $\chi^2(1)=9.5$ ,  $p=0.002$ ; and Texting:  $\chi^2(1)=1.87$ ,  $p=0.17$ ). When including all responses, the results are: across all vignettes:  $\chi^2(1)=23.13$ ,  $p<0.001$ ; Flight Delay:  $\chi^2(1)=16.95$ ; Illegal Immigration:  $\chi^2(1)=0.69$ ,  $p=0.41$ ; Littering:  $\chi^2(1)=11.44$ ,  $p=0.001$ ; and Texting:  $\chi^2(1)=1.87$ ).<sup>17</sup>

---

pedestrian. Under the unsympathetic condition, the driver sent the message to gossip with a friend and killed a pedestrian. The concern was that the different outcomes (killing versus injuring) are not perceived by many as a “biasing factor”, and thus their influence might stem from a conscious reasoning rather than an unconscious bias. Therefore, in Study 2, the scenario’s outcome was the same, in both conditions the pedestrian was killed.

<sup>16</sup> Importantly, given the small number of responses that indicated an influence by the biasing factor, the results were basically the same whether these responses were excluded.

<sup>17</sup> A Fisher’s exact test yielded similar results (across all vignettes:  $p<0.001$ ; Flight Delay:  $p<0.001$ ; Illegal Immigration:  $p=0.44$ ; Littering:  $p=0.001$ ; and Texting:  $p=0.19$ ).



In two out of the four vignettes, no significant sympathy bias was evident, therefore, it is not expected to find an MSI moderating effect. Figure 4 indeed shows that sympathy bias in Illegal Immigration and Texting was absent across all three MSIs.

Figure 4 also indicates that the Plain Text MSI mitigated the sympathy bias in Flight Delay and in Littering. To test the significance of this interaction, I preregistered a logistic regression with the following independent variables: Sympathy condition, MSI, interaction of Sympathy and MSI, vignette, predictability measurements (perceived consensus, perceived clarity, and predictability score), order of the vignettes (whether the vignette presented first), and participants' age, gender, and attitude towards the relative importance of each element in statutory interpretation.<sup>18</sup>

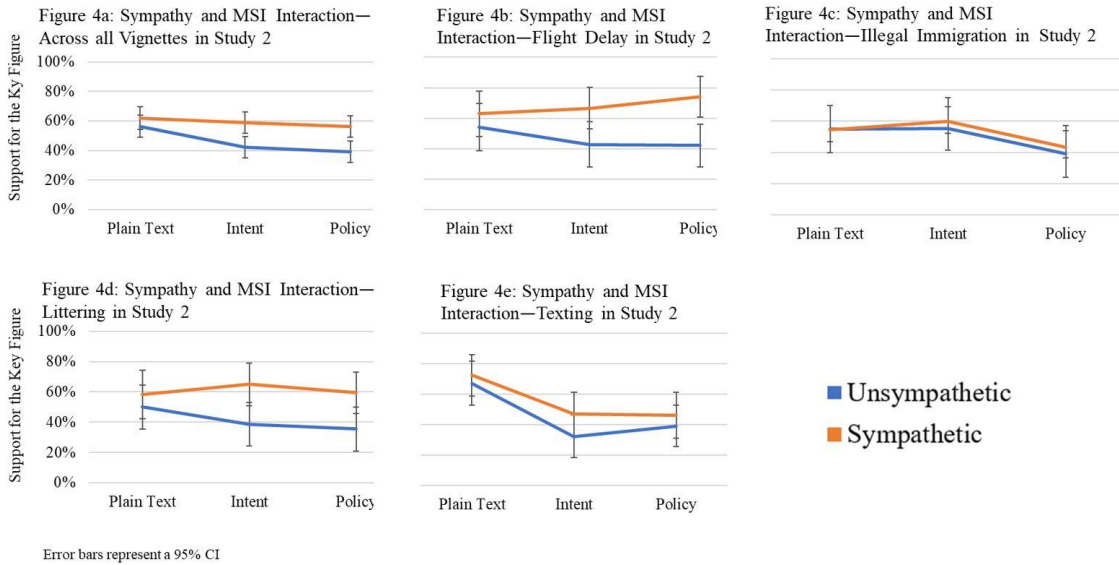
Model 1 in Table 2 presents the results of this preregistered regression. As a robustness check I ran an additional three models while excluding or including: (1) responses from Illegal Immigration and Texting (where a sympathy bias was absent, thus a moderating effect of MSI might be misleading); and (2) responses from participants who explicitly acknowledged being influenced by the biasing factors. These regressions demonstrate that participants in the Plain Text MSI were significantly less biased than those in the Policy MSI and significantly (or marginally significantly) less biased than those in the Intent MSI. In Flight Delay and Littering combined, the difference in the percentage of participants who supported the Key Figure between the Sympathetic and Unsympathetic conditions in the Plain Text MSI was 8.6 percentage points, 25

---

<sup>18</sup> However, Nevo, the distributor of the survey, requested that questions about political worldviews be omitted from the study text. Consequently, I modified the study to focus on this narrower aspect of participants' ideology: the relative importance they place on each element in statutory interpretation.

percentage points for the Intent MSI, and 27.9 percentage points for the under Policy MSI (differences between the moderating effect of Intent and Policy were not significant).<sup>19</sup>

OLS regressions (with no pre-registration; see in Table 2A in [Online Appendix A3](#)) demonstrate that a sympathetic litigant is supported by 16 percentage points more under Intent MSI than under Plain Text MSI, and in 17 percentage points more under Policy MSI than under Plain Text MSI (in Model 1).



<sup>19</sup> When including all responses, the differences were: 10.3 percentage points in the Plain Text MSI, 25 percentage points for the Intent MSI, and 29.4 percentage points for the under Policy MSI.



**Table 2:** Logistic Regression Analysis, Using Support for the Key Figure as Dependent Variables in Study 2

	Model 1	Model 2	Model 3	Model 4
Sympathetic	0.02	0.2	-0.01	0.31
<b>MSI<sup>a</sup></b>				
— Intent	-0.71*	-0.46	-0.63*	-0.52
— Policy	-0.87**	-0.5	-0.82**	-0.55
<b>Sympathetic × MSI<sup>b</sup></b>				
— Sympathetic × Intent	<b>0.65*</b>	<b>0.79<sup>+</sup></b>	<b>0.68*</b>	<b>0.71<sup>+</sup></b>
— Sympathetic × Policy	<b>0.73*</b>	<b>0.9*</b>	<b>0.74*</b>	<b>0.89*</b>
<b>Vignette<sup>c</sup></b>				
— Illegal immigration	0.21		0.38	
— Littering	-0.14	-0.17	-0.14	-0.19
— Texting	-0.22		-0.22	
Perceived Consensus	-0.01*	-0.001	-0.01*	-0.002
Perceived Clarity	-0.25	-0.99	-0.36	-0.9
Predictability Score	0.19***	0.09	0.2***	0.07
Attitude: Plain Text vs. Intent	0.01	0.04	0.006	0.04
Attitude: Plain Text vs. Policy	0.04	0.05	0.04	0.05
Attitude: Intent vs. Policy	-0.06 <sup>+</sup>	-0.04	-0.05	-0.04
Female	-0.019	-0.14	-0.18	-0.18
Age	0.003	-0.003	0.003	-0.002
First vignette <sup>d</sup>	√	√	√	√
Participants who mentioned biasing factors	√	-	-	√
Vignettes where no sympathy bias was found	√	-	√	-
<b>R<sup>2</sup></b>	0.04	0.04	0.04	0.05
<b>N</b>	1316	627	1280	658
<b>Clusters</b>	329	327	329	329

NOTES: Standard errors clustered by participants; <sup>a</sup> Plain Text served as a reference category; <sup>b</sup> Unsympathetic × Plain Text served as a reference category; <sup>c</sup> Flight Delay served as a reference category; <sup>d</sup> The decision was for the first vignette presented to the participant. <sup>+</sup> < 0.1. \* < 0.05. \*\* < 0.01. \*\*\* < 0.001.

Conversely to Study 1, no associations were found between supporting the Key Figure and the perceived consensus under Models 2 and 4, perceived clarity, or the gender of the participants.

Also, contrary to Study 1, under Models 1 and 3 significant associations were found between predictability score and decision—predictable rules were associated with supporting the Key Figure.<sup>20</sup>

As in Study 1, the associations between MSIs and clarity and predictability measures do not support a link between Plain Text MSI and increased clarity or predictability. The preregistered regression did not demonstrate significant interactions that could explain the debiasing effect of the Plain Text MSI (see [Online Appendix A4](#)).

### 4.3. General Discussion

These studies replicate the results of past studies that found that when faced with interpretive ambiguity, decision-makers are swayed by their sympathy toward the subjects of their decision when interpreting the legal rules. In Study 1, sympathy bias was found in four different contexts, including criminal and civil proceedings. However, in Study 2, participants exhibited bias only in two out of the four contexts—compensation for passengers in a flight delay case and imposing a fine for littering. There are three potential explanations for the discrepancy between the two studies. First, the participants in Study 2 were legal practitioners. Research suggests that while judges are affected by sympathy (Wistrich, Rachlinski, and Guthrie 2015; Spamann and Klöhn 2016; Liu and Li 2019), it is not always the case (Klerman and Spamann 2022), and judges and lawyers are less susceptible to bias in certain contexts (Kahan et al. 2016, however see Spamann and Klöhn 2024). Second, Study 2 required participants to explain their reasoning when interpreting the legal rules. Reason writing was found to be effective in reducing sympathy bias, which may have also contributed to the decrease in bias in Study 2 (Liu 2018). Lastly, in Texting, the sympathy manipulation was weaker in Study 2 than in Study 1, which may have also reduced bias.<sup>21</sup>

The main finding of these studies is that instructing a decision-maker to focus on the plain meaning of the text can help avoid such sympathy bias. Participants who were asked to focus on or consider policy implications were significantly more affected by sympathy toward litigants than

---

<sup>20</sup> In a set of logistic regressions (with no pre-registration) that tested whether attitudes toward the importance of the three interpretation elements moderate the effect of sympathy, no such effect was found, nor was it found when including the responses of those who explicitly acknowledge that they were affected by the biasing factors.

<sup>21</sup> See *supra*, note 15.

those who were asked to stick to the text. Similarly, those who were instructed to focus on legislature's intent were significantly more biased in Study 1 and significantly or marginally significantly more biased in Study 2 than those who were asked to follow the plain text. Therefore, these findings support the argument that an interpreter is less biased when focusing on the text.

There is no evidence that clarity or predictability of the legal rule serve as mediating factors of the moderating effect of MSI. The moderating influence of the MSI remained highly significant even when controlling for the three clarity and predictability measurements. There was no significant association between perceived clarity and MSIs. Also, in none of the vignettes did participants rate the rule under the Plain Text MSI as clearer than under the other MSIs, and the predictability score was mainly lower under the Plain Text MSI. Therefore, the mechanism that may underlie the moderating effect of the text is associated with an ability to focus attention selectively and ignore irrelevant factors when the relevant sources are limited. Thus, when focusing on intentions or policy considerations that inherently require attention to context and myriad evidence, it is more likely to be biased by external factors.

As previously mentioned, it is possible that participants recognized they were affected by sympathy and considered that the biasing factors are pertinent in interpreting the legal rules. The language used in the surveys on Illegal Immigration and Texting supports this notion. In these vignettes, participants were asked about whether the defendant “**should** be charged with ‘forging an identification card’” (in Illegal immigration) and if “the court **should** add an additional year” to the sentence (in Texting) (see [Online Appendix A1](#)). However, both vignettes involved criminal proceedings, where judges and prosecutors typically wield discretion in deciding whether to press charges or determine the sentence. Thus, one could argue that even if the biasing factors should not impact the interpretation of the rule, they could legitimately factor into participants' discretion and consequently influence their responses. This implies that the results may not necessarily reflect an unconscious bias but rather a sympathy effect.

However, the results in Study 2 suggest differently. First, participants in Study 2 seldom cited biasing factors as a reason for their decisions, indicating that they were not aware that sympathy toward the litigants influenced them. Furthermore, in Illegal immigration and Texting where the survey language could suggest that it is permissible to consider the biasing factors, no significant effect of sympathy was found.

Nonetheless, one cannot entirely rule out the possibility that participants were aware that the Sympathy condition influenced their decision, and did not include the biasing factors in their written reasoning. This is especially true in the case of the sympathy effect observed in Illegal Immigration and Texting in Study 1, which may be attributed to permissible discretion rather than an unconscious bias. Regardless, the implications of these findings remain substantial. Whether the impact of extra-legal factors was conscious or unconscious, the results indicate that directing interpreters to prioritize the plain meaning of a text leads them to disregard certain factors that (at least ostensibly), are considered irrelevant to the interpretation.

Finally, two significant limitations need to be considered. First, sympathy bias and the effect of MSIs are context dependent. The effect of MSIs found here may possibly not be found in other contexts. Although the result was tested using four vignettes, including criminal and civil proceedings, it did not include cases from administrative law and constitutional law. Therefore, it is possible that the effect would be different in other contexts. That said, it seems that even if the effect size would change in different scenarios, its direction is likely to be the same.

A second limitation worth noting is that the MSIs in this study are possibly overly simplistic, and each MSI is more nuanced and therefore may interact differently with sympathy bias. Additionally, participants did not have any information pertaining to the purpose of the legal rule or the intentions of the legislators. Consequently, this setting arguably deviates from the complexities often encountered during actual adjudication. Due to this limitation, caution should be taken when extrapolating from my findings to any specific theory of interpretation. Nevertheless, because each method of interpretation refers to at least one of the three elements, and considering that, at least sometimes, presumed intentions and policy consideration are not grounded on concrete materials, the effects found here can inform the discussion of any method of interpretation.

## **5. CONCLUSION**

The debate over the optimal method of interpretation involves many arguments and considerations. While the findings of this article do not provide unequivocal support for a textualist approach, the results shed light on some of the factual arguments about the effect of various statutory

interpretation methods on judicial bias. In future debates about the desired MSI, one should consider the moderating effect that focusing on the plain text meaning has on the sympathy bias.

Further work needs to be done to establish whether the moderating effect of Plain Text MSI holds true in other legal contexts, and with different populations. In addition, it would be interesting to assess the Plain Text MSI's effect on other legal ambiguities. For example, would the MSI have the same moderating effect where the legislator deliberately uses ambiguous language that consists of terms such as *reasonable* or *unconscionable*? Future research should also investigate the effect of other methods that constrain legal discretion on the inclination to sympathy bias—such as using precedents, or the effect of rules versus standards as debiasing techniques.

## REFERENCES

- Alexander, Larry, and Saikrishna Prakash. 2003. *Is That English You're Speaking? Some Arguments for the Primacy of Intent in Interpretation*. Institute on Law and Philosophy.
- Angrist, Joshua D., and Jörn-Steffen Pischke. 2009. *Mostly Harmless Econometrics*. Princeton University Press.
- Aristotle. 1883. *The Politics of Aristotle*. Translated by James Edward Cowell Welldon. Macmillan and Company.
- Barak, Aharon. 2011. *Purposive Interpretation in Law*. Princeton University Press.
- Baude, William, and Ryan D. Doerfler. 2017. The (Not So) Plain Meaning Rule. *University of Chicago Law Review* 84: 539–66.
- Bergius, My, Emelie Ernberg, Christian Dahlman, and Farhan Sarwar. 2020. Are Judges Influenced by Legally Irrelevant Circumstances? *Law, Probability and Risk* 19: 157–64.
- Berman, Mitchell N. 2011. Constitutional Interpretation: Non-Originalism. *Philosophy Compass* 6: 408–20.
- Brudney, James J., and Corey Ditslear. 2005. Canons of Construction and the Elusive Quest for Neutral Reasoning. *Vanderbilt Law Review* 58: 1–120.
- Cross, Frank B. 2008. *The Theory and Practice of Statutory Interpretation*. Stanford University Press.
- Doerfler, Ryan D. 2022. Late-Stage Textualism. *The Supreme Court Review* 2021: 267–313.
- Dolan, R. J. 2002. Emotion, Cognition, and Behavior. *Science* 298: 1191–94.

- Easterbrook, Frank H. 1988. Role of Original Intent in Statutory Construction, The Symposium: The First Annual Federalist Society Lawyers Convention-1987. *Harvard Journal of Law and Public Policy* 11: 59–66.
- Eskridge, William N., and Philip P. Frickey. 1990. Statutory Interpretation as Practical Reasoning. *Stanford Law Review* 42: 321–84.
- Eskridge, William N. Jr. 1989. The New Textualism. *UCLA Law Review* 37: 621–92.
- . 1992. Case of the Speluncean Explorers: Twentieth-Century Statutory Interpretation in a Nutshell. *George Washington Law Review* 61: 1731–53.
- Eskridge, William N. Jr., and Philip P. Frickey. 1993. Making of the Legal Process, The Commentary. *Harvard Law Review* 107: 2031–55.
- Farnsworth, Ward, Dustin F. Guzior, and Anup Malani. 2010. Ambiguity about Ambiguity: An Empirical Inquiry into Legal Interpretation. *Journal of Legal Analysis* 2: 257–300.
- Frankfurter, Felix. 1947. Some Reflections on the Reading of Statutes. *Columbia Law Review* 47: 527–46.
- Greenberg, Mark. 2021. Legal Interpretation. In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, Fall 2021. Metaphysics Research Lab, Stanford University. <https://plato.stanford.edu/archives/fall2021/entries/legal-interpretation/>.
- Griffin, Stephen M. 1993. Pluralism in Constitutional Interpretation Symposium: Phillip Bobbitt and Constitutional Law. *Texas Law Review* 72: 1753–70.
- Hart, Henry Melvin, and Albert Martin Sacks. 1958. *The Legal Process: Basic Problems in the Making and Application of Law*.
- Kahan, Dan M, David Hoffman, Danieli Evans, Neal Devins, Eugene Lucci, and Katherine Cheng. 2016. “‘Ideology’ or ‘Situation Sense’? An Experimental Investigation of Motivated Reasoning and Professional Judgment.” *University of Pennsylvania Law Review* 64:349–440.
- Kantorowicz-Reznichenko, Elena, Jarosław Kantorowicz, and Keren Weinshall. 2022. Ideological Bias in Constitutional Judgments: Experimental Analysis and Potential Solutions. *Journal of Empirical Legal Studies* 19: 716–57.
- Katz, Ori. 2021. Mapping the Diversity of Thought - An Attitude Theory of Contract Law. *Southern California Interdisciplinary Law Journal* 31: 49–90.

- Katz, Ori, and Eyal Zamir. Forthcoming. Law, Justice and Reason-Giving. *Journal of Empirical Legal Studies*.
- Klerman, Daniel, and Holger Spamann. 2022. Law Matters—Less Than We Thought. *The Journal of Law, Economics, and Organization*, August, ewac008.
- Kunda, Ziva. 1990. The Case for Motivated Reasoning. *Psychological Bulletin* 108: 480–98.
- LaCrosse, Jennifer, and Victor Quintanilla. 2021. Empathy Influences the Interpretation of Whether Others Have Violated Everyday Indeterminate Rules. *Law and Human Behavior* 45: 287–309.
- Liu, John Zhuang, and Xueyao Li. 2019. Legal Techniques for Rationalizing Biased Judicial Decisions: Evidence from Experiments with Real Judges. *Journal of Empirical Legal Studies* 16: 630–70.
- Liu, Zhuang. 2018. Does Reason Writing Reduce Decision Bias? Experimental Evidence from Judges in China. *The Journal of Legal Studies* 47: 83–118.
- Llewellyn, Karl. 1950. Remarks on the Theory of Appellate Decision and the Rules or Canons about How Statutes Are to Be Construed. *Vanderbilt Law Review* 3: 395–406.
- Macleod, James A. 2019. Ordinary Causation: A Study in Experimental Statutory Interpretation. *Indiana Law Journal* 94: 957–1030.
- Manning, John F. 2001. Textualism and the Equity of the Statute. *Columbia Law Review* 101: 1–127.
- . 2003. The Absurdity Doctrine. *Harvard Law Review* 116: 2387–2486.
- Oakes, Mark A., Catherine A. Crosby, Kathleen McCallops, Brittany R. McDonald, and Anna C. Schwarz. 2021. Judge, Jurors, and Gendered Instructions to Disregard Evidence: Stereotype-Congruent Judicial Instructions Increase Compliance. *Psychology, Crime & Law* 27: 933–55.
- Posner, Richard A. 1998. Pragmatic Adjudication. Pp. 235–53 in *The Revival of Pragmatism*,. Durham, NC: Duke University Press.
- Scalia, Antonin. 1998. *A Matter of Interpretation: Federal Courts and the Law*. Edited by Amy Gutmann. First Paperback Edition. Princeton, NJ: Princeton University Press.
- Scalia, Antonin, Bryan A. Garner, and Frank H. Easterbrook. 2011. *Reading Law: The Interpretation of Legal Texts*. 1st edition. St. Paul, MN: West Group.

- Shereshevsky, Yahli, and Tom Noah. 2017. Does Exposure to Preparatory Work Affect Treaty Interpretation? An Experimental Study on International Law Students and Experts. *European Journal of International Law* 28: 1287–1316.
- Sonpal, Rickie. 2002. Old Dictionaries and New Textualists Note. *Fordham Law Review* 71: 2177–2226.
- Sood, Avani Mehta. 2013. “Motivated Cognition in Legal Judgments — An Analytic Review.” *Annual Review of Law and Social Science* 9:307–25. <https://doi.org/10.1146/annurev-lawsocsci-102612-134023>.
- Sood, Avani Mehta, and John M. Darley. 2012. The Plasticity of Harm in the Service of Criminalization Goals.” *California Law Review* 100: 1313–58.
- Spamann, Holger, and Lars Klöhn. 2016. Justice Is Less Blind, and Less Legalistic, Than We Thought: Evidence from an Experiment with Real Judges. *Journal of Legal Studies* 45: 255–80.
- Spamann, Holger, and Lars Klöhn. 2024. Can Law Students Replace Judges in Experiments of Judicial Decision-Making? *Journal of Law and Empirical Analysis* 1 <https://doi.org/10.1177/2755323X231210467>.
- Stebly, Nancy, Harmon M. Hosch, Scott E. Culhane, and Adam McWethy. 2006. The Impact on Juror Verdicts of Judicial Instruction to Disregard Inadmissible Evidence: A Meta-Analysis. *Law and Human Behavior* 30:469–92.
- Stein, Alex. 2021. Probabilism in Legal Interpretation. *Iowa Law Review* 107: 1389–1438.
- Struchiner, Noel, Ivar Hannikainen, and Guilherme Almeida. 2020. An Experimental Guide to Vehicles in the Park. *Judgment and Decision Making* 15:312–29.
- Tobia, Kevin P. 2020. Testing Ordinary Meaning. *Harvard Law Review* 134: 726–807.
- Wistrich, Andrew J., Chris Guthrie, and Jeffrey J. Rachlinski. 2005. Can Judges Ignore Inadmissible Information? The Difficulty of Deliberately Disregarding. *University of Pennsylvania Law Review* 153: 1251–1345.
- Wistrich, Andrew J, Jeffrey J Rachlinski, and Chris Guthrie. 2015. Heart Versus Head: Do Judges Follow the Law or Follow Their Feelings? *Texas Law Review* 93: 855–923.
- Zamir, Eyal. 1997. The Inverted Hierarchy of Contract Interpretation and Supplementation. *Columbia Law Review* 97:1710–1803.



Zamir, Eyal, and Doron Teichman. 2018. *Behavioral Law and Economics*. Oxford, New York: Oxford University Press.