The British Psychological Society

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Making better decisions:

How understanding our psychology can stop us falling into the bias trap

We are all prone to a variety of unconscious psychological biases and errors, and our political leaders are just as vulnerable as the rest of us. This knowledge is not new. Psychologists have been gathering evidence about the significant strengths and potential pitfalls of human decision-making for decades, yet not enough has been done to apply this knowledge where it could really make a difference.

All decisions are based on beliefs and values and are therefore vulnerable to human bias. Humans actively use their emotions to make decisions[1], which means a myriad of non-rational factors are at play. When these biases are reflected at a complex social or organisational level they can be even more problematic. Understanding human behaviour and systematically applying it to real-life decisions can help explain what is likely to go wrong and how these biases can be minimised.

Recent political events, including Brexit and the release of the Chilcot Report, have highlighted the fragile nature of human decision-making. This briefing from the British Psychological Society looks at how cognitive biases may have contributed to these events. It outlines how psychological insights can be applied to political decision-making and how politicians, and those who work with them, can use them to mitigate predictable problems. It covers just a handful of the many biases identified by psychologists[2], including heuristic reasoning, cognitive dissonance, confirmation bias, groupthink and the psychological impact of rejection. It suggests that hindsight bias can prevent us from learning important lessons, and offers suggestions of how psychological interventions can help this process.

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Heuristics: The short cut to thinking fast

In order to function with the multitude of decisions we must make every day, it is human nature to rely on rules of thumb – heuristics – to make quick choices. After we have encountered a similar situation a number of times we can respond as if on autopilot, but this can lead to poor decisions. Psychologists, most notably Amos Tversky and Daniel Kahneman, have shown that rapid decision-making is usually assisted by heuristics but that these short-cut strategies also lead to 'systematic and predictable errors'[3].

Heuristic reasoning is a largely unconscious process. The person making the decision will often believe it is based on logic. They will be unaware of the influence of their individual appraisal of a situation, which may be based on personality, past experience, physiological state, personal preference and emotion. Examples of such heuristics include:

Representativeness

When people use the 'representativeness' heuristic, they base their judgments about whether to incorporate new information into their thought process on the basis of how similar something is to what they already know. Psychologists study representativeness in the field of social judgments, where it has been linked to stereotypical thinking[4]. In politics, we see examples of this heuristic most commonly when politicians make assumptions about the political views of their voters and constituents[5, 6].

Availability

The availability heuristic refers to the common mistake of assuming that, if it is easy to bring an example to mind, the phenomenon is common or important. In politics, the availability heuristic can explain why the perceived threat of terrorism is high in the public consciousness, while the more common but less 'available' threat of air pollution is perceived as lower. Air pollution was estimated to have caused 29,000 deaths in 2008 in the UK[7], but is not high on the public agenda[8].

Anchoring and adjustment

The anchoring and adjustment heuristic means that people are prone to accepting a 'starting point' they are given and then using their judgment to adjust that position. The classic example involves a person judging how much they would spend on a used car. The final sum offered depends greatly on whether the person was given a high or low starting figure. In politics, these effects can be seen in public debates about issues such as immigration[9].

Confirmation bias

People tend to look for, notice, and remember information that fits with their pre-existing expectations and to ignore or dismiss contradictory information[10]. Our understanding of the world is not objective – we see events and interpret information in a way that confirms our beliefs and seek out evidence that matches.

Confirmation bias can have a huge impact on the quality of decision-making across many professions. In medicine, when a doctor takes a patient's medical history they may ask questions to confirm their earlier judgement, rather than seeking evidence that will disprove their hypothesis. Consequently they reach an early conclusion and can fail to unearth key information that could be critical to the patient's diagnosis[11].

Brexit Bias

Confirmation bias may explain why the Brexit result was such a shock to many. A classic piece of research in confirmation bias took two subject groups with opposing views on capital punishment and provided each with two fictitious studies, one supporting and one refuting their existing beliefs about how effective the death penalty was as a deterrent. Both groups rated the studies that agreed with their pre-existing beliefs as more convincing and containing better evidence, with the result that opinion became further polarised[12].

The same mechanism may have been at play in the lead up to the EU Referendum. Politicians and campaign leaders would have been prone to the human tendency to seek out information – from newspapers and TV analysis, but also friends, colleagues and social media – that agreed with their pre-existing beliefs and reject information that didn't. Even the well-crafted statements of experts and authority figures would have been accepted or rejected depending on their audiences' existing beliefs. As a result both sides believed popular opinion was on their side.

Chilcot Report highlights unjustified certainty

Confirmation bias may also have been at play during decisions over the Iraq war. The Chilcot Report stated that judgements regarding the severity of the threat posed by Weapons of Mass Destruction in Iraq were presented with a certainty that 'was not justified'. Confirmation bias would suggest that evidence that did not fit with the UK's stated objective of the disarmament of Iraq may have been ignored, rejected or examined in a biased manner. Indeed, further evidence seems to have been sought and opinions commissioned on similar biased grounds. The Chilcot Report makes specific criticisms over the legal advice and lack of cabinet oversight and recommends greater oppositional or critical analysis.

Groupthink and the psychological impact of rejection

When people are deeply involved in a close-knit group, their desire for unanimity can override their motivation to consider alternative courses of action[13]. Groupthink is not a new phenomenon[14]. From the training of soldiers to act as a unitary squad to the behaviour of urban rioters, we've known for a long time that people can conform to group norms to a startling extent[15, 16]. A group whose identity is based on winning and losing, for example members of a political party whose identity is linked to their performance in an election, can strongly activate a sense of in-group/out group that is an inherent part of human behaviour[17].

From an evolutionary perspective it was essential to be part of a group in order to survive. Modern neuroscience suggests we possess powerful mechanisms to encourage collective behaviour and avoid being rejected. When a person deviates from an opinion held by the wider group, the brain evaluates it as an error and consequently adjusts behaviour[18]. The brain creates a strong incentive for 'toeing the line' through the reward centres of the brain[19] and at the same time it experiences rejection from a group in a similar way to physical pain[20]. As this is at a predominantly subconscious level, people are often unaware that they are altering their behaviour or being influenced by others.

Groupthink in Government

Working as a group enables collective wisdom if leveraged effectively, but checks and balances are vital. Parliament is designed to have an opposition and various select committees to scrutinise decision-making. The Chilcot Report questioned whether the independent bodies effectively performed their role as impartial advisors to the government and stated that on 17 January 2003 a decision to deploy a UK division in Southern Iraq was made, but there was 'no collective discussion of the decision by senior Ministers'.

Going back further, the failed Bay of Pigs invasion of Cuba in 1961 is attributed to groupthink. The military aim was to overthrow Castro, however such was the influence of conformity amongst the group responsible, that they overlooked a simple analysis of Castro's military power. Consequently the 1400 invaders were vastly outnumbered and President Kennedy was left asking, 'How could I have been so stupid?'

Cognitive dissonance: Conflicting beliefs create tension

When people are presented with new information or new situations don't align with what they believe to be true they can experience cognitive dissonance and become tense and anxious[21]. As a result, they are motivated to reduce the discomfort caused by their contradictory beliefs, either by changing their behaviour, changing one of their existing beliefs, adding a new belief or ignoring conflicting behaviour (linking closely to confirmation bias). We tend to opt for whatever is most psychologically 'comfortable', and the option that is less stressful, more reassuring and uncomplicated.

Take for example, our attitude towards ethical consumption. If a person who believes in protecting the environment purchases a car with particularly bad emissions data, they are presented with a conflict between their behaviour and their beliefs that cause distress. They are therefore motivated to reduce this 'cognitive dissonance'. One way is to make a more ethical purchase, but other routes are possible – often people in such circumstances reframe their beliefs about environmental responsibility, create a new justification (for example that zealous recycling or planting trees will offset the pollution), or even reconsider core beliefs about climate change. All these mechanisms for reducing cognitive dissonance will tend to have the opposite effect to the one desired.

The EU referendum tapped into many conflicting values and beliefs in society and within individuals. Now that we know the result, politicians and the public may be attempting to reframe or justify their beliefs to fit and ease the psychological tension. This tendency to avoid psychological discomfort could explain some of the various post-hoc justifications for the result; for example the notion of 'Bregret'[22] or that it was a 'protest vote'[23]. While only 7 per cent of those who voted leave and 4 per cent of those who voted remain said they regretted their votes, 34 per cent said Cameron was wrong to call the referendum in the first place (9 per cent of leave voters, 60 per cent remain voters and 39 per cent of those who did not vote)[24].

The politicians and public servants who are now working to implement a decision that they may not have agreed with, or only partly believed in, should be aware of this tendency and consider what impact that may have on the way they and their colleagues work[25].

Hindsight bias: A barrier to change

Hindsight bias is the inclination, after an event has occurred, to see it as having been predictable, despite having been little or no objective basis for predicting it[26]. Following a negative outcome of a situation, people do not want to accept responsibility, and this can ultimately lead to a failure to accept that mistakes have occurred. This then makes it unlikely that the person will learn from the event and the same mistakes risk being repeated. While this bias is less relevant for shaping future decision-making processes, it can help us understand why mitigating these biases has not yet become a routine part of the business of politics.

In the context of medical error, the most significant psychological difference between those involved in a mishap and those who are called to investigate is knowledge of the outcome. Investigations and inquiries are tainted by knowledge of what happened, which highlights how difficult it is to prevent mistakes from happening again. It is difficult, once the event has occurred, to imagine what it must have been like before. In the context of political decision-making processes, being aware of hindsight bias can ensure that the outcomes of political events and inquiries are not dismissed as inevitable, and that lessons are learned.

Making better decisions

Psychological biases underpin decision-making processes in politics. The insights in this briefing paper are not new but we need to move from understanding what potential problems cognitive bias can cause to how we address them in a systematic way. Incorporating psychological insight can have a hugely positive impact in identifying what went wrong, mitigating risks and designing behavioural strategies for the future.

Raising awareness of psychological biases, as we have done here, is a necessary step in enabling them to be overcome, but merely presenting evidence is not sufficient to change behaviour or policy[27]. At the same time systematic interventions designed to enhance scrutiny, increase diversity, facilitate learning and challenge culture are needed to bring about sustained improvement to decision-making.

Psychological inquiry a key part of scrutiny

The government has committed to learning lessons from studying the 2.6 million words in the Chilcot Report[28]. While there are few overt references to psychological processes in the report's recommendations, it is vital that detailed analysis of the impact of cognitive bias is part of the work to respond to the recommendations.

Any government body or group set up to consider the implications and recommendations of the Chilcot Report should include regular input from a psychological perspective to shed light on how decision-making processes can be improved and bias alleviated or avoided in future.

Seeking a psychological perspective on both 'what went wrong' and how to respond should be a routine part of parliamentary scrutiny. Applying this principle to future inquiries would encourage continual improvement and more robust decision-making.

The Cabinet Office, working with the British Psychological Society, and building on its links with the Behavioural Insights Team and the What Works Centres, would be well placed to consider implementing this principle and should consider introducing a mechanism to facilitate this.

First hand evidence

Many of the errors and biases noted here concern the ways in which people incorporate information into decision-making. We must therefore ensure that information is in itself free from biased interpretation. Independent scientific advisors and organisations, such as Sense about Science and the Science Media Centre, and bodies like the Parliamentary Office for Science and Technology and the Commons Library can help contextualise scientific research and evidence for policymakers. They have also been campaigning for better use of evidence and making scientific evidence easier to find and use[29]. Psychology's role here is to provide independent scientific evidence and expertise in human behaviour across the many areas of government business and inquiry.

The use of independent experts and technical evidence should be maximised in decision-making processes. Committees should proactively seek direct participation from subject experts across the sciences and seek to incorporate evidence into policy making at every level through closer collaboration with professional bodies.

A culture of transparency and openness to support learning

To improve decision-making, organisations need to develop a culture where people feel safe raising concerns and acting on errors. They must also be transparent, which means sharing information and taking a diagnostic approach to identify patterns of what is going wrong and how to improve. A safe, open and transparent culture encourages individual learning and development, and also allows groups to be innovative and to challenge each other. For example, it enables committee Chairs to raise difficult questions and to ask the group to consider if they have fallen prey to groupthink.

The Francis Inquiry into failings in care at Mid Staffordshire NHS Foundation Trust made several recommendations around openness and transparency. In response to that report members of the British Psychological Society brought together expertise from across the discipline, including clinical, health and occupational psychologists, to make practical suggestions around NHS culture change[30], which are also applicable to political settings.

Culture change is a long, hard and often continual process. In Parliament, the seven 'Nolan Principles' of public life have been in place for over 20 years. They include openness, honesty, accountability and leadership.

Parliament, led by the Cabinet Office and the Committee on Standards in Public Life, should conduct a systematic evaluation of decision-making processes and cognitive bias and use this to prioritise where change is most needed. They should work with psychologists to implement principles and practices for changing culture, including management commitment, the propensity to resist change, and leadership by a team of employee representatives.

Diversity to combat groupthink

A diverse workforce can mitigate the effects of group think[31]. If visible differences in a group rise above 30 per cent it enables members of that group to 'explore controversial issues or alternative solutions through the shift of identity away from group membership and towards the task'[32]. Parliament is becoming more diverse, and many parliamentary processes encourage diversity of opinion through cross party membership. But there is a long way to go. The Good Parliament report calls for greater diversity of MPs in terms of skills, disability, ethnicity, sex/gender and

sexuality[33]. These efforts to increase diversity in politics, will also serve to reduce the impact of groupthink.

The Good Parliament Report recommendations to address equality must be prioritised by the Commons Reference Group on Representation and Inclusion and other named stakeholders.

Support mechanisms for political leaders

Responsible leaders make it their business to be self-aware and to recognise their own biases, blindspots and how they habitually respond to pressure or rejection. In order to provide effective support and develop these skills amongst parliamentarians, there must be a confidential 'space' where people are encouraged to reflect on their decisions. As Mental Health awareness increases in Parliament, so too should the acceptance that psychology can help optimise performance and prevent psychological strain. This will look different for different people and psychologists can offer advice. For example, some ministers have received executive coaching, which can include training in how to 'sit out' the discomfort experienced as a result of cognitive dissonance and how to search for conflicting information in order to challenge confirmation bias.

The Cabinet Office should encourage Parliamentarians to proactively seek out ways of understanding themselves better. Support should be offered during induction and regularly throughout their career development, something not uncommon in other countries for example the Harvard Kennedy School's Transition and Leadership for Newly-Elected Mayors program for incoming mayors of large US cities[34].

Acknowledgements

For more examples of how psychology can inform policy making
please visit **www.bps.org.uk/impact**

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