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IPSOS VIEWS

Perils of Perception

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What do we get wrong?

Ipsos has conducted a number of major studies in recent years exploring how accurate people are in estimating a range of key social realities. And our latest international survey[1] across 33 countries shows just how wrong we often are.

In Britain the public thinks that the top 1% wealthiest households own 59% of the country's wealth, when they actually "only" own 23%. Americans think that 33% of their population are immigrants, when in fact it's less than half that, at 14%.

Brazilians think the average age in their country is 56, when it's only 31. Russians think that 31% of their politicians are women, when in fact it's only 14%.
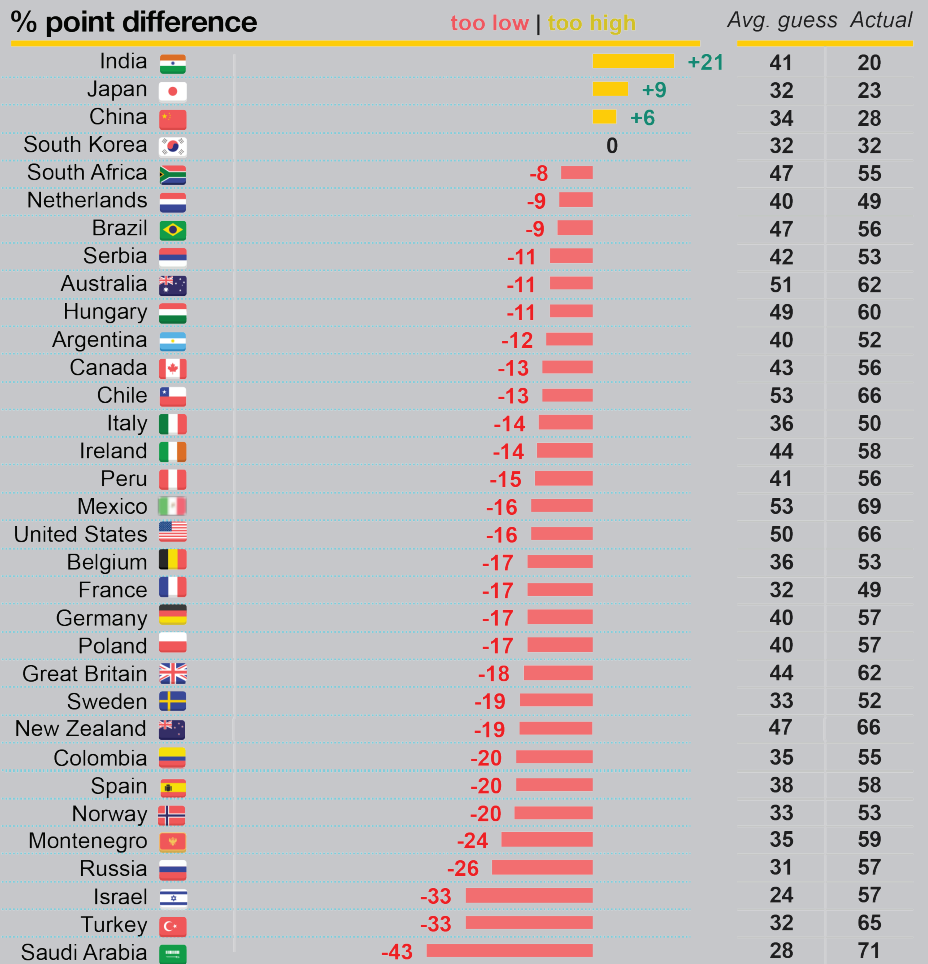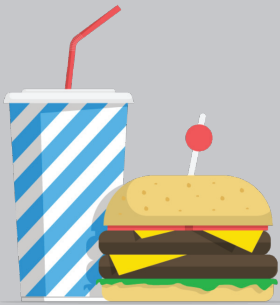
The British think an extraordinary 43% of young adults aged 25-34 still live at home with their parents, when it's actually only 14%. In India, the online population think that 60% of the whole country also has internet access, when in fact only 19% do.

Israelis think that only 39% of working age women in their country are in employment, when actually 68% are. Saudis think that only 28% of their population is overweight or obese, when in fact it's a very worrying 71%.
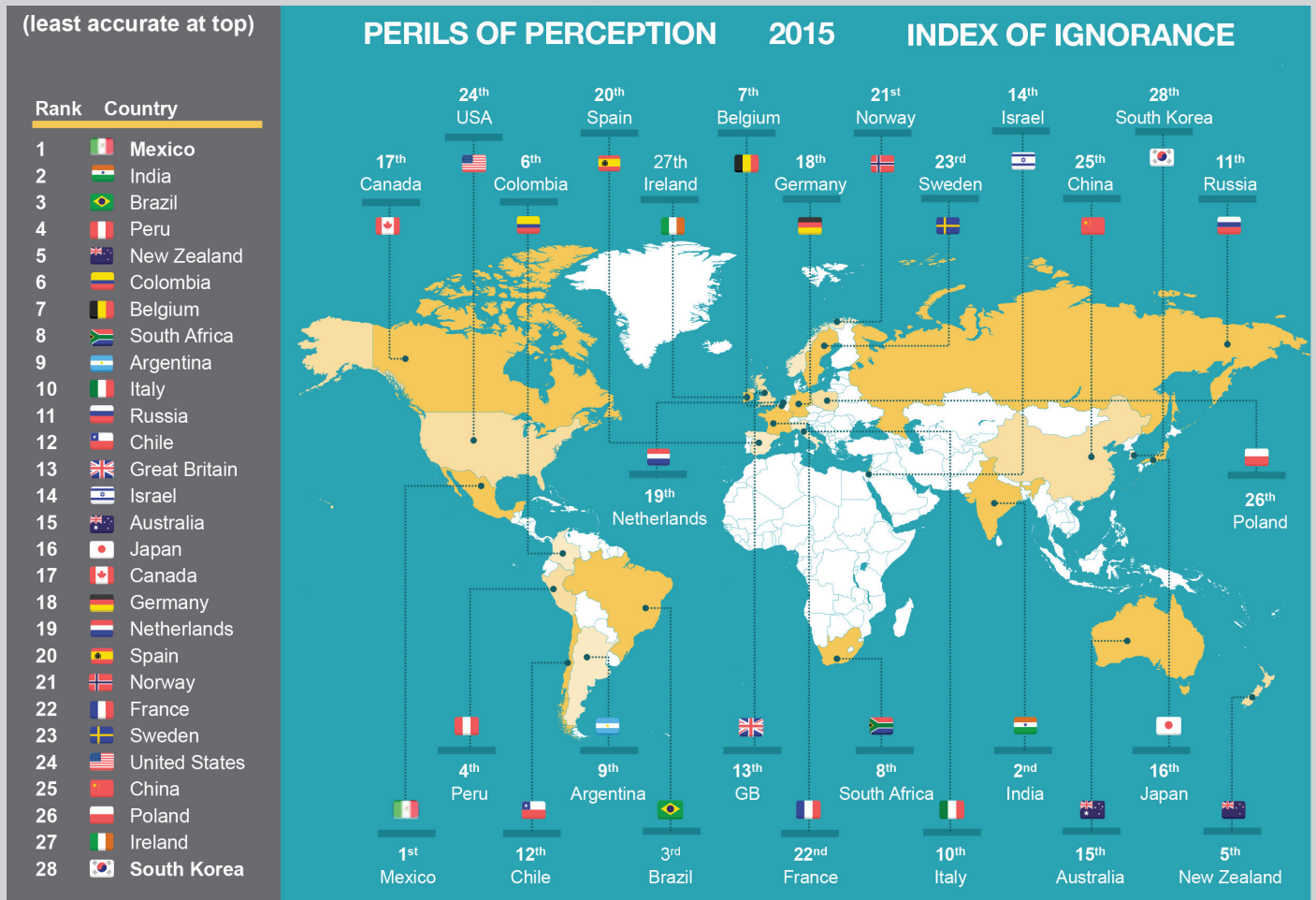
An example of how wrong we can be is shown in the chart (on the next page) on our (mis)perceptions of obesity.

The public generally underestimate the proportion of overweight or obese people in their country.

Q. Out of every 100 people [aged 20 years or over], how many do you think are either overweight or obese?

% point difference

too low | too high

Country	% point difference	Avg. guess	Actual
India	+21	41	20
Japan	+9	32	23
China	+6	34	28
South Korea	0	32	32
South Africa	-8	47	55
Netherlands	-9	40	49
Brazil	-9	47	56
Serbia	-11	42	53
Australia	-11	51	62
Hungary	-11	49	60
Argentina	-12	40	52
Canada	-13	43	56
Chile	-13	53	66
Italy	-14	36	50
Ireland	-14	44	58
Peru	-15	41	56
Mexico	-16	53	69
United States	-16	50	66
Belgium	-17	36	53
France	-17	32	49
Germany	-17	40	57
Poland	-17	40	57
Great Britain	-18	44	62
Sweden	-19	33	52
New Zealand	-19	47	66
Colombia	-20	35	55
Spain	-20	38	58
Norway	-20	33	53
Montenegro	-24	35	59
Russia	-26	31	57
Israel	-33	24	57
Turkey	-33	32	65
Saudi Arabia	-43	28	71

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Looking across all the questions in the study, we created an "Index of Ignorance", to identify which countries had the best and worst understanding of these facts. As the chart shows, Mexico received the dubious privilege of being the most inaccurate, while South Koreans are the most accurate.
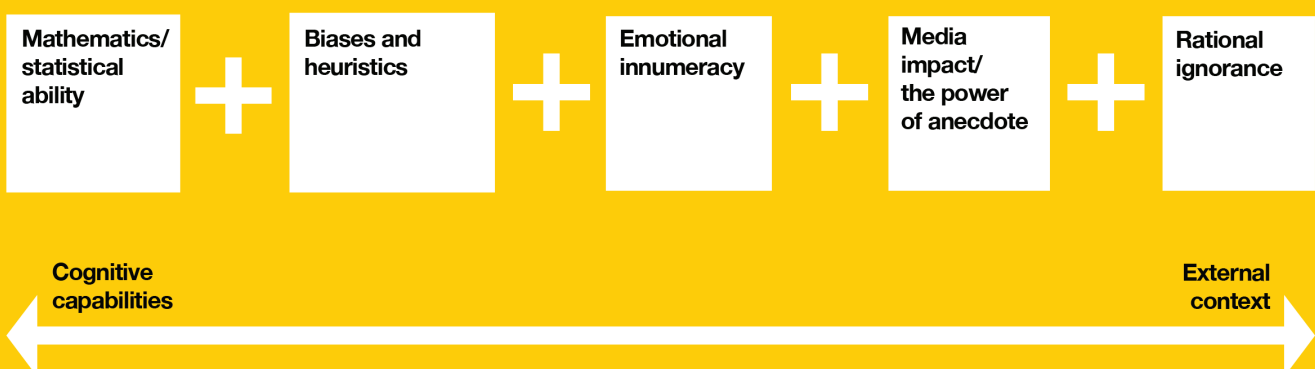

(least accurate at top)

PERILS OF PERCEPTION   2015   INDEX OF IGNORANCE

Rank	Country
1	**Mexico**
2	India
3	Brazil
4	Peru
5	New Zealand
6	Colombia
7	Belgium
8	South Africa
9	Argentina
10	Italy
11	Russia
12	Chile
13	Great Britain
14	Israel
15	Australia
16	Japan
17	Canada
18	Germany
19	Netherlands
20	Spain
21	Norway
22	France
23	Sweden
24	United States
25	China
26	Poland
27	Ireland
28	**South Korea**

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Why are we so often so wrong?

But the purpose of the study was not just to raise a wry smile at other peoples' - or whole nations' - expense. Even the term "ignorance" was chosen carefully, not to imply lack of intelligence, just the absence of knowledge or information – and, as we will see, some argue this ignorance may be rational. Instead the main aim was to raise questions on why these errors arise, and what, if anything, we can and should be doing about them.

So why are people across the world so often so clueless about these realities?

Across the years, countries and topics we have researched, five key groups of influences stand out. These will be in play to varying degrees for different individuals, nations and issues. They will sometimes be in tension with each other, and sometimes reinforce or interact. But each is important in understanding why we're so wrong.

The Ignorance Equation - Why are we so wrong?

Mathematics/ statistical ability	+	Biases and heuristics	+	Emotional innumeracy	+	Media impact/ the power of anecdote	+	Rational ignorance

Cognitive capabilities ←——————————————————————————→ **External context**

1. **Mathematical and statistical ability**

It's partly that many of us just struggle with numbers – we're often very shaky on key mathematical concepts that will be important for estimating realities. For example, in a study for the Royal Statistical Society in the UK, the large majority of the population can correctly identify that 50 is 25% of 200 – but even with this very simple calculation, 8% get it wrong. The large majority know that the average of 5, 10 and 15 is 10 – but 30% get this simple sum wrong.[2]

And we really struggle on probabilities, which can be key in estimating the likely incidence of an event or characteristic: only a quarter of the UK population correctly identify that the chances of getting two heads when tossing a coin twice is 25%.

Other studies also show we are particularly poor in dealing with very big or very small numbers (which will impact our ability to think about whole populations, or relatively rare events like teenage pregnancy), and we find it hard to distinguish between rates and levels (on issues like immigration).

"

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2. **Biases and heuristics, including availability, satisficing and inductive generalisation**

People will also be subject to all sorts of biases and heuristics (or mental shortcuts) when answering the questions. In particular, we tend to grab for easily available information even if it doesn't quite fit the question. For example, our huge overestimates of the rural populations in most countries will be affected by how much of the physical landmass rural areas make up, rather than a careful calculation of how unoccupied it generally is. In Daniel Kahneman's terms, answers to these sorts of questions are classic examples of "fast" thinking, rather than "slow".[3]

In the survey research methods literature there is also the helpful concept of "satisficing", which reminds us that people will put varying degrees of effort into thinking about the questions, depending on their own characteristics and how much effort it takes.[4] For example, one of our questions asked people to estimate how many teenage girls get pregnant each year in their country – which resulted in wild overestimations (for example, the average guess in the US was 24%, when in fact only 3% do). This will be partly because people genuinely think it is much more common than it is or are worried about it – but it will also be partly because it's easier to think about how many teenagers give birth in total rather than an annual rate. The total figure for all teenagers is much higher than the annual rate, and closer to what the public estimate.

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This has parallels with Tetlock's distinction between hedgehogs and foxes[5] in his study of the accuracy of predictions. Tetlock's research suggests that those who use lots of different information and are willing to be influenced by new information are better predictors, compared with those who have one big idea and use it with gusto. There will be similar parallels on estimating realities: those who stick to quick stereotypes are more likely to be wrong.

A further, related concept that will be important in explaining our error is inductive generalisation. Regardless of the information we use, we are often tied to our own perspective, and many of us struggle to imagine the variety within our own countries. Inductive generalisation – which in this context is broadly that we think the whole population reflect our own narrow experience – will be particularly important in explaining why some countries score much worse than others in our Index of Ignorance.

This is highlighted by our Indian sample massively overestimating their population's access to the internet. Our study was mostly carried out through an online survey – and in developing countries this will be representative of a more affluent, connected group rather than the population as a whole. In some ways, we may have expected this more educated sample to get closer to reality – as our first point above suggests, those with higher education levels tend to be more accurate on these type of questions.

But what we find throughout the study is that people often grossly generalise from their own situation, forgetting how unrepresentative they are. In fact, as the chart below shows, you can explain a lot of the variation in our ignorance scores across countries just by knowing internet penetration, and by extension, how unlike the whole population these groups are.

Perils of Perception 2015

'Ignorance' score

correlation = -0.7

Internet penetration %
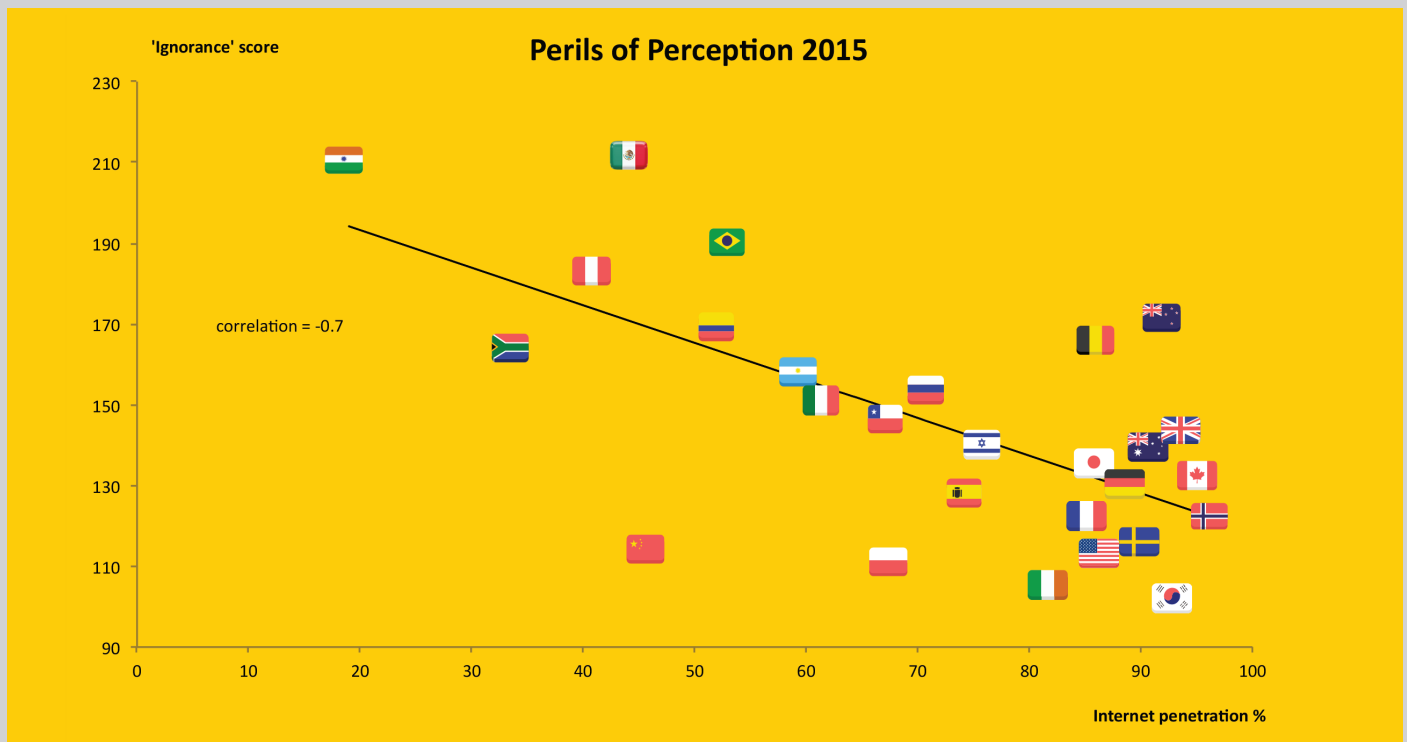
3. Emotional innumeracy

We also suffer from what social psychologists call "emotional innumeracy"[6] when estimating realities. This theory suggests we have two goals when answering these questions: "accuracy" goals, where we want to get the right answer, but also "directional" goals, where we're sending a message about what's worrying us, consciously or not.

This provides the very neat and vitally important reminder that cause and effect run both ways - our concern may lead to our misperceptions as much as our misperceptions creating our concern.

This is likely to be part of the explanation for the widespread and huge overestimates of how much the wealthiest own and what proportion of our populations are immigrants. We are worried about the concentration of wealth and immigration levels, and this is reflected in us overstating the scale of the issues.

But the survey suggests there are also some issues where we're not as worried as we should be. For example, most countries hugely underestimate how much of their population is overweight or obese.

Our misperceptions can therefore be seen as an important indicator of our levels of concern – and where we underestimate, maybe we should be worrying more (although, as we'll come back to later, scaring people about the scale of an issue could be counter-productive in changing behaviours).

4. The media and the power of anecdote

Of course, the media are bound to have a role in forming these misperceptions. It's notoriously difficult to prove direct causal effects from media coverage, but the media are undoubtedly important sources of information and impressions that influence us.

But we need to be careful here. For example, whenever we release results from these studies, one of the first responses is always "that will be a media effect", often picking one or two more populist or tabloid media sources (like the Daily Mail in the UK).

But the fact that this happens everywhere suggests we can't lay the blame entirely at one particular title or even type of newspaper that not all of us will be exposed to.

The media undoubtedly contribute – but the real driver is how we remember information. We are far more likely to remember negative stories and vivid anecdotes stick, regardless of whether[7] they are describing something vanishingly rare. This presents a far more difficult challenge – improving our misperceptions is not just about correcting how the media use "facts", it's about how we as humans remember stories.

5. **Rational ignorance**

Finally, some suggest that our ignorance is not really about our failings but largely a response to the political context around us. Professor Ilya Somin, from George Mason University in the US, for example, argues that it is a consequence and vital flaw in our whole political system[8].

His explanation is at the opposite end of the spectrum to the social psychologists, where our lack of knowledge is not due to "thinking fast" but rather it is entirely rational.

In this view, people have no reason to inform themselves, with all the costs of time and effort that involves, if they can't influence anything through a political system where their individual vote counts for virtually nothing.

What's the point in finding out how the government spends our money, whether crime is increasing or decreasing or how many immigrants are coming to the country if our vote doesn't affect political outcomes and decisions remain outside our control?
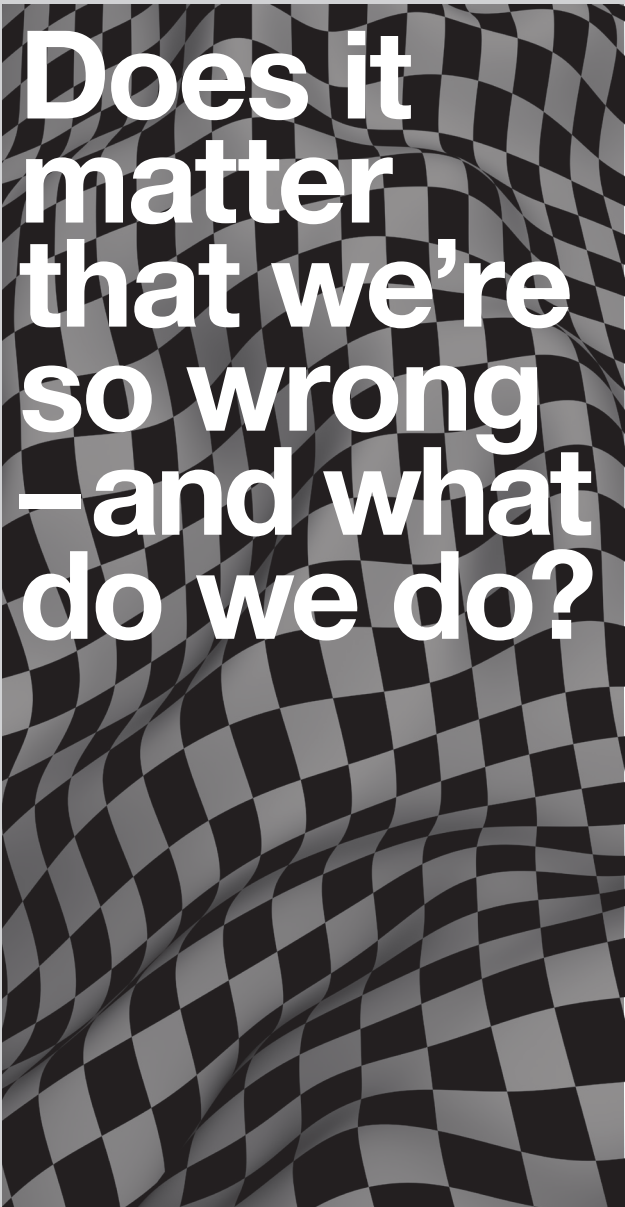
In this reading most modern systems of government are inevitably flawed and people would be more likely to get what they want if we cut central political control, pushing decisions down to local areas, the private sector and (ultimately) individuals, where choices are more personal and therefore better informed.

This may seem extreme – but it does make one vital point. Rather than concluding that our results demonstrate that people are too dumb to be trusted with decisions, if we want a better informed population, we need to give people more, not less, power and control.

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Improving our misperceptions is not just about correcting how the media use "facts", it's about how we as humans remember stories.

"

Does it matter that we're so wrong – and what do we do?

Given the scale of our errors and variety of explanations, do our misperceptions really matter? And even if they do, what should or can we do?

Our view is that they do matter – and there are important lessons for what we should do. We know better than most that misperceptions have likely always been with us, in different contexts and countries, and are incredibly difficult to shift.

But that doesn't mean we can't learn vitally important lessons for how government, media and businesses should respond.

> " *We know better than most that misperceptions have likely always been with us, in different contexts and countries, and are incredibly difficult to shift.* "

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1. Our understanding of the norm is important to how we behave: we need to normalise positive behaviours…

We know that our mental image of normal behaviour influences how we ourselves behave – indeed, behavioural science studies often find our understanding of social norms is the most important influence on certain behaviours. Consistently underestimating voter turnout (as we've measured in previous studies) is a problem then, as people have the wrong idea about the norm and are therefore less likely to vote themselves.

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Behavioural science studies often find our understanding of social norms is the most important influence on certain behaviours.

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Similarly, underestimating the number of people who do the recommended amount of exercise each day (as again we've found in a further study) is also a problem, as we're less likely to take part ourselves when we think others don't.

This power of social norms has been harnessed as a positive force in a number of ways by government and others in recent years. For example, various experiments on tax payments[9] are unequivocal: simply telling people that nearly everyone else in their area pays their taxes on time increases payment levels by 15 percentage points. This power of norms could be applied much more widely across a range of issues.

2. …and we need to avoid normalising negative behaviours and attitudes

But we face a different challenge on negative behaviours that are less prevalent than we think. Take the example of physical activity and exercise – we're less active than we should be, but the public across countries massively underestimates how many people actually do the recommended amount of physical exercise each week.

Lobbying and editorial campaigns have focused on how we're facing an "inactivity epidemic".[10] And this is a fair characterisation of the problem - if it was an actual disease, physical inactivity would certainly be considered an epidemic, as it costs more years of life[11] than alcohol consumption or excessive cholesterol.

But the key question is does promoting that message help or hinder behaviour change? American psychologist Robert Cialdini[12] has long warned about the dangers of normalising a negative behaviour, showing the unintended consequences.

While we're trying to send a message that many people are doing this **undesirable** thing, there clearly lurks the message that **many people are** doing that behaviour.[13]

Policy-makers and others trying to influence behaviour therefore have a difficult line to tread between drawing attention to widespread issues and normalising them. But that line will be much better trodden with a fuller understanding of our misperceptions.

3. **Myth-busting is likely to have limited impact – because it misdiagnoses why we're wrong**

A further important implication from the suggestion that some of our apparent innumeracy is actually emotional is that "myth-busting", where we try to allay peoples' concerns by telling them more about the facts, is likely to have limited impact. It misdiagnoses a large part of the issue, as our misperceptions are often an emotional not a rational response.

This is not to say that we shouldn't continue to challenge the misuse of data by politicians and the media, through various fact-checking organisations that have established themselves and done great work in the last few years. This may have a limited direct impact on public perceptions, given it is working against the weight and habits of the media and political rhetoric.

But the aims of these bodies are at least as much preventative as corrective: the more those using statistics badly are pulled up, the less likely they will think the risk is worthwhile.

Even so, these steps will always struggle to get to a key part of the problem. There are many instances where the information provided by politicians or the media may be perfectly factually accurate – but vanishingly rare. The vivid anecdote is the only thing people remember, and that drives their views of the importance or prevalence of an issue. So, as we find in so much of our communications work, just as important as providing a correct picture of the facts is providing an emotional narrative that appeals to people, with its own role models and vivid stories.

> " *So, as we find in so much of our communications work, just as important as providing a correct picture of the facts is providing an emotional narrative that appeals to people, with its own role models and vivid stories.* "

4. But where people think things are worse than they are, communicate the facts more openly

The Perils of Perception work also helps to highlight where there is often little to lose from communicating the facts more openly and transparently. In particular, where people think worse of you than the reality, you are better off at least trying to tell them the truth.

This was highlighted in a further study[14] on perceptions of how much business contributes to the total tax-take in a country – which is a key reputational issue, given the increased focus on tax avoidance by major corporations.

People massively underestimate how much business as a whole pays in – and massively overestimate how many avoid tax. And, in the UK at least, the majority of people think the "tax gap" between what the authorities expect business to pay and what they actually pay has increased, with hardly any (correctly) saying it has actually decreased in the last few years.

And these misperceptions matter: four in ten say that not paying the full amount of tax is one of their top three reasons for thinking badly about a business. And more directly, 23% claim to have boycotted a product or service because they think the company behind it has not paid the full amount of tax they should.

So in these circumstances, most businesses have little to fear from transparency. The top two answers by some distance are for businesses to publish the amount of tax they pay (not buried in annual accounts, but prominently on their website) and to provide an explanation for why they pay that amount.

This obviously won't completely solve the problem – but it is an important step. When people think worse of you than is really the case, you should have little to fear from telling the truth.

> "
> *And these misperceptions matter: 23% claim to have boycotted a product or service because they think the company behind it has not paid the full amount of tax they should.*
> "

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5. **And while emotions rule, improving understanding and questioning of statistics is still important**

Finally, while myth-busting may have much more limited impact than many might expect, the importance of the use and understanding of statistics should not be downplayed. Decades before the focus on big and omnipresent data, data journalism and the rise of "sexy statistics",[15] HG Wells said "Statistical thinking will one day be as necessary for efficient citizenship as the ability to read or write".[16]

This shows incredible prescience on Wells' part – but whether we've lived up to the challenge is doubtful. We still seem to undervalue skill with numbers, with, for example, people in the UK over twice as likely to say they would be ashamed about having poor reading or writing skills than poor numeracy. And probably more tellingly, people are four times as likely to say they would be proud of their children for being good at reading and writing than they would if their children were good at maths.

Of course (thankfully), we can't all be "sexy statisticians" – but there are practical things that can be done. On the "supply side", training those who are most likely to convey statistics to us – particularly journalists and politicians – in a more skilled and balanced way can only be a good thing.

But this will do little on its own, as the incentives need to come from the "demand side" too, in our increased understanding and questioning. This needs shifts in how we view and teach mathematics, that's more about the active, sceptical citizenship that Wells envisioned, rather than dry, abstract science. We have a long way to go.

> " *HG Wells said "Statistical thinking will one day be as necessary for efficient citizenship as the ability to read or write".*[16] "

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Finally...

We believe that there's a lot we can learn and apply to real issues from our understanding of misperceptions – it helps government and business avoid communication mistakes, and to positively affect behaviour in smarter, simpler ways. But there is one final benefit from the Perils of Perception work – it reminds us of the incredible variety of "reality" on different issues.

In many ways it's not our misperceptions but these realities across different countries that are the most interesting and important aspects of the study:

- The fact that the top **1%** in Russia own **70%** of the nation's wealth when the top **1%** in New Zealand only own **18%**.

- That **two-thirds** of Americans are overweight or obese, but only **23%** in Japan.

- That **half** of Italians aged 25-34 still live with their parents, when it's only **4%** in Norway.

- That the average age in India is **27**, while it's **47** in Japan.

- That only **10%** of politicians are women in Brazil when **44%** are in Sweden.

When the reality is so extraordinary and varied, it's no wonder we're so wrong.

End notes

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Further information

For the full results of the latest Perils of Perception study and all previous studies, please see our dedicated microsite at *www.ipsos-mori.com/perilsofperception*

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He is a frequent public speaker and commentator, having appeared on most of the key UK outlets, including the Today programme, Newsnight, ITV News at 10, BBC News at 6 and many others. He has written widely on social policy issues, including in the Guardian, Sunday Times, Wall Street Journal, Prospect, Daily Telegraph and many others.

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