

S'poreans joyless? Gallup survey was flawed

Gut instinct, not wilful, explicit responses to surveys, is key to understanding human nature, says brain scientist Gemma Calvert



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IF BRAIN scientist Gemma Calvert has her way, surveys such as the recent Gallup poll that found Singaporeans to be joyless, or at least chary of expressing what they feel, will be a thing of the past.

Professor Calvert, 44, a visiting don at the Nanyang Business School (NBS) here, says that is because such face-to-face or even telephone surveys are usually awkward for respondents, who would naturally avoid giving precise or revealing answers lest they have to explain themselves further.

The questions Gallup posed in that poll, including "Were you well rested yesterday?" and "Were you treated with respect all day yesterday?", can be curious, if not confounding, she notes. They would invite anything from bland off-the-cuff remarks to shocking off-the-wall retorts because different people interpret such highly subjective queries differently.

She says of surveys in general: "There is too much reliance on people's explicit responses when we know from psychology and neuroscience that most of our behaviour is driven by non-conscious feelings and emotions."

Brain research in the past 15 years has shown that the decisions people make actually stem from their subconscious, not rational thought.

She says: "Descartes' thinking man, who is above all other animals because of his unique capacity for thought and language, was completely overturned in the late 1990s when magnetic resonance imaging technology helped us see just how strong the decision-making areas inside our brain were attached to its emotional parts."

"The old reptilian part of our brain - which we'd always put down as being something to control or suppress - was now being shown to be largely responsible for almost everything we do."

She has devised ways to capture a gut response to any issue, before the analytical part of one's brain has time to kick in and censor, shade or whitewash it.

To begin with, her tests have no questions, or at least none like those of dime-a-dozen straw polls. Instead, she gauges what lies in the subconscious mainly by testing a respondent's reaction time to a series of attributes, which could be in the form of words or images.

The brain sees everything in context, and so, for example, if someone says "fish", your subconscious' split-second response is likely "chips", "cat" or "swim".

Prof Calvert's signature test, called Brain Link, flashes a series of attributes - say "cool", "fun" and "free" - to a respondent, who then has to respond within seconds by pushing one or two buttons, with each button representing, say, a brand.

Any delay in pressing either button, she adds, suggests that the respondent does not think the brand and attribute are a match.

At the same time - and this is her breakthrough - she has been able to test respondents while they have their brains scanned with a functional magnetic resonance imaging (fMRI) machine.

Prof Calvert and her team mount a gadget that looks like a car rear-view mirror onto the

fMRI machine, and that gadget projects a series of words or images onto a nearby screen for the respondent to watch and respond with a push of a button on a provided console.

Prof Calvert then charts the respondent's response times and reads that data against the parts of the brain that were the most active at those times as shown by the brain scans. She asserts that the techniques she has developed to measure one's behaviour were "very consistent" with brain imaging data. "It's the speed of your response that we are tagging. So if one thing is closely associated with another, you're very fast to respond. If not, you're slower to do so."

Prof Calvert, who is on the World Economic Forum's (WEF) 16-member global agenda council on neuroscience and behaviour, is quick to stress, however, that none of her findings can predict how a person is going to behave. "You have free will, so just because you can now uncover your subconscious, it doesn't mean you have to select that," she says.

Still, Prof Calvert's findings can raise eyebrows. Take, for example, the gory warning labels on cigarette packs. When the European Commission asked her to test how effective horrific images of cancerous tongues, lungs and necks were in scaring smokers off tobacco, she was able to give them solid data showing that the labels did not stop smokers at all.

She studied the brain scans of respondents to the Brain Link test and found that when they were shown all manner of gory images on cigarette packs, their brains' craving spot, or the nucleus accumbens, lit up, showing that it was stimulated.

She explains it as a "classic Adam and Eve and the apple thing" where people externalise risks: "If you tell smokers that they will die, they'll go, 'Yeah, well, the rules are for other people.'"

Her findings were documented in the book *Buyology* by Martin Lindstrom, a Danish branding expert who is among Time magazine's 100 most influential people today.

Of her work, Lindstrom writes: "Even Dr Calvert was taken aback by the findings: (The) warning labels had no effect on suppressing the smokers' cravings at all... But this wasn't half as amazing as what Dr Calvert discovered once she analysed the results further: Cigarette warnings, whether they informed smokers they were at risk of contracting emphysema, heart disease or a host of other chronic conditions, had in fact stimulated an area of the smokers' brains called the nucleus accumbens, otherwise known as the craving spot."

To be sure, some neuroscientists have pointed out that the images showing a supposedly excited nucleus accumbens might actually be a result of increased brain activity to inhibit, not increase, desire. So, they argue, the jury is still out as to whether or not a stimulated craving spot necessarily shows a craving, or really the will to inhibit that craving.

But Dr Calvert contends that her findings are "objective data that is not open to interpretation". "I can't put a rosy gloss on it," she says. "The speed with which you respond to that brand and a certain attribute tells us actually how closely those two things are lying inside the brain."

So if warning labels don't work, what would? She thinks telling stories of smokers who are dying because of their habit might resonate better with everyone.



Professor Gemma Calvert has devised a special test called Brain Link to capture people's gut response to any issue, before the analytical part of their brains has time to kick in and censor, shade or whitewash their views. ST PHOTO: DESMOND FOO

Prof Calvert on...

Her background as a marketer and neurologist

"Some people have actually said of me before I go up to give talks that I am the woman who combines what is typically considered to be lies, which is marketing, with what is the truth, which is science."

Feeling more Asian than Caucasian

"Whenever somebody turns on me and says, 'Well, it's easy for you - you come from Britain', I go, 'Well, maybe I have a passport from there, but I like Twisties as much as the next guy and I'm the Maggi mee muncher that eats it raw!'"

Why she has decided to settle in Singapore

"I just think that teachers are more valued here. It's very easy to be an academic here and say, well, I also founded this company and people here find that an interesting thing to explore. Whereas in Britain, it's a case of 'Oh, you are an academic, therefore you definitely don't know what you are talking about when you talk about business.'"

The brain

"We've got a massive supercomputer on board and it's done us very well indeed in evolutionary terms. It's kept us alive - and, look, we're at the top of the food chain."

On the subconscious

"Familiarity breeds contempt so you only really notice anyone or anything that you really care for only when it's gone, as anybody who's been married will tell you."

"People don't see other people in the street with neck goitres or cancerous tongues sticking out of them. But people respond to real human beings and their stories," she said.

Industrialists and advertising agencies alike have, predictably, engaged Dr Calvert to help them decide on the most impactful messages to target consumers, as well as allocate advertising budgets more accurately.

Prof Calvert, whose clients include the BBC, Viacom and Coca-Cola, quips: "It's become a no-brainer to describe their products or services in a way that appeals to everyone's emotions."

There was, for instance, a fast food outlet which asked her to test how consumers would react if it pumped fragrances into its eateries to mask the smell of fried fat - and to see if this might lead them to crave, and buy, a salad to go with their burger.

But she is quick to add that consumers might benefit from her work as much as commerce. "If manufacturers can now understand how to give us what we need and want, and remove from supermarket shelves some of their products that are inferior or failing among consumers, then it's a win-win situation for both sides."

But won't all the extra costs of engaging Dr Calvert be borne by consumers? "I don't think so," she says carefully. "Think of all the money they will be saving by not wasting money and resources making products and services that fail."

It isn't all about money, though, she insists. The WEF is keen to use neuroscientific techniques such as hers to spur people towards better behaviour, including combating obesity and getting everyone to start seeing the elderly as a fount of learning, not a burden on society.

Among the research projects she is embarking on at Nanyang Technological University (NTU) is one on the changing perceptions of motherhood in Asia, which was suggested to her by her NBS colleagues because they thought the responses to that would be hardest to elicit. "Many respondents are worried that what they say is not appropriate in society, such as 'kids are a pain in the a**'," says the married mother of a seven-year-old girl.

Affable and even-handed, she is chuffed to be back in South-east Asia till 2014 at least, when her teaching contract at NTU is up for renewal. She grew up in Kuala Lumpur where her banker father was posted in the 1970s. After her first degree in social psychology from the London School of Economics, she worked for marketing consultancies and a British hospital, before earning her DPhil in clinical medicine at Oxford University in 1997.

The following year, she set up Oxford's Multisensory Neuroimaging Group and, a year later, founded Neurosense, a research firm marrying brain imaging and marketing.

Neurosense now has an Asia-Pacific arm based in the Innovation Centre of NTU, where she now teaches the new master's course in Asian consumer insights, as well as MBA classes.

She is also currently fine-tuning her techniques to test Singaporeans' happiness quotient.

Pooh-poohing the notion that Singaporeans are the unhappiest people around, she says: "For something to be positive, it has to be measured against something negative; that is why there is so much humour in Scandinavia because it's cold and grim and harsh up there."

"But Singapore is Contentland, where everything has largely been satisfactory. So to those who always seem to be wanting to bash Singapore, get over it."

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