Describing the Psychological Biases That Affect Judicial Decisions and Proposing Policies to Minimise Their Negative Impact using Behavioural Economics

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ABSTRACT

The purpose of this research paper is to examine the different psychological biases that affect judicial decisions as well as briefly a potential reason behind why this happens. It also discusses how biases in the courtroom can be minimized.

I. INTRODUCTION

The difference between a machines and an intelligent being's actions is that a machine (assumed to not be bearing artificial intelligence) behaves according to the algorithm inputted in it. Over the course of its lifespan, the machine does not commit any action or step beyond its algorithm – an outlier. Intelligence, however, takes past inputs into consideration and updates its algorithm accordingly. Artificial intelligence and humans both learn from their past experiences. A lot of these experiences tend to make them biased.

Our judicial system works on the laws made by humans and carried out by humans. Because of our own biases, we can often make erroneous judgements. Some examples of this can be when we sideline rational arguments that act against our own biases or when we jump to conclusions quicker than required only because those conclusions confirm our preconceived notions.

The existing literature on the subject suggests that decision-makers such as judges or jurors are susceptible to being biased in the courtroom despite their extensive legal training and acquired knowledge. To examine the reason behind their demonstrating bias, we will explore what causes biases.

Type 1 Type 2 Processing

Our cognitive functions have two main types of processing:

TYPE 1: Intuitive processing

This involves reflex actions that do not require working memory and come autonomously to us. Examples include evaluating the emotions in someone through their voice or solving simple arithmetic such as 3+1=4.

TYPE 2: Effortful processing

This involves actions that engage the working memory. They require mental focus and are voluntary. Examples include critical thinking, solving complex calculations, and logical reasoning (employed by legal professionals).

Type 2 processing is tedious and takes time. Type 1 processing on the other hand is faster. Shortcuts in the brain formed through Type 1 processing can be referred to as heuristics. These shortcuts or heuristics increase the efficiency of our decisions and are adaptive. However, they can also lead to predictable lapses in judgement.

An example of such a heuristic could be as follows:

Guessing that someone who is creative, quirky and dressed colourfully is a humanities major.

Clinical Reasoning Classification	Type 1/Intuitive/Forward reasoning	Type 2/Analytical/Backward reasoning
Strategies/Modes of reasoning	Heuristics	Normative
	Pattern recognition	Hypthetico-deductive
Characteristics	Fast, unconscious, intuitive	Slow, analytical, abstract
Dimensions	Memory structure	Flexibility in thinking
	Context dependent	Education dependent
Strengths	Fast	Scientific
	Efficient	Analytical
Limitations/Sources of error	Cognitive biases	Working memory overload
	Emotional influence	Lack of knowledge

Figure 1. Clinical reasoning: A comparison of characteristics of Type 1 and Type 2 modes of 'Dual Process Thinking' clinical reasoning. Adapted from: Croskerry P. Clinical cognition and diagnostic error: applications of a dual process model of reasoning.

Our judgement might be wrong yet it is based on a heuristic founded on our experiences and beliefs. Such types of heuristics occupy our daily lives. In the courtroom, they tend to appear despite our inclinations to believe they do not since legal professionals, as mentioned above, receive training to base their decisions on logical reasoning supported by evidence and not shortcuts/heuristics. However, an interesting hypothesis as to why this might happen goes as follows:

Roy Baumeister developed the Cognitive (Ego) Depletion Theory which states that we all have a limited store of resources and mental energy to devote to all decision-making and self-control.

If this resource is reduced or depleted by a task requiring self-control, achievement in subsequent tasks will be impaired if these tasks draw on the same resource.

We can see this in an experiment by Bertrand and Mullainathan in which 115 subjects were recruited. The task was to screen 50 resumes for a company filling an administrative assistant position and the subjects had to select the 15 best candidates to fill the position. Each participant was assigned a unique set of resumes and the resumes had randomly assigned African-American or white-sounding first names. After completing the task, the participants had to fill in IATs (an IAT is typically taken on a computer. Test takers must quickly answer questions on explicit attitude measures of African-Americans.) Participants who stated feeling rushed during the resume task were less likely to give callbacks to resumes with African-American names. They were also more likely to associate African-American resumes with lower intelligence. In contrast, no correlation was found between the number of African-American resumes picked and the self-reported explicit attitude towards African-Americans. Hence, the study showed that participants who felt cognitively depleted (felt "rushed") demonstrated implicit biases that were different from their explicit views regarding the same.

This also demonstrated that under an environment of pressure, participants tend to unconsciously slip into Type 1 processing.

A parallel can be drawn to the environment within the courtroom, wherein judges and jurors can give into their cognitive biases because they are cognitively depleted.

Hence, this would answer the question of why legal professionals are susceptible to such cognitive biases.

Now that we have established our premise, let us highlight some biases that have been observed in the courtroom.

Anchoring Bias

The tendency to anchor one's judgement (made with insufficient information) to an initially stated quantitative value and not modify the anchor adequately in response to new information is known as the anchoring bias. The final quantitative value is heavily corrupted due to the anchor. This bias is especially prevalent in decisions made by judges in civil compensatory damage awards (fines) and criminal sentencing(prison sentencing).

In an experiment by Englich and Mussweiler, nineteen German judges were selected to pass a decision on a hypothetical case of alleged rape. The judges were divided into two groups and each group was provided the recommended prison sentence for the defendant by the prosecutor.

To one group, the prosecutor gave a sentence of 2 months while to the other group, he recommended the defendant receive a sentence of 36 months. It was found that the first group gave an average prison sentence of 18.78 months while the second group recommend 28.70 months on average. This is a clear demonstration of the prosecutor's recommendation acting as an anchor for the judges' decisions.

The anchoring bias may also be observed indirectly, creeping up because of the order in which the judge hears the cases. The different orders of the cases (some minor, some major) of the judge cause the judge to become fixated on a previous value, as humans are known to migrate towards numerical reference points. We see this in a study including 71 newly appointed military judges.

The first half of the judges viewed a serious crime (manslaughter) and then a minor crime (threat of violence). And the second half viewed the minor crime followed by the serious crime.

It was found that when the serious crime was heard first, the sentence for the minor crime was longer by 40%.On the other hand, when the minor crime was heard first, the sentence for the serious crime was shortened by 21.95%.
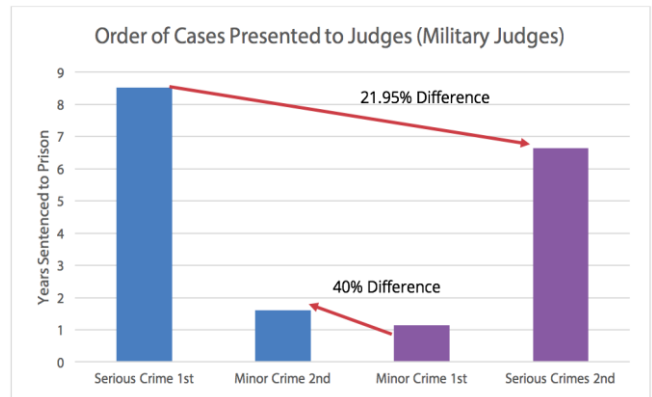
From the above, it can also be concluded that, aside from the obvious negative ramifications of decisions taken under the influence of the anchoring bias (including tainted justice), the bias itself provides other alarming challenges:

- The anchoring bias does not take the past criminal record of the defendant into account.
- The anchoring bias does not take into account the severity of the crime.

Ongoing anchoring bias, however unintentional and natural to the human brain, can lead to devastating consequences with regard to the justice meted out by the courts.

Hindsight Bias

Also known as the "we knew it all along" phenomenon, hindsight bias occurs when people overestimate the probability of an event taking place after the event has already taken place. Due to cognitive reconstruction, after an event has taken place, the human brain assigns a higher frequency to the event happening in the past in the first place.

In cases of liability, such bias is especially prevalent as judges and jurors have to tread a careful line to assess how foreseeable an outcome was and have to evaluate whether the risk was taken into adequate

consideration by the plaintiff. The problem arises, however, in the fact that the decision-makers have the advantage of knowing that the event already occurred whereas the plaintiff did not. In the Court Review (2013), Peer and Gamiel demonstrated it when a radiologist was accused of malpractice for not noticing a small tumour in their patient's early chest radiography. The patient eventually died from the tumour. Another radiologist when brought in for a second opinion said that the tumour could have been detected early by the first radiologist. However, the second radiologist had the advantage of hindsight to be able to look for the tiny tumour. In addition, studies have found that the severity of the outcome increases hindsight bias dramatically. For example, judges found that therapists who knew they had violent psychiatric patients were more negligent than therapists who had no such information.

Egocentric Bias

When judgements are made about one's self in a self-serving way, it leads to egocentric bias. The study by Guthrie, Rachlinski, and Wistrich asked 155 judges to anonymously estimate the reversal rate of their decisions on appeal and place themselves in the quartile corresponding to reversal rates from highest to lowest. 87.7% of judges believed that their colleagues had higher reversal rates than them and that they themselves made better decisions. This bias tends to manifest in the courtroom when judges refuse to acknowledge their mistakes or address any limitations of their judgment.

Confirmation Bias

People's tendency to focus on and look for information that confirms their initial hypothesis while ignoring contradictory information or alternative explanations.For example, in a classic study at Stanford University, participants who were either for or against capital punishment read about studies that either supported or challenged capital punishment. It was shown that participants favoured studies that followed their prior attitudes: those who

were in favor of capital punishment agreed more with studies that confirmed their position and deemed those studies of higher quality, while those against capital punishment deemed the studies that argued against it to be of higher quality. This is especially prevalent in forensic mental health experts acting as expert witnesses in trials in how they discuss plausible conditions of the patient and make it sound more probable in reality due to their own bias.

Biases in the ruling process

1. Inability to Ignore Inadmissible Evidence: Doob and Kirshenbaum showed that mock jurors were more likely to rate a defendant as guilty when they were exposed to prior criminal record information than they would without information. Though instructed to use prior criminal records only to determine credibility, judges may gather the record to be an indicator of guilt.

2. Biased Decisions in Sequential Ruling: When judges make repeated sequential rulings, they tend to rule more in favor of the status quo over time, but they can overcome this tendency by taking a food break. Repeated rulings depleted the judges' mental resources, causing judges to have a higher likelihood of granting parole in the first cases after a break.

Debiasing

Debiasing, or the action to remove a bias, is necessary for jurors and judges so the negative impact of their biases are minimised.

This can be done through various techniques. For example, bias can be reduced when Type 2 processes ride over Type 1 biases through specialized training and practice. For example, compared to novices, trained police officers who are motivated not to be racially biased show significantly less tendency to shoot unarmed racial minorities than Whites in equivalent situations in computer-based shooter tasks. A second example is a 12-week intervention to reduce implicit bias that motivated participants to be less biased and offered opportunities for training and practice, resulting in reductions in implicit race bias.

A 2004 study categorizes potential debiasing techniques into motivational, cognitive, and technological strategies.

Motivational strategies aim at reducing errors in decision-making by raising the stakes—for instance, by holding people accountable for their decisions. Accountability, such as the expectation of having to justify a decision later on, can help people to recognize flaws in their argumentation and thus reduce the effect of various biases.

Cognitive strategies such as "consider-the-opposite" can also counteract biases. Research supports that regularly questioning our initial judgement and navigating *possible* alternatives significantly reduces the effect of hindsight and confirmation bias.

Technological strategies such as the use of simple statistical models can help to de-bias decisions. A 1989 study showed that decisions based on simple models can outperform experts' intuitive judgments. One explanation for this finding is that statistical models ensure the use and consistent weighing of all relevant aspects, thereby restricting discretion.

In Mashpee Wampanoag Vs Assessors, the court argued if the plaintiffs, who were Native Americans, were a tribe. The plaintiff's expert witness, an anthropologist, had anecdotal observational evidence while the defence's expert witness, a sociologist, had computer-analyzed survey data. The plaintiffs moved the court to disregard the data as they feared the data would overpower the judge in favour of the defence (proving this point). The plaintiff argued that the data was flawed due to analytical and methodological errors. The motion was passed. Yet, had the plaintiff let the data be analyzed in the open court, the flaws of the data would be presented in cross-examination, further weakening the defence. This allows me to segue to the next point to de-bias – cross-examination.

Cross-examination can reduce the bias in expert witnesses' judgements by probing the area that is not founded on sound reasoning but rather on implicit bias. By applying coherence-based reasoning, i.e. "an unconscious transformation of the way decisions are mentally represented, leading to an ultimately straightforward choice between a compelling answer and a weak one", lawyers can prove the lack of foundation of any biased statements by an expert on the stand. This helps combat biases presented by forensic mental health experts who tend to exhibit confirmation bias.

II. CONCLUSION

Judges, jurors and expert witnesses on the stand are prone to psychological or cognitive biases such as confirmation bias, anchoring bias, egoistic bias, hindsight bias, and many more biases that are beyond the scope of this paper. These biases can be reduced through the generation of bias awareness, workshops to counter-act the same, increasing accountability of judicial decisions, and cross-examination or introspection of the decision-makers. Policies that act along these lines hold the power to bring substantial change into the lives of the decision-makers in the courtroom and, in turn, the welfare of the public.

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