

Whose truth?

Dr Craig Cormick
SCANZ Conference
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Drivers of risk perceptions and trust

**New citizen-driven
democracy**

**Lack of trust in public
institutions**

**Increased demand for
scrutiny and consultation
of government**

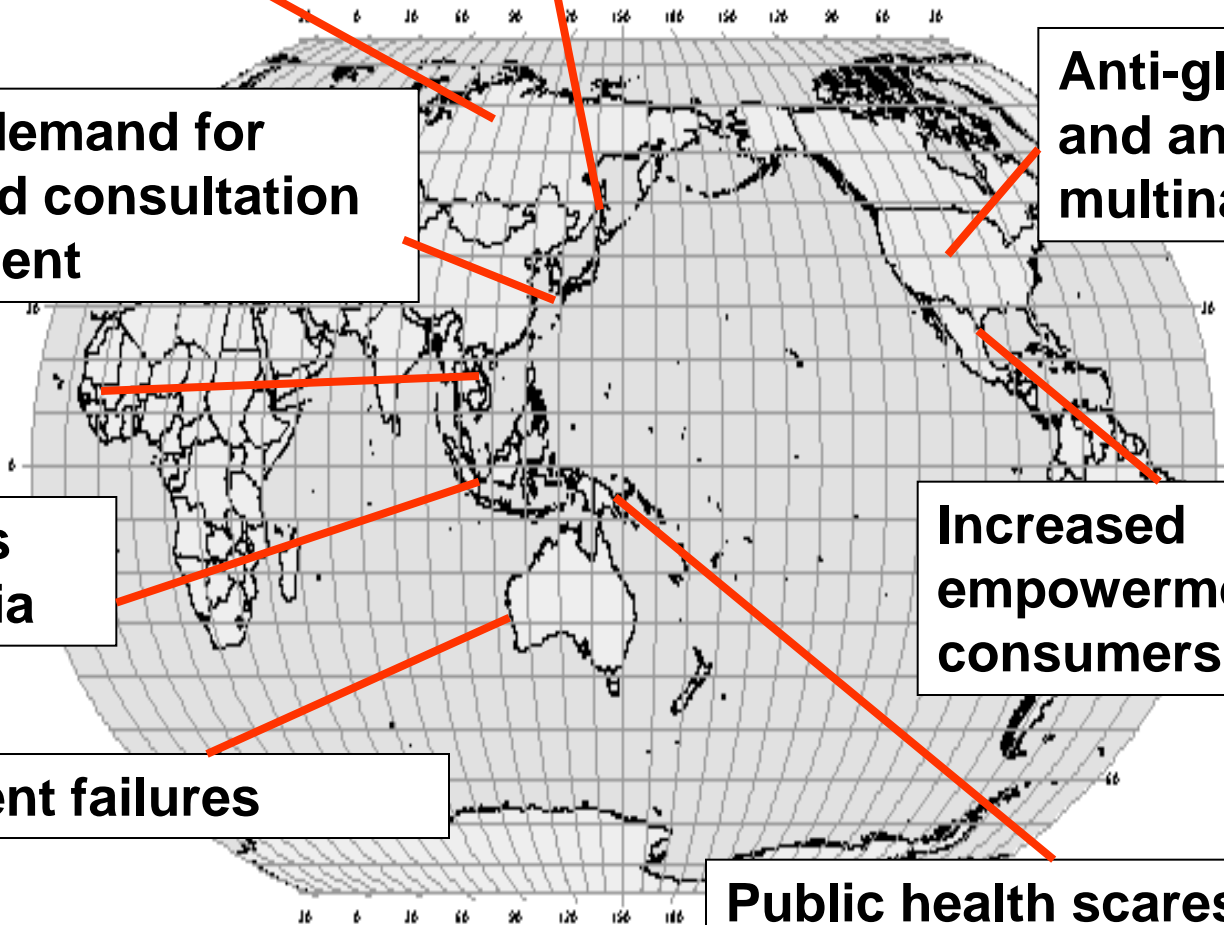
**Anti-globalisation
and anti-
multinationalism**

**Internet as
main media**

**Increased
empowerment of
consumers**

Government failures

**Public health scares and
environmental disasters**



Trust trends - 2017

1. Dropping trust for all institutions (Govt, media, NGOs)
2. Lack of trust in 'the system', as being broken
3. People more likely to take action
4. Growth in fears and concerns
5. Pace of change see as too fast
6. Peers have highest credibility
7. The media as echo chamber

“The trust crisis demands a new operating model for organizations by which they listen to all stakeholders ;provide context on the issues that challenge their lives; engage in dialogue with them; and tap peers... To lead communications and advocacy efforts.” (Edelman Trust Barometer, 2017)

Key learnings

1. When **information is complex**, people make decisions based on their **values and beliefs**.
2. People seek **affirmation of their attitudes** (or beliefs) – no matter how fringe – and will **reject** any information or facts that are **counter** to their attitudes (or beliefs).
3. Attitudes that **were not formed by logic** are **not influenced** by logical arguments.
4. Public concerns about contentious science or technologies are **almost never about the science** – and scientific information therefore does little to influence those concerns.
5. People **most trust** those whose **values mirror their own**.

Quick poll

1. **Arachnophobia** – The fear of spiders (30%)
2. **Ophidiophobia** – The fear of snakes (30%)
3. **Acrophobia** – The fear of heights (10%)
4. **Claustrophobia** – The fear of small spaces (10%)
5. **Agoraphobia** – Fear of open or crowded spaces (5%)
6. **Aerophobia** – The fear of flying (8%)
7. **Any other...?**

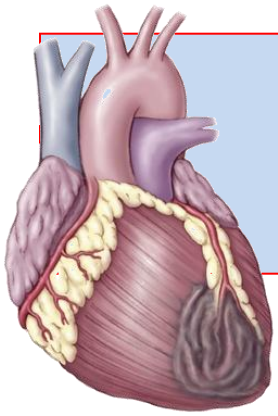
**Ask the person next to you –
‘What do you most fear?’**

**Now tell them that their fear is
completely illogical and counter to
factual evidence of risk**

**Did that make any difference to the
way they think?**

How we think

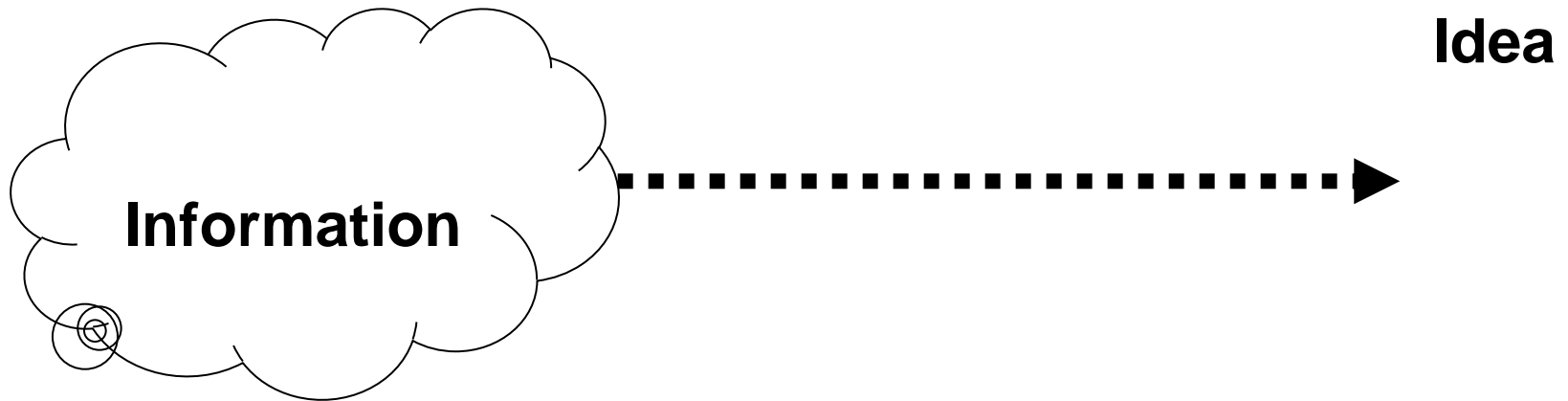
- When we are **time poor, overwhelmed** with data, **uncertain**, driven **by fear or emotion**, we tend to assess information on **mental shortcuts** or **VALUES** not **LOGIC**.
- And opinions that were **NOT formed** by **LOGIC** are **not then** able to be easily **influenced by LOGIC**.



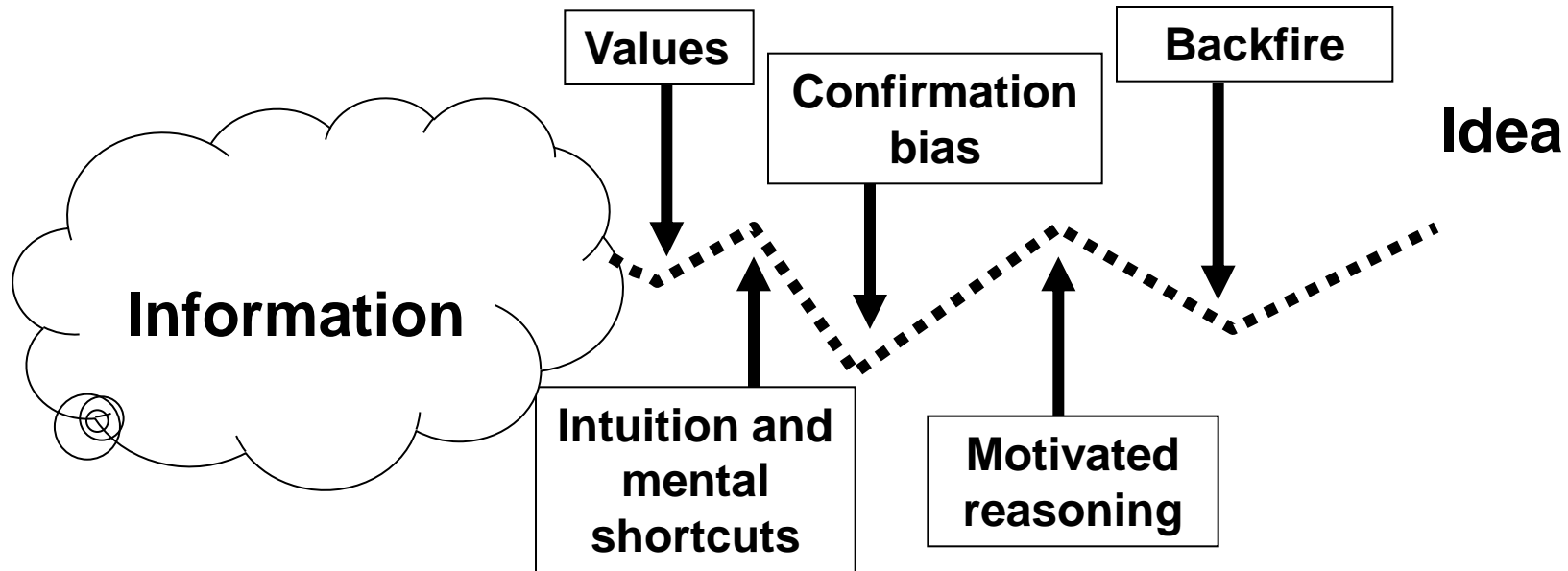
The heart of the problem

- Is the way **we are wired** psychologically
- Leads us to **common errors** in our **thinking** that in turn leads to **distortions of perception, inaccurate judgments** or **illogical interpretations.**

The fraught path of attitude formation



The fraught path of attitude formation



1. Intuition is unsuited to modern world

- Our **intuition** has served us well for **tens of thousands** of years.
- Has **stopped** us from stepping out of the safe cave into the **dangerous** dark of night.
- But it is **largely unsuited** to the **modern world**, leading to **superstitions**, **paranormal beliefs** and **pseudoscience**.

2. Value driven attitude formation

- Most people, when faced with an issue related to science and technology, adopt an **initial position of support or opposition**, based on a variety of **mental shortcuts** and **predisposed beliefs** rather than scientific evidence.

Eg: **Climate change denial** and **anthropocentrism**,
Anti GM foods and **natural values**.

Anti-embryonic stem cells and **right to life**.

2. Value driven attitude formation

Understanding how values drive attitudes helps explain how:

Having **pro-development values** can lead to you saying **respect the science on GM foods**, but the **science on climate change is dubious**,

yet

Having **pro-environment values** can lead to you saying **respect the science on climate change**, but the **science on GM foods is dubious**.

3. Backfire

- When people are shown information **proving that their beliefs are wrong**, they actually become **more entrenched** in their original beliefs.
- Highly intelligent people tend to suffer **backfire** more than less intelligent people do – making us immune to any facts that are **counter** to our **strongly-held beliefs**.

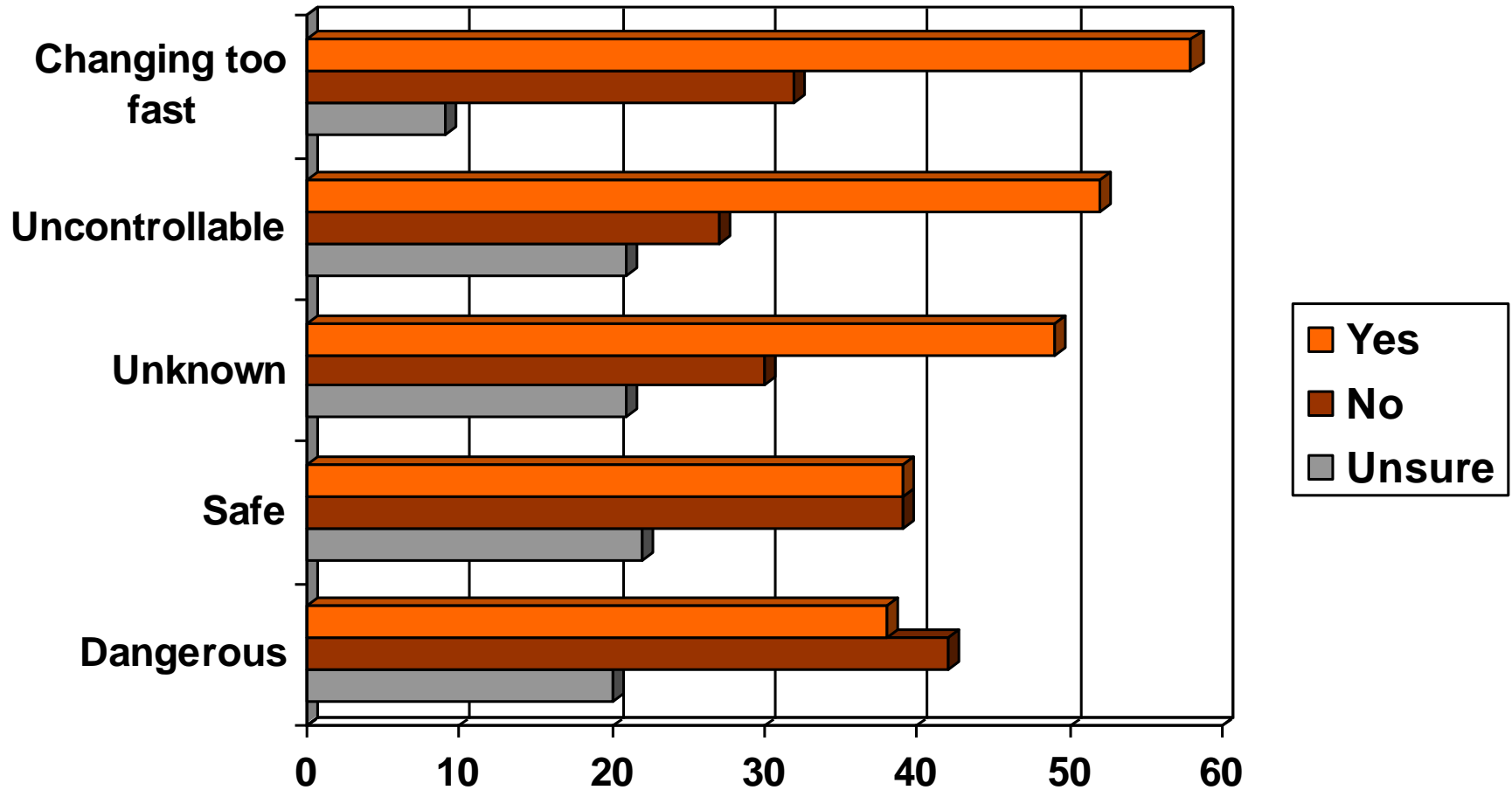
4. Confirmation bias

- When presented with **both sides** of an argument people tend to focus only on the **arguments that support their existing point of view**, become **more entrenched** in that view, and are less likely to see the merit of other viewpoints.

5. Amplification of Risk

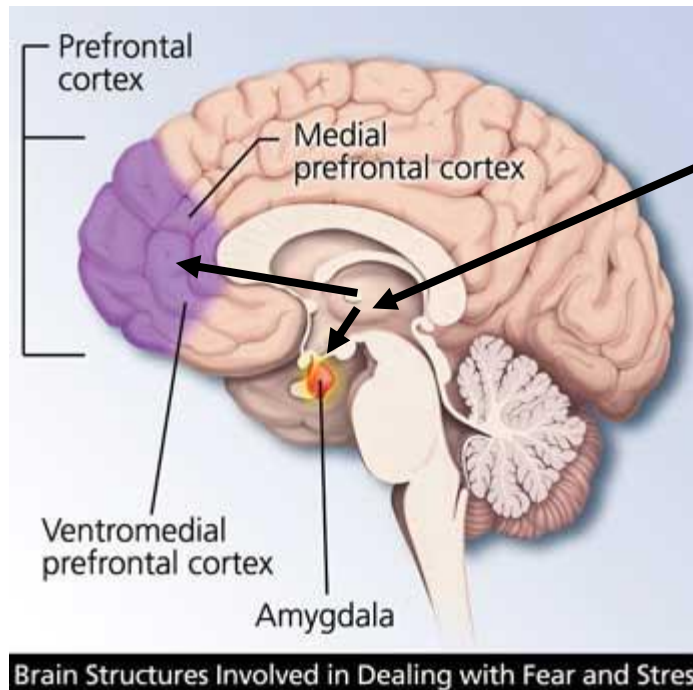
- The more people with **opposing points of view** talk about the topic, the **less likely** they will **agree** on any issue or even see it the same way.

Is life and the world around you?



6. Even our brain wiring works against us

3. Prefrontal cortex:
responsible for our
higher order thinking and
decision making



1. Thalamus:
the brain's
post office

2. Amygdala:
The 'danger,
danger' part of
the brain

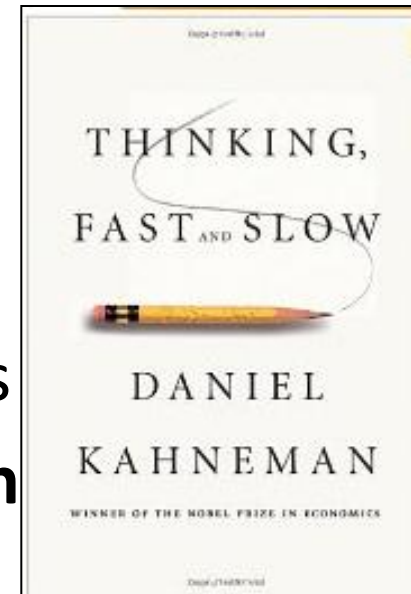
6. Even our brain wiring works against us

As David Ropeik says:

*“Both the physical architecture and biochemistry of the brain ensure that **emotion and instinct** have the upper hand over **reason and rationality**. ... **Before you know you are afraid, you are.** The inescapable truth is that, when it comes to risk, we are hardwired to feel first and think second.”*

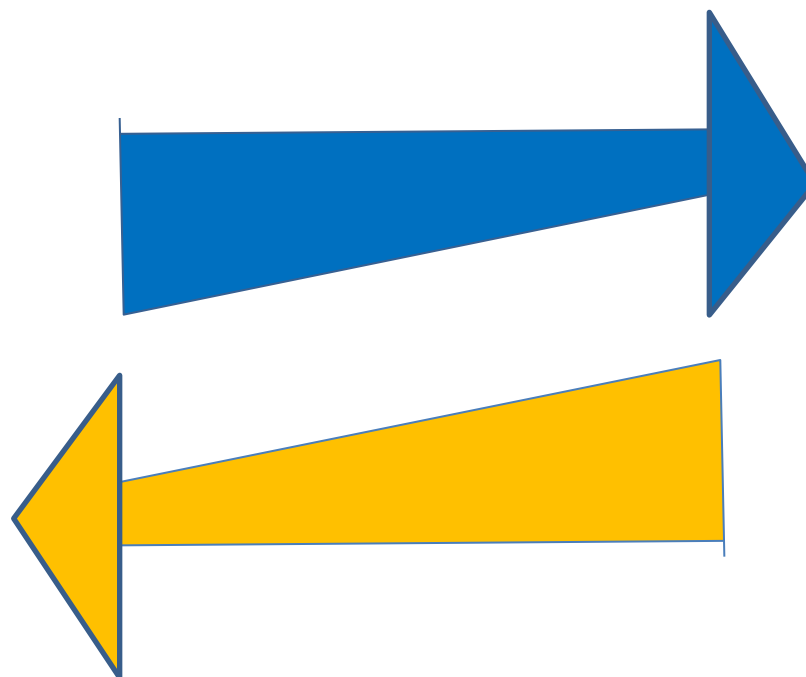
What is all means in practice

- **Fast thinking** uses **mental shortcuts** and is prone to the **errors** they bring
- **Slow thinking** needs a lot of **energy**, uses more **analytical** and critical thinking, but is still **prone to errors** by **limited information** we have at hand

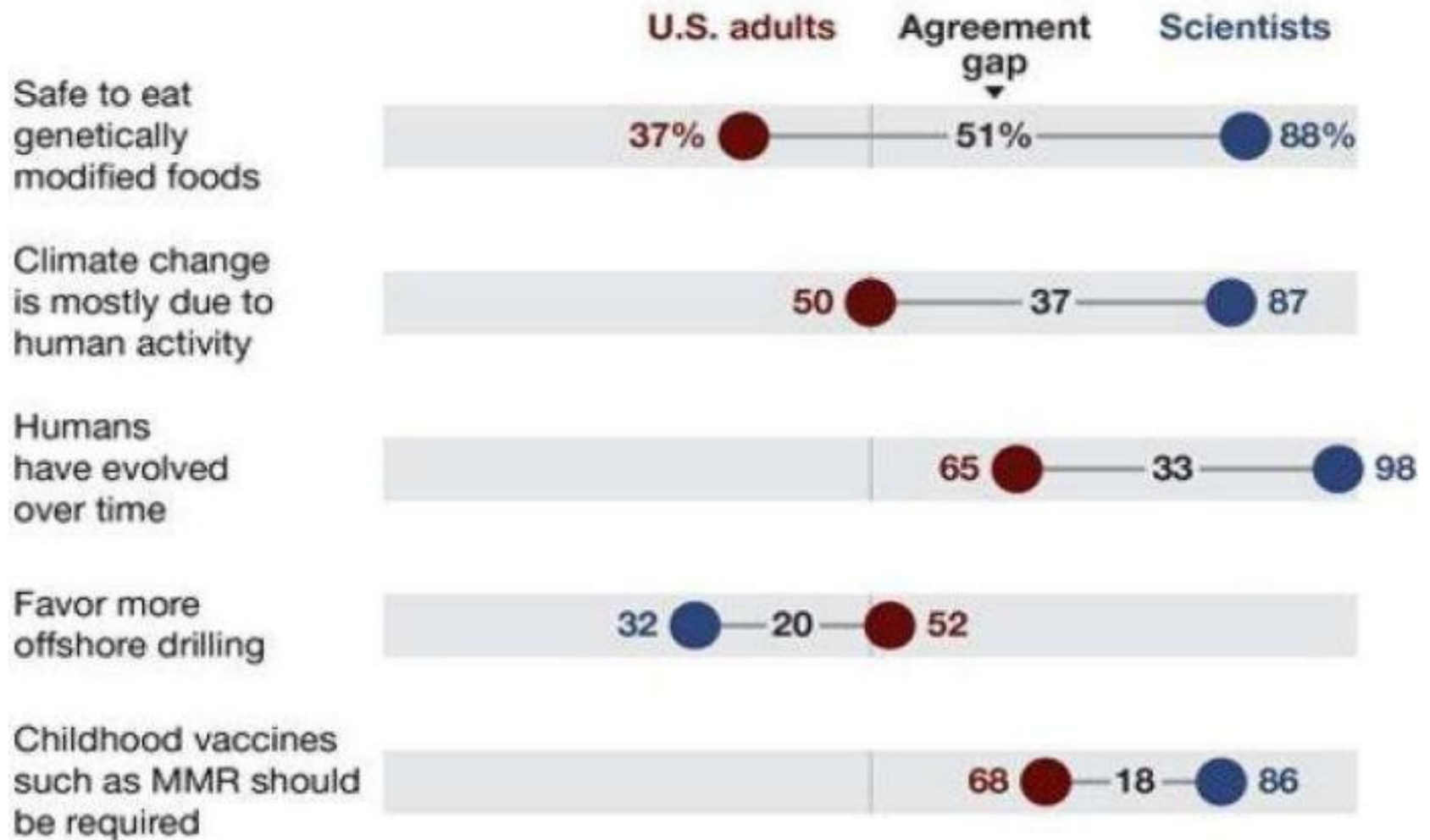


- We can **spot biases** in **other's thinking**, but **rarely** in our **own**!

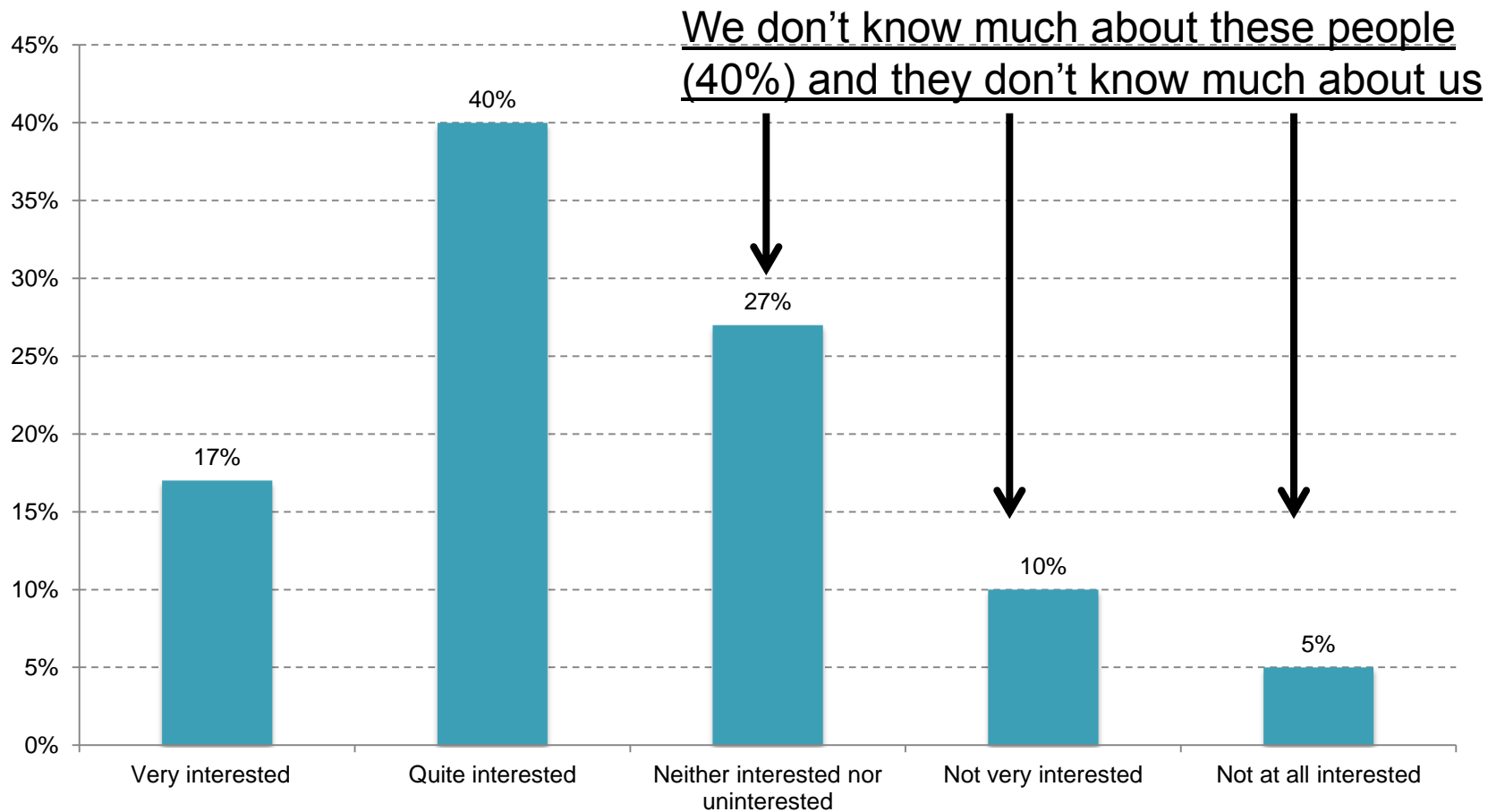
One of the core problems with science-based communication is that public and scientists' opinions are often far apart



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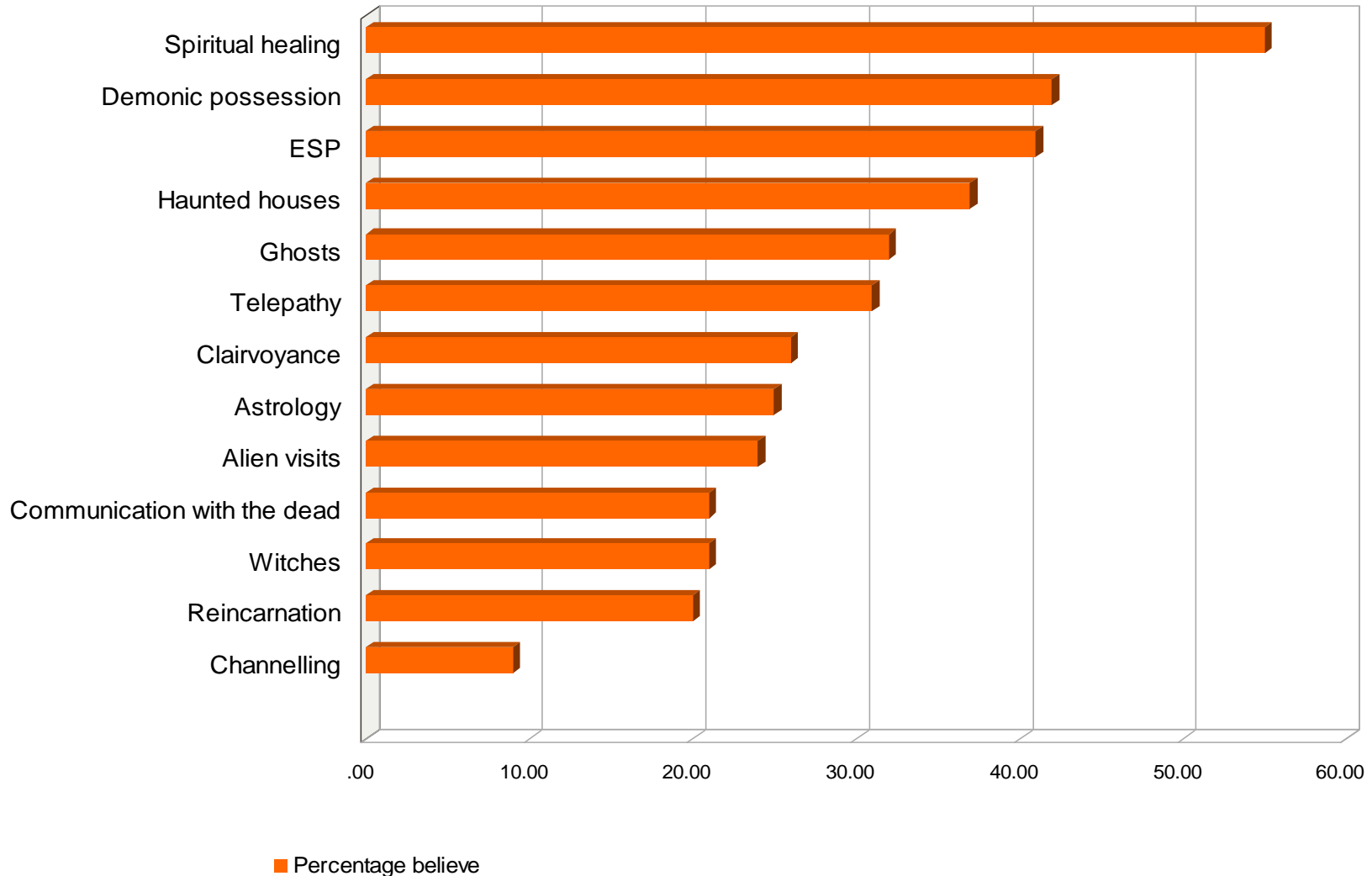
What do we know about our Public Attitudes to Science?



How interested are you in science generally? n=647

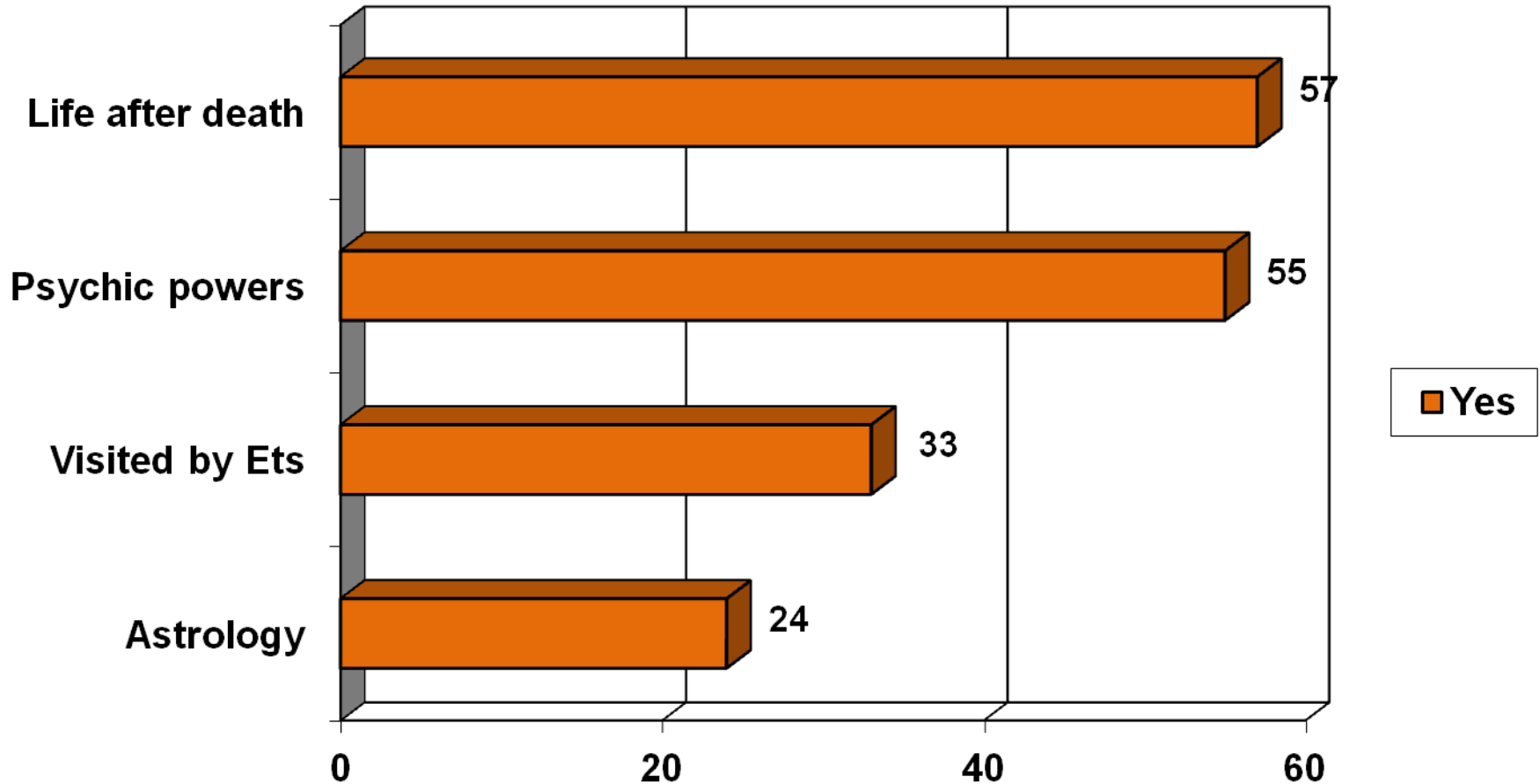
**If you want confirmation that different people
have different beliefs...**

US Paranormal Beliefs

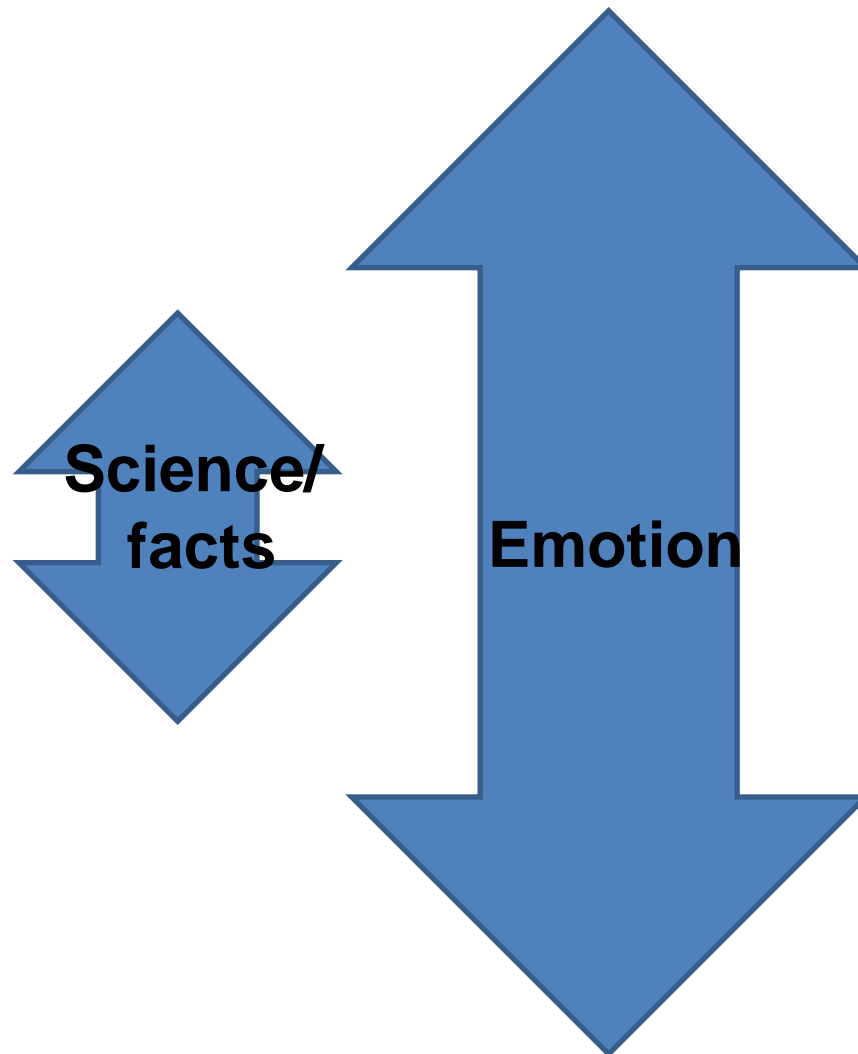


New Zealand Beliefs

Do you believe in the existence of any of the following?



Risk perception gap



Public perceptions of risk vs Scientific view of risk

Scientific view
of risk:

Risk =
Probability
x Impact

Public view of
risk:

Risk =
OMG x
WTF

Perceived risks vs scientific reality

Perceived risk of flying

Actual risk

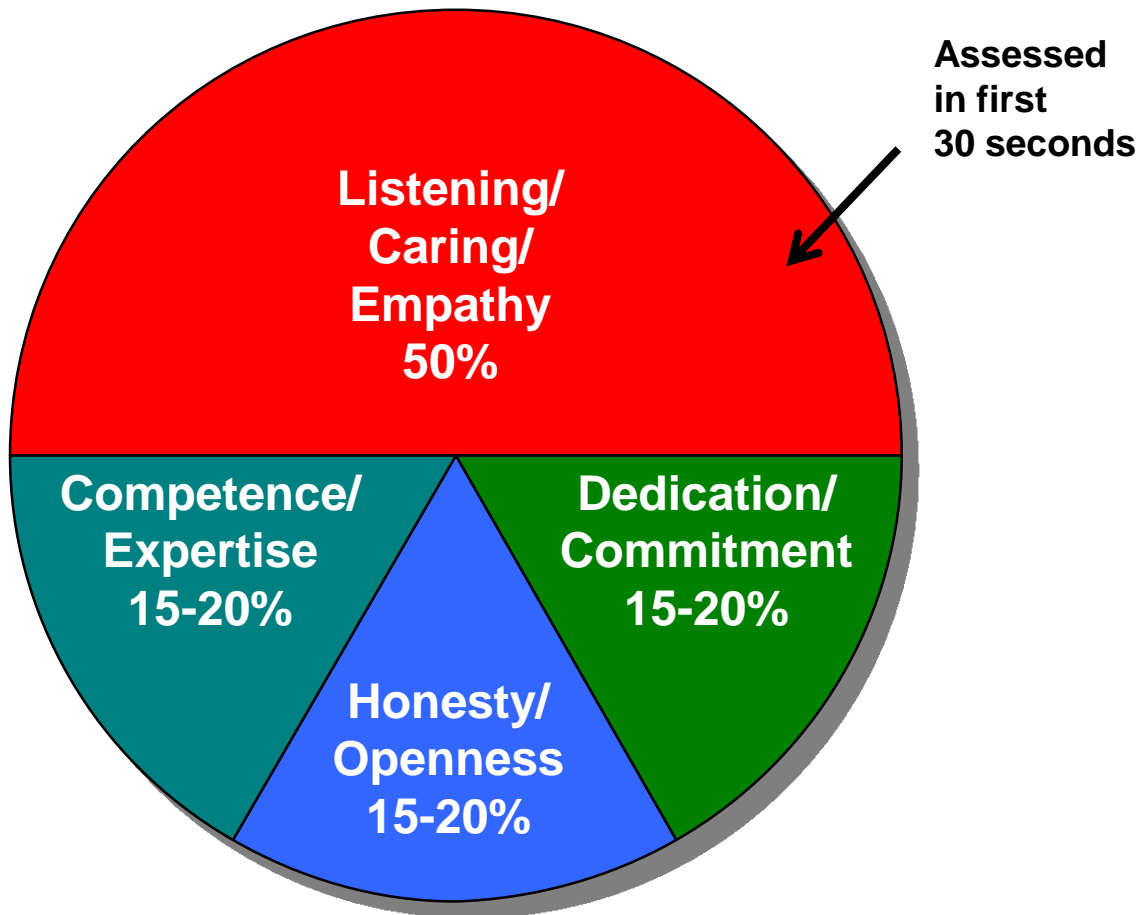
Perceived risk of driving

Actual risk

Risk Perception Theory

When people are stressed, their perceptions and decisions are influenced by a wide range of factors, **technical facts often being the least important** (worth less than 5%)

Trust Factors in High Risk/Concern Situations



High risk concerns with low known hazards

Never inject them.

There are NO safe vaccines!

Shaken Baby Syndrome
Chronic Ear Infections
Death
SIDS
Seizures
ADD
Allergies
Asthma
Autism
Diabetes



WE COME IN
PEACE.

Haha he's
kidding.
We're here
to kill you.

SAVE OUR
FARMERS
SAVE OUR
FOOD



ng your IQ?
**Fears over high fluoride levels found
in your tap water**

make
waterpure.co.uk


Read More ►

Contested science

- Evolution
- Embryonic Stem Cell Research
- Vaccines and Autism
- Alternative Medicine Is Bunk
- Nuclear power
- Climate Change
- GMOs Are Safe



**So where do different
attitudes come from?**



**Attitudes can
be driven by
our values.**

Australian Segments by attitudes to science

Segment 2:

23%

**Fan Boys and
Fan Girls**

Segment 3:

8%

**I wish I could
understand
this**

Segment 4:
23%

**Too many
other issues
of concern**

Segment 1:

23%

**Mr and Mrs
Average**

Segment 6:

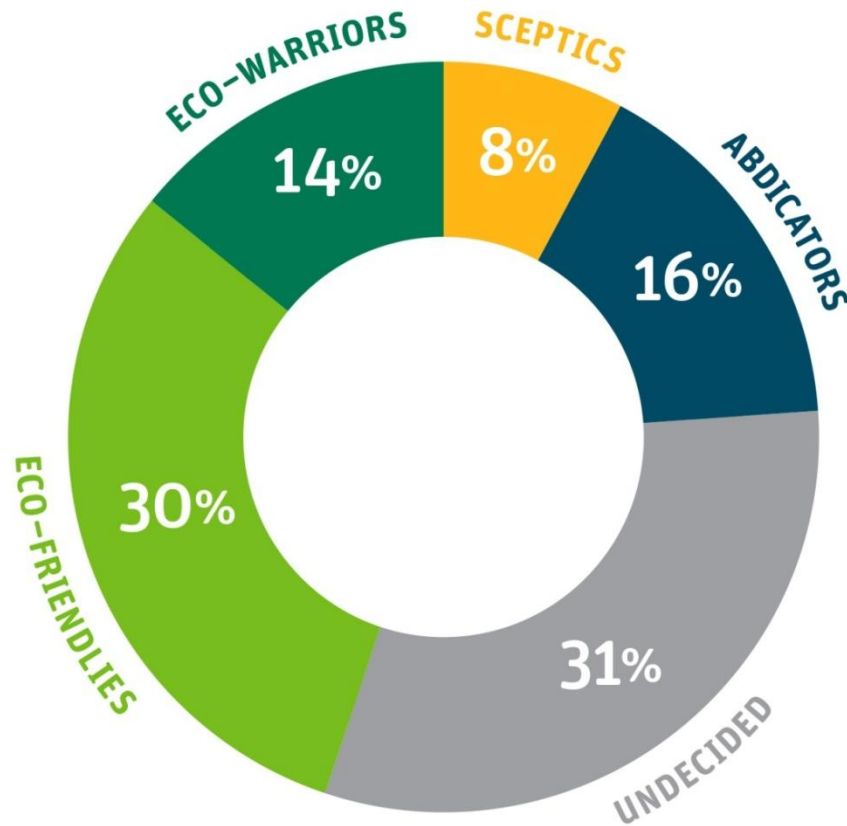
2%

**I know all I
need to
know
already**

Segment 5:
14%

**Not interested
in S&T and
don't much
trust it**

CSIRO Segments by Attitudes to Climate Change



SEGMENT 1: SCEPTICS (8%)

Exemplified by older males who either do not believe that climate change is happening or believe that it is a natural phenomenon. As such, this group is named 'Sceptics'.



SEGMENT 2: ABDICATORS (16%)

Again mostly male and believe that climate change is a natural fluctuation in the earth's temperatures. This group is named 'Abdicators'.



SEGMENT 3: UNDECIDED (31%)

Had a female skew and believe that climate change is happening but are unsure as to the reasons why, thus this group is named 'Undecided'.



SEGMENT 4: ECO-FRIENDLIES (30%)

Again had a slight female skew and the majority believe that humans are largely responsible for climate change, but are less extreme in their views than segment 3. This group is named 'Eco-Friendlies'.



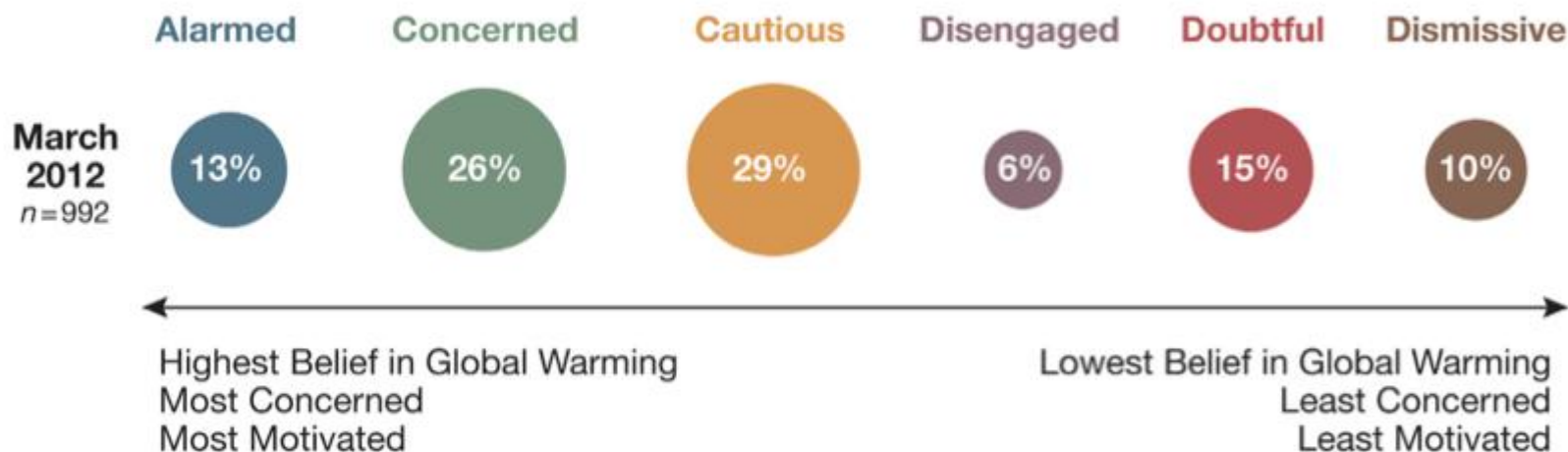
SEGMENT 5: ECO-WARRIORS (14%)

Predominantly female and strongly believe that humans are largely responsible for causing climate change. This group is named 'Eco-Warriors'.

CSIRO, 2014

USA Segments by Attitudes to Climate Change

Global Warming's "Six Americas"

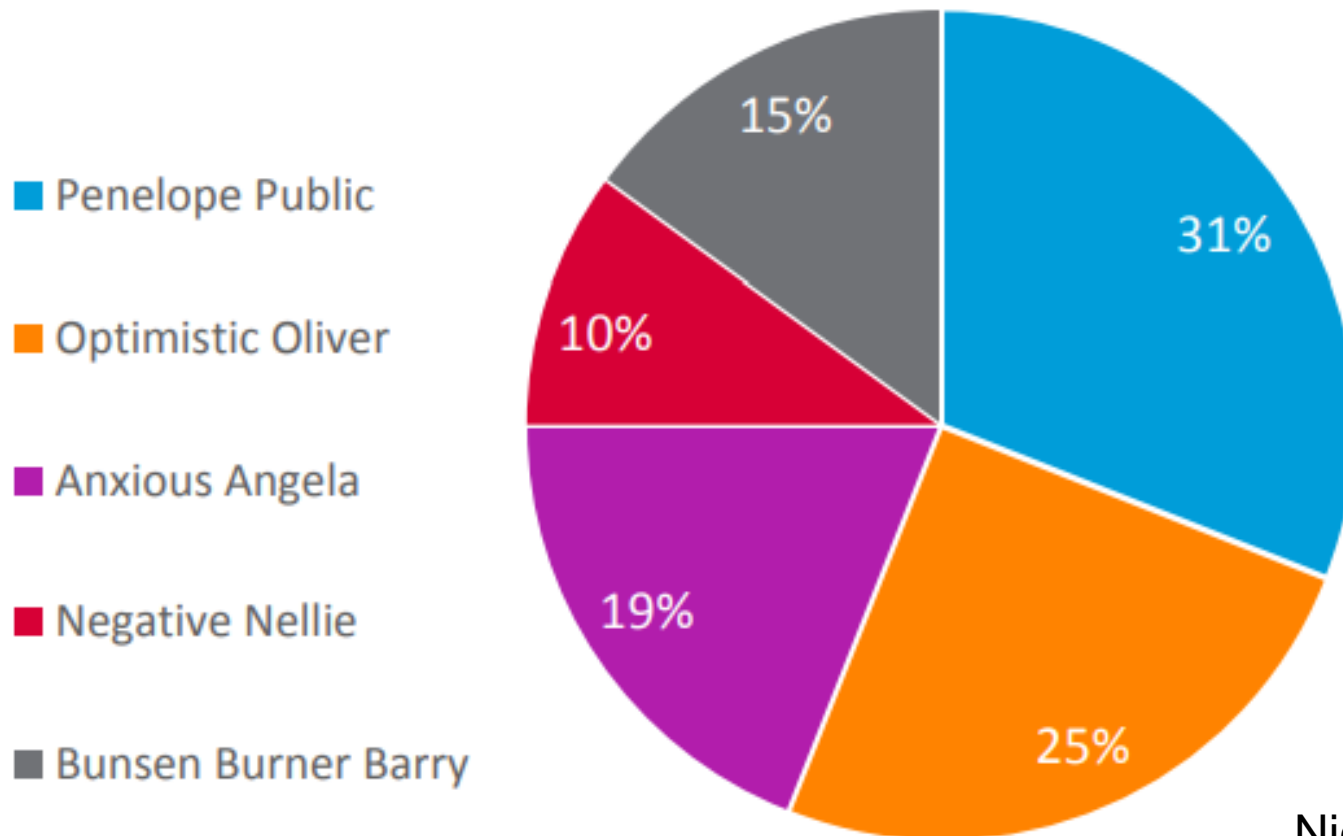


Proportion represented by area

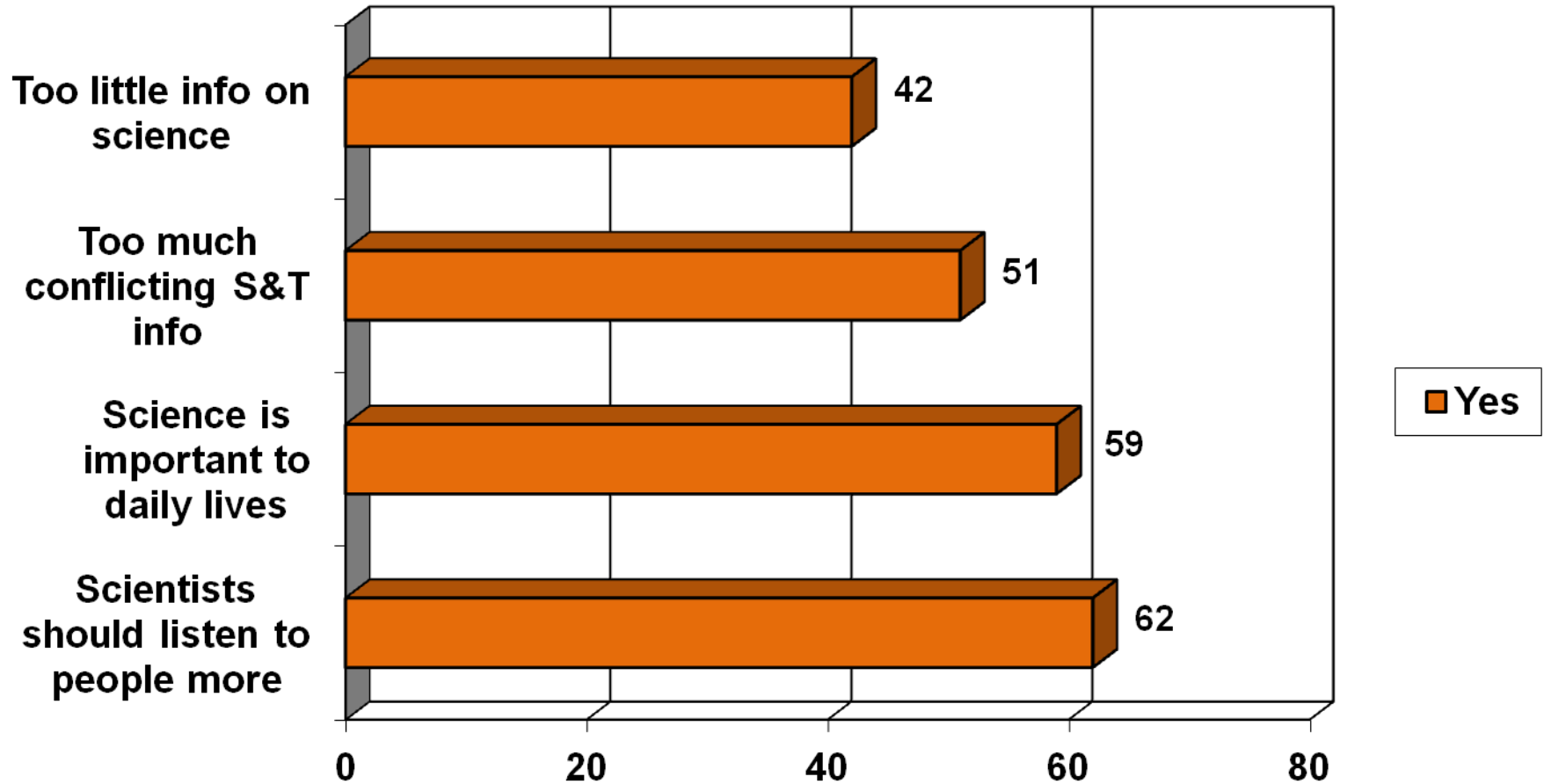
Source: Yale / George Mason University

New Zealand Segmentation by attitudes to science

FIGURE 34: DISTRIBUTION OF SEGMENTS



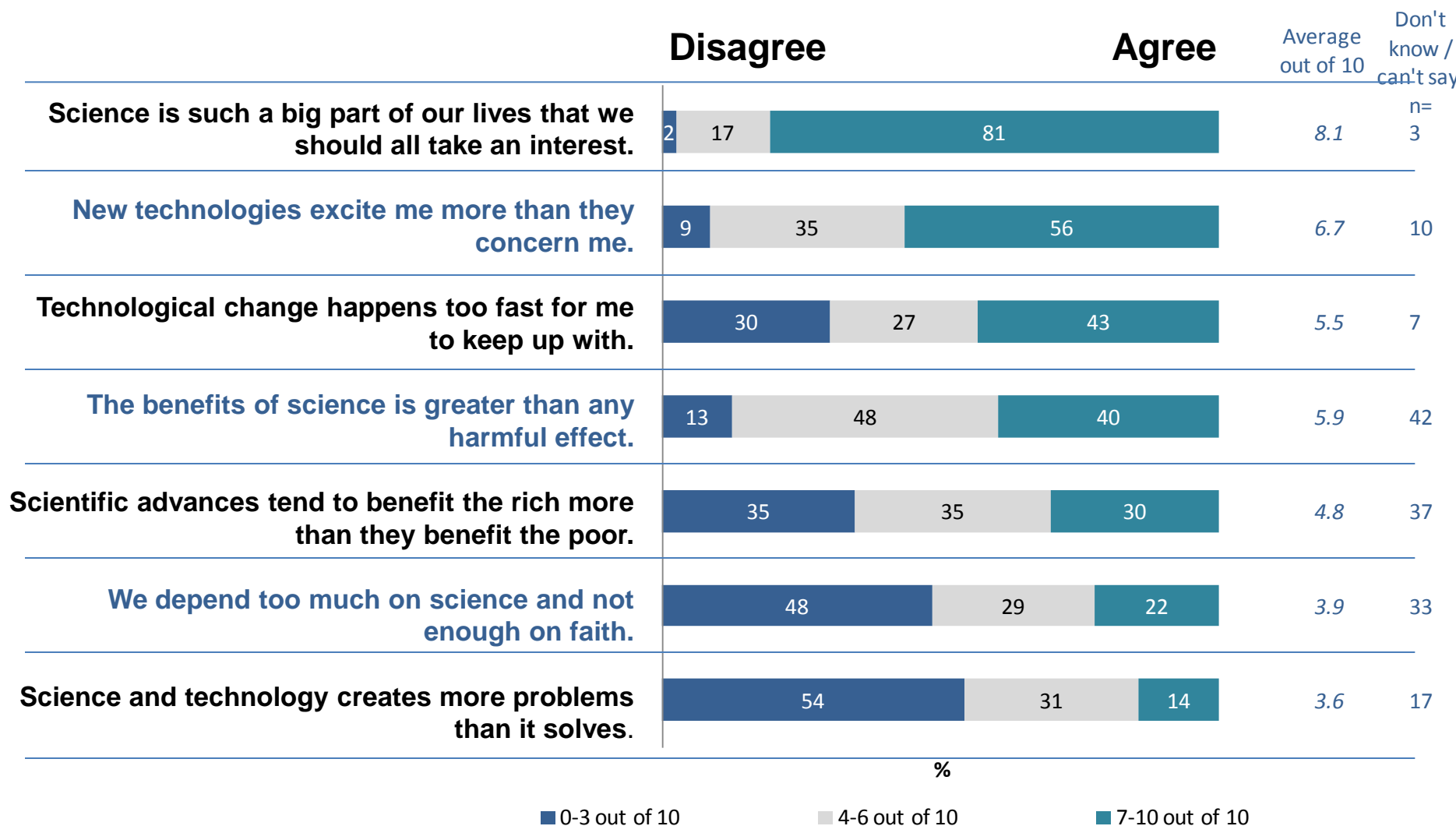
New Zealand Beliefs



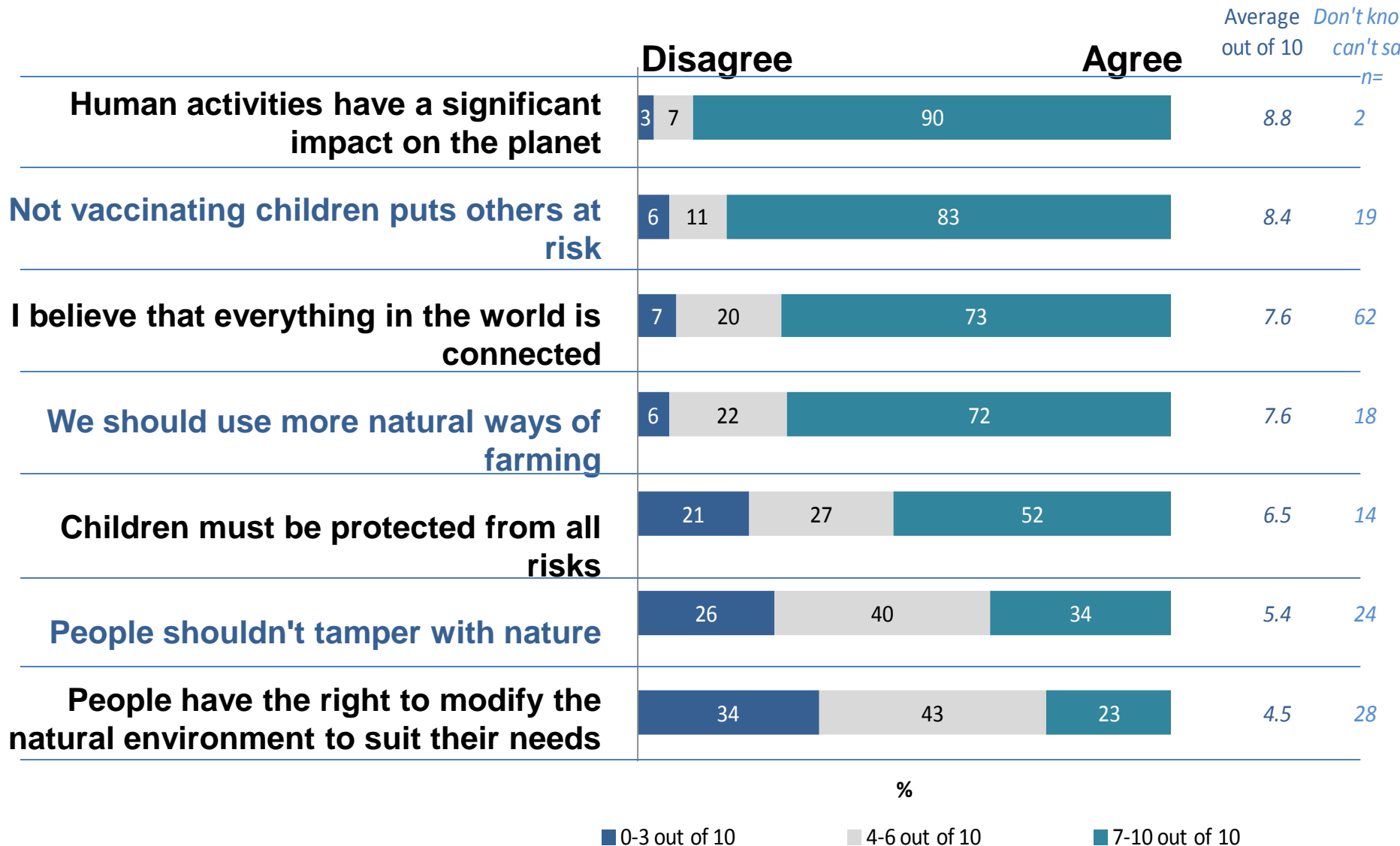
Values are the Rosetta Stone to understanding Risk Communications



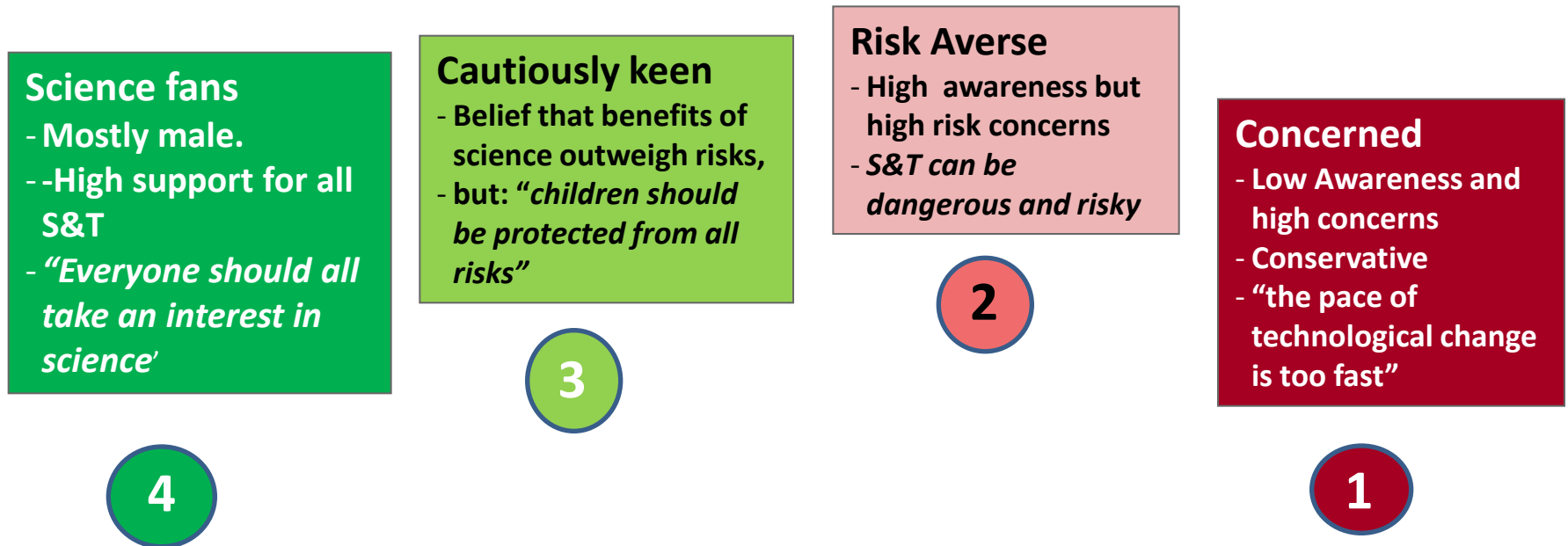
Understanding VALUES towards S&T



Values towards the world around us

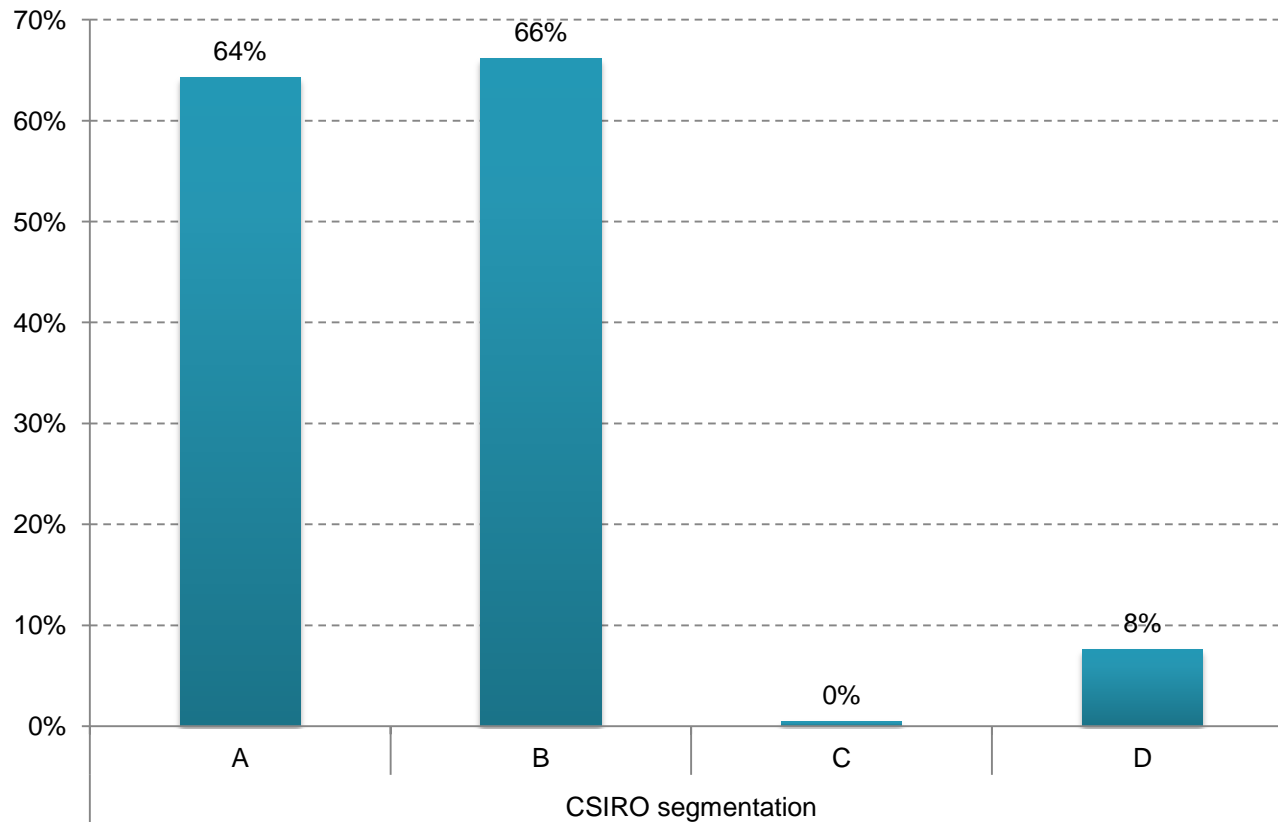


Values segmentation profiles

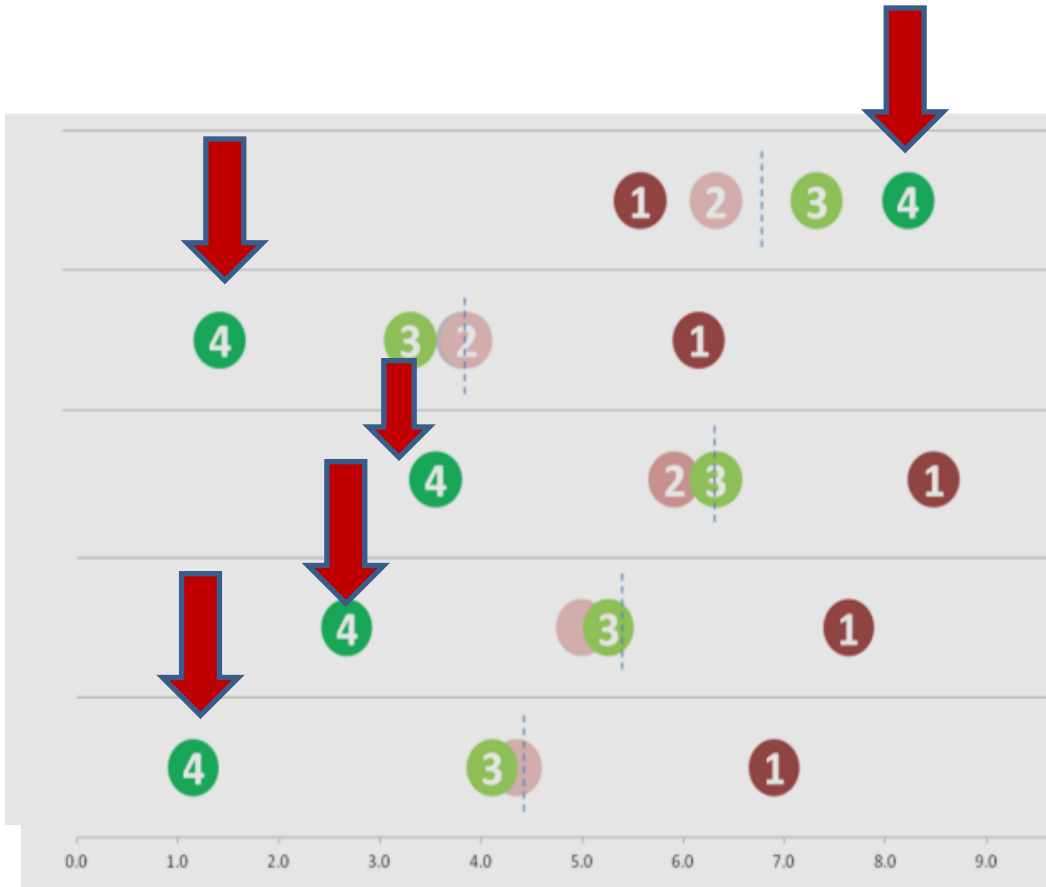


Q: Hands up for each segment

Actively looking for information on Science - segmentation



Understanding values segment divides



Values

New technologies excite me more than they concern me

Science and technology creates more problems than it solves

People shouldn't tamper with nature

Technological change happens too fast for me to keep up with

We depend too much on science and not enough on faith

Disagree strongly

Agree strongly

Segment 4 are outliers – further from the average point of the public than any other segment. It also means the not only do the other segments have small chance to understand Segment 4, but Segment 4 have small chance to understand other segments well.

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5. People **most trust** those whose **values mirror their own**.

So what can be done about it?

1. Don't debate the science, look for the **values** that underline your audiences decisions and **debate on values**,
2. If possible **frame messages** that **align** with those values,
3. Confront **emotive defences** with **emotive arguments**,
4. Talk about the **outcomes** of the research, not the **processes**
5. Use **spokespeople** your target audience **trust**,
6. Use **pictures and graphs** over text explanations.