24/7 Nudge

How BE is all around us

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How Behavioural Science is Transforming Our Lives 24/7

Over the past few years, behavioural economics (BE) has journeyed from the academic world into the real world, and is now wholeheartedly embraced by a variety of sectors and in governments across the globe.

Academics and practitioners alike have been trialling and testing the concepts of BE, attempting either to understand the behaviours of their customers and citizens, to nudge them towards desired action or to improve their experience. Indeed, the remarkable ability of BE to make a difference to our lives has been revealed.

From encouraging lower energy usage through providing timely feedback and greater charitable giving by using defaults and social norms, to promoting healthier habits in school children by changing the choice architecture, to reducing non-compliant behaviour on public transportation with reward lotteries and making the negative consequences more salient, BE has been used in a variety of different applications to shape better outcomes, enhance communications, increase our public engagement, and improve decisions about our health and finances.

As tribute to this, we have conducted a four-part exploration of how behavioural science is transforming our lives 24/7. But first, let's take a quick look at how BE is interacting in our everyday lives through an illustration of a 'day in the life' of our very own Crawford Hollingworth!

It's all around us: A day in the life

Coming down for breakfast, Crawford notices a letter from his optician, reminding him of his upcoming eye test. The letter comes with a handwritten post-it note from his usual optician saying don't forget to call me. He puts the post-it on his phone and makes a mental note to call when he gets to work. A second letter then catches his eye: A letter from a voluntary organization with the message '*WE DON'T WANT THE AVERAGE PERSON TO OPEN THIS LETTER*' highlighted in green. Who wouldn't open this letter, he thought? Don't we think we're all above average – surely it must be talking to me?!

Reciprocity Bias

Commitment Bias

Egocentric bias

Chunking

With the goal of eating more healthily this week, Crawford reaches in the fridge for an innocent smoothie. The packaging confirms that he is about the consume 2 of his 5 a day!

As he sits down for breakfast, he picks up the newspaper and notices an advert for a broadband provider. The ad shows Usain Bolt at full stretch in a medal winning 100m: "By the time he's hit full stride you could download a full album." Now that, thinks Crawford, is exactly what I need. Suddenly 200mb/sec makes sense.

Anchoring

Context

Loss Aversion

Framing

This reminds him that he needs to cancel his NOW TV subscription. He reaches for his iPad to login and cancel but NOW TV have other plans… The first screen he sees taps into loss aversion by highlighting the number of new shows and films that he will miss out on by cancelling. The second nudge reframes the value equation, making Crawford second-guess his initial desire to cancel… "£9.99 is less than I pay for one trip to the cinema…it's actually a good deal now that I think about it!"

Choice Architecture

Crawford leaves for work, deciding to stop on the way for his commuting caffeine hit. He asks for his usual medium coffee, without realising the coffee shop has reduced all it's sizes. He doesn't notice the difference and is happy to occupy the middle ground.

The coffee break was necessary but now he is late. As he approaches a red light, he considers riding straight through – everyone else does, don't they? However right next to the lights is a poster challenging the misperception that all cyclists are red light jumping law breakers. He decides to stop and wait for the lights to turn green.

Priming

Descriptive Social Norms

Priming

Injunctive Social Norms

Arriving at work, Crawford need to find somewhere to park his bike. He is worried about someone stealing it. However, just above an empty cycle rack he notices a sign saying *Cycle Thieves, I'm watching you*. He parks there and feels safer.

After his meeting, Crawford realises that he has a doctor's appointment. Looking at his busy schedule he contemplates skipping it. But then he receives a text reminding him of his appointment and adding some extra information too: NOT ATTENDING WILL COST THE NHS APPROXIMATELY £160

Salient Nudges

Framing

To save time, he decides to take the tube. Once on the tube, his eyes are drawn to an ad from the energy supplier Bulb that explains by switching to them he could stop 1.3 tonnes of carbon dioxide from entering the atmosphere in a year – the same as planting 645 trees! He has long considered switching energy providers but he wasn't sure how to decide between the multiple offers available. Bulb has given him a great reason to make the extra effort and switch!

On his way home from work, he remembers he had promised to go out for dinner with his wife, but he has left it too late to book anywhere. He pops into his local M&S and is immediately drawn to the poster Dine in for £10. Anchoring to the restaurant experience they are offering him at home and primed by the dark, indulgent colours, he is confident that this will make his wife happy.


Anchoring


Priming


Choice Architecture


Salient Nudge

Outside M&S a Big Issue vendor is distributing the magazines. Crawford has some loose change and thinks he might just give the vendor his coins – that's a charitable thing to do right? But then he notices the large green sticker that indicates that the magazine costs £2.50. This reminds him that The Big Issue is a product to be purchased, not a one-way transaction. He gives the vendor £2.50 and takes home the magazine.

Once at home, Crawford pours himself a glass of wine and takes a seat. He notices the label on the wine. It indicates that one glass is the equivalent in terms of calorie content as a sugar doughnut and that it would take 20 minutes of running to burn off.


Anchors


Salient Nudge


Confirmation Bias

But, just in the nick of time, his confirmation bias reminds him of the health benefits of a glass of wine so he takes another sip and reaches for the remote control!

As we have seen through Crawford's BE day-in-the-life, behavioural science affects many aspects of our everyday lives. We have organised our articles into four broad themes to emphasise this.

Part 01

We explore the application of behavioural science to healthcare, looking at how it can help to improve the understanding and decisions of both patients (a glass of wine really isn't that healthy!) and practitioners.

Part 02

We investigate how behavioural science has been used to encourage pro-social behaviour within our societies. This section is threefold; looking at how we can promote more environmentally friendly behaviour amongst citizens, how city planners can use behavioural insights to improve the welfare of their urban citizens, and how charities can use behavioural science to stimulate more charitable giving.

Part 03

We examine how insights drawn from behavioural science are applied in the financial sector; to improve our financial understanding, encourage us to reduce our debt and motivate us to increase our savings, thus enhancing our financial futures.

Part 04

Finally we turn to regulation, highlighting the effect behavioural science has had on promoting more law-abiding behaviour and in helping us to be more responsible citizens. From a slightly different angle, we also look at the need to regulate the use of behavioural science itself, to ensure that it is not used to the detriment of individuals.

Everywhere we turn, we find companies, governments, institutions and charities applying behavioural science and ultimately enhancing our lives. We hope it will inspire you to look at how you can apply some of the insights from this revolutionary science to your own work...

HEALTH

- “What’s up, Doc?”: How behavioural science can improve health literacy and healthcare decisions
- Nudging our White Coats
- How BE helps us to live healthier lives
- Nudging healthy eating

PRO-SOCIAL

- How BE is helping us reduce our carbon footprint
- Stopping our tabs running dry
- Using behavioural insights to make cities more people friendly
- How BE is nudging us to be a more giving society

FINANCES

- Money Matters
- We don’t need no education! How feedback trumps financia education in improving financial capability
- BE dept free faster

REGULATION

- How much do you bend the law?
- The BE Police: Protecting consumers from ‘Sludge’

01

Health

Part 1 of this book investigates the role behavioural science can play in improving the healthcare decisions of both citizens and practitioners. We start by exploring the role BE can play in improving citizens' medical decisions by enhancing medical literacy, with our first article focusing on how to make such information more accessible. We then move to investigating how BE can guide and improve the decisions of medical practitioners and doctors, which will also help to drive improvements in medical outcomes. Our third article highlights how behavioural science has been used to help people help themselves, in terms of making healthier decisions and to lead healthier lives. Finally, we turn to how appropriate nudges and choice architecture decisions can further help people lead healthier lifestyles by guiding healthier food choices.

What's up, Doc?

Waiting in my doctor's surgery the other day, I fell into conversation with the woman next to me. She had been diagnosed with Type 2 diabetes a few years ago and initially she'd been unable to manage her condition. Why? Because she hadn't understood that there was a connection between what she ate and how that would impact on her disease. She'd struggled to understand and absorb the leaflets she'd been given and, although her doctor had tried to explain the things she'd now need to do daily, the complex terminology of his explanations – the concept of glycaemic control for instance- was bewildering. Moreover, she had poor numeracy so the numbers involved in managing her glucose levels on a daily basis were overwhelming.

After our encounter I looked into the issue of poor health literacy and discovered it is a widespread problem in the UK. Around 43% of England's working age population struggle to comprehend written health materials. When materials contain both text and numbers, this figure increases to 61%[1].

For comparison, the UK rate of 'functional literacy' is higher, at 84%[2]. Data from The Tinder Foundation (now the Good Things Foundation) reveals that some even find information on the carefully designed NHS Choices website difficult to cope with[3]. The human cost of incomprehensible terminology or a baffling health diagnosis, or a complex treatment plan can be extremely distressing. Jonathan Berry, from NHS England's Person Centred Care Team, highlights just a few of the many examples where poor health literacy has had severe implications for an individual's treatment and consequent health outcome:

> A woman who thought her "positive" cancer diagnosis was a good thing and couldn't understand why she wasn't getting better.

> A woman who sprayed her inhaler on her neck because she had been told to "spray it on her throat". Nobody had explained to her that this meant opening her mouth and spraying directly towards her tonsils.

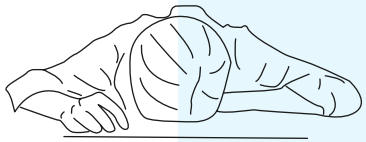
> A man referred under the two week cancer wait process who didn't turn up for his appointment because he didn't know the sign for Radiology was the same as for the X- Ray Department and was too embarrassed to ask for directions[4].

> A woman who thought her 'positive' smear test result was a good outcome and so did not follow up with the vital colposcopy appointment.

As Berry says "Our system provides oral and written information to patients of such complexity that it far exceeds people's functional skills in language, literacy and numeracy, and therefore their ability to make sense of it and act on it."

These critical misunderstandings point to several frequent problems for the care of patients:

As patients we often have to comprehend and absorb a lot of information. This can feel overwhelming, not only due to the complex information about our condition and treatment, but also because we are often taking the information on board at the same time as having to cope emotionally with distressing or worrying news.



We might also fail to ask the right questions about our health, or to bring up a specific concern with our doctor at all, especially in the current climate of overstretched resources and pressure on doctors to adhere to the strict '10-minutes' per patient. After a diagnosis we are also required to make many frequent and/or simultaneous decisions about how, when and where we want to be treated. At the same time, we might need to take action ourselves, perhaps we need to adhere to a strict medication regime or make lifestyle changes. Without clear and motivating information about our diagnosis we can often fail to make the right choices or take the right action as patients.

> Tiny changes, big impacts

However, tiny changes in how healthcare professionals present information to us can make a big difference in what we choose or how we respond.

Read on for some novel approaches to address this problem based on insights from behavioural science, which are aiding better comprehension among patients and spurring them into making better decisions about their health and care.

You might already be familiar with the example (often cited by behavioural scientists), about framing an operation in either a glass half empty or half full way. Presenting a surgery with a 5% risk of dying feels very different from presenting it as one with a 95% chance of success. The risk of dying seems much more salient in the former example and would probably cause fewer people to opt for the surgery as a result.

Whilst flipping percentages around can help to nudge patients to make different choices, behavioural scientists have been finding that other subtle changes in words and numbers can also have a remarkable impact.

> The difference a word can make

From years of experience, British neurosurgeon Henry Marsh has grasped how the framing of information for a patient can be affected by subtle differences in word choice. He describes a conversation with a patient who must choose whether to have an operation or not:

"...I explained that the risk of leaving him paralysed down the right side of his body- as though he'd had a stroke- and maybe unable to speak - was '**not more than 5 percent'**. It would sound very different if instead I said **'as much as 5 percent'**[5].

The difference in meaning between 'not more than' and 'as much as' is significant, even though it is only a change of three small words. An experiment run with family practice physicians in LA and Pennsylvania found that simply changing one word led to a significant difference in patient outcomes. As an appointment with a patient was coming to a close, physicians were instructed to ask the patient about their unmet needs – any issues or concerns such as heartburn or blood pressure that had been raised during previous visits- in one of two different ways:

- "Is there ***any***thing else you want to address in the visit today?"; or
- "Is there ***some***thing else you want to address in the visit today?"

A control group were not asked any further question after treatment.
Take a guess. Which do you think led to a reduction in unmet patient needs?
Asking patients if there was something else they wanted to address reduced unmet needs by 78%! Conversely, patients who were asked if there was anything else they wanted to address tended not to respond- outcomes did not differ from the control group. And, of course, any needs they had remained unmet.

The researchers believe the effect comes from subtle nuances in linguistic effects. The word "any" is generally associated with negative non-specific contexts, occurring in sentences that are negatively framed e.g., "I haven't got any money". Saying "I've got any money" feels and sounds incorrect. In the same way "I haven't got anything to say" suggests a negative frame of mind.

By contrast, the word "some" has positive connotations because it tends to occur in positively framed sentences with a more solid and specific focus e.g. "I've got something to say" sounds powerful, and "I've got some cash" sounds positive and actively intentional. ("....and I intend to spend it!")

Asking if there is 'anything else to address', immediately primes a negative answer, whilst asking if there is 'something else to address' primes the patient to respond specifically and positively.

Although it was only a small study, this finding is all the more interesting given that the 'anything to address' wording is commonly recommended in medical interviewing textbooks. Moreover, the initiative took almost no time or resources to set in place- doctors received only a five minute training video and were prompted to ask one of the two questions by post-it notes placed on the patient record.

> When words are better than numbers

Another common problem among patients is that they struggle with numbers, particularly percentages. However, one solution could be to translate them into simpler terms.

Research has found that re-framing percentages as 'natural frequencies' can make them intuitively easier to grasp and understand.

> For example, re-framing '70%' as '7 people out of every 10' or "This drug is effective for 30% of patients" as "This drug is effective for 3 out of 10 patients" may help patients visualise what a healthcare professional is describing. As psychologist Paul Slovic explains, "If you tell people there's a 1 in 10 chance of losing, they think 'Well, who's the one?!' They'll actually visualise a person."

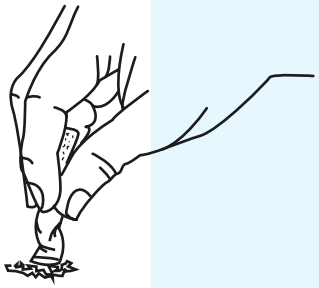
Patients tend to perceive risk more accurately with natural frequencies too. A study by Ellen Peters asked participants to imagine that they had headaches so bad that they couldn't go to work.

Next, they read about a medicine that decreased the frequency of headaches. Participants read about the drug's effectiveness and the accompanying side effects either as a percentage or as natural frequencies.

> For example, the risk of a side effect was described either as:
>
> - "10% of patients get a bad blistering rash" or as
> - "10 out of 100 patients get a bad blistering rash."

Less numerate participants perceived the medicine as less risky when the information was presented using percentages than when presented in frequencies. This reduction in perceived risk arose not only because people had difficulty understanding percentages, but also because "10%" feels more abstract to people, and therefore less alarming, than "10 out of 100."[6]

Medical terminology is rife with complex measurements and statistics which healthcare professionals have traditionally passed on to the patient. But innovative ideas for how to pare down these complex numbers into simpler terms using references we can all understand are meeting with success.



A recent trial with patients in the Balearic Islands, Spain, found that informing patients with cardiovascular risks of their 'heart age' (as opposed to giving them conventional medical advice or telling them the probability of their suffering a cardiovascular event in the next 10 years) led to patients making significant changes to their lifestyle over the following year, thereby reducing their cardiovascular risk[8].

In conclusion:

Simple, but thoughtful changes in the way healthcare professionals communicate with patients can be critical to their well-being and care. In a climate where healthcare resources are stretched to the limit and where there is increasing emphasis on patient centred care, these tiny but virtually costless interventions may prove to be invaluable. With the help of health professionals, these interventions could lead to a future of empowered, health literate and confident patients – Something I look forward to witnessing during my future visits to the doctor!

Improving medical literacy amongst patients is just one side of the coin in terms of improving outcomes in medical care. Our next article focuses on the decision making of doctors and other health practitioners, helping them to make more accurate and appropriate decisions in their diagnoses and treatment.

Nudging our white coats

In this article we take a step back from citizen-facing nudges and look at how the application of BE to guide and improve the decision-making of doctors and healthcare workers, ensuring more accurate diagnoses, safer and less costly treatments and more transparent decision-making can achieve better outcomes for patients.

The potential of technology to advance healthcare with AI assisted healthcare and robotics, telemedicine and personalised medicine is the great hope[9]. But there is also strong evidence from the behavioural sciences that tiny changes, with minimal costs, can also have a big impact on improving our quality of care. And let's be honest, we need every tool in the box to help our current fragile healthcare system.

We all know that doctors and clinicians are frequently forced to make decisions in less than perfect circumstances. In an ideal world, they would have unlimited time, boundless cognitive energy and resources which they could use to collate all relevant information regarding each patient in order to make a diagnosis or treatment decision.

They would be able to draw on multiple resources such as scans and screening, as well as basic monitoring to assess patients, before finally applying cognitive energy to process the information, perhaps making some statistical calculations along the way, to reach a final decision. With all that precision and care, they'd be reasonably confident that the decision they ultimately made would be the right one.

However, healthcare workers don't live in the ideal world, they live in the real world. And it's one in which they are often stretched for time, short staffed, short of beds, short of resources and restricted by budgetary constraints, always trying to keep the costs down. In addition, they are also often tired and stressed by heavy workloads and decisions are made under extreme pressure.

However, there is convincing evidence from the behavioural sciences that diagnoses and treatment decisions made using systematic mental shortcuts and evidence-based rules of thumb can perform just as well and, more often than not, better than more complex processes.

Research by behavioural scientists such as Gerd Gigerenzer have shown that more information does not always lead to the most accurate answer. Rather, application of a rule of thumb approach, using simple and transparent processes which ask only a few sequential yes/no questions and rely on a few key pieces of information can be far more accurate. These processes are known as Fast-and-Frugal decision trees.

Improving diagnoses and treatment decisions using fast-and-frugal decision trees

Behavioural economists Julian Marewski and Gerd Gigerenzer tell the tale of Professor Complexicus and Doctor Heuristicus:

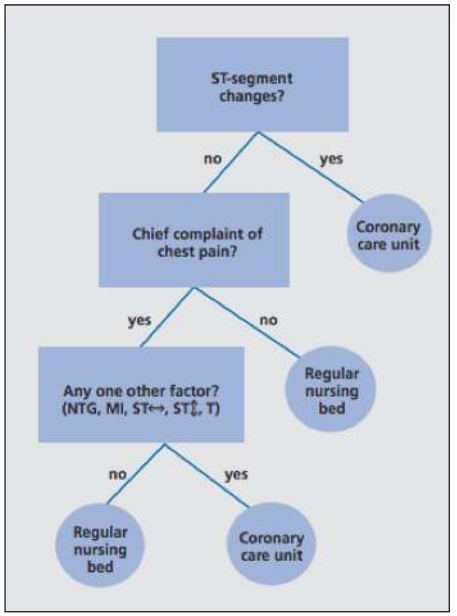
Professor Complexicus is known for his scrutiny- he takes all information about a patient into account, including the most minute details. His philosophy is that all information is potentially relevant, and that considering as much information as possible benefits his decisions.

Doctor Heuristicus, in contrast, relies only on a few pieces of information, perhaps those that she deems to be the most relevant ones.

> Who do you think is the more effective physician? You might assume that it's Professor Complexicus due to his thoroughness. Yet you'd be wrong. In test after test, in a wide range of diagnoses and treatment decisions, from diagnosing heart failure, treating children with pneumonia, HIV testing, cancer screening or diagnosing depression, less is more[10].

Take this fast-and-frugal decision tree developed and tested by Lee Green and David Mehr at the University of Michigan Medical School.

In a rural hospital in Michigan, doctors were sending 90% of patients complaining of severe chest pain to the coronary care unit (CCU) with a suspected heart attack, preferring to err on the safe side in a climate of litigation. Yet this diagnosis was leading to too many false positives; the actual proportion of patients who had suffered heart attacks was only 25%. Not only was this over-diagnosis expensive, but it was also leading to an overcrowded coronary care unit, reducing the quality of care for actual heart attack patients and risking hospital infections for those who had been hospitalised by default. Not to mention the unnecessary anxiety instilled in numerous patients and their families.



Source: Gigerenzer G. Gut feelings: the Intelligence of the Unconscious. New York, NY: Viking Press; 2007

They designed a simple fast-and-frugal decision-tree where doctors only needed to ask three crucial questions (see diagram). The first question looks for anomalies on the patient's electrocardiogram.

If anomalies are found, patients are sent straight to the CCU. If not, a second question asks if the patient's primary complaint is chest pain and a final question checks if five other factors are present.

They compared their simple decision-tree with an existing, more complex decision-tool; **the Heart Disease Predictive Instrument (HDPI)** where doctors need to check for the presence, absence and combination of seven symptoms and match findings to a chart containing around 50 probabilities and then calculate a logistic regression using a calculator to determine if a patient should be admitted…. Sounds complicated doesn't it?! No surprise then that many doctors didn't like using it. But how accurate was it compared to Green and Mehr's decision-tree?

The simple decision-tree was more accurate. 95% of diagnoses were correct compared to only 70-80% using the more complex HDPI tool[11].

Moreover, doctors also preferred using it; it's easy to remember, simple to apply and, significantly, it was better suited to the time-stretched, cognitively demanding context in which they worked.

> Improving patient care by changing the default treatment

Another trial drawing on behavioural science has also succeeded in improving cardiac patient care. The Nudge Unit at Penn Medicine Center, University of Pennsylvania, increased rates of referral for cardiac rehabilitation (known to reduce mortality by as much as 30% in high-risk patients) from 15% to over 80% simply by making referral the default for all patients[12].

Qualitative research in the form of interviews with cardiologists revealed that the existing referral process was manual, so they had to take action to initiate the referrals, opting patients in. Redesigning the process as an opt-out system led to far better treatment and quality of care for patients whilst retaining freedom for clinicians to opt out of the default if they did not think rehabilitation was necessary.

> Reducing costs by making generics the default prescription

Healthcare institutions are continually striving to balance quality of patient care with cost efficiency. One clear area of cost saving comes from the prescription of generic drugs- chemically identical to the branded or proprietary versions, just as effective and yet usually a fraction of the price. Given that doctors write hundreds of prescriptions each week from a wide range of treatment drugs, these costs can quickly add up.

In the NHS, generic prescribing has been rising since 1976 and stood at 84% in 2015. The Kings Fund estimates this has saved the NHS around £7.1 billion in total[13]. However, they calculate there is still room for improvement, with potential for rates to rise to 90%, especially as there is variation between general practices.

In the US, generics prescription rates stand at 89% on average but again, could be higher[14]. In a society where the payment often falls on the patient, generics use plays an even more important role since patients are nearly three times more likely to abandon a branded medication because of the high cost.

To encourage more generics prescriptions, Mitesh Patel, Director of The Nudge Unit at Penn Medicine Center recently trialled a tiny tweak to the prescription order system on the University of Pennsylvania Electronic Health Record system. When doctors there select the drug they want to prescribe they click on a drop down menu. Previously, branded drugs were listed at the top of that menu and generics at the bottom. Patel flipped the order so that generic drugs were listed first. It had an astounding effect. Before the trial, the generics prescribing rate at Penn Medicine was around 75.0%. Immediately after the change in the drop down order, the generic prescribing rate increased rapidly to 98.4% and remained there for the ten-month test period[15].

Why might this tiny change have had such a big impact? Sometimes the order in which items are listed can have subconscious effects on our decision-making. For instance, it may be that doctors presumed the medical community's preferred choice of drug was the one listed first. Or perhaps, short of time and energy, they scrolled down to the first drug they saw that matched what they were looking for and looked no further.

Patel comments;

> *...it required only a minor modification to the order entry system. It took very little effort, but will probably save millions of dollars over the next few years for patients, insurers and the health system.*

Whilst he admits that two of the biggest barriers to these kinds of interventions is that many clinicians are resistant to change and to the concept of being 'nudged', he counters that:

> *We often don't realize that we are already being nudged by the design and choice architecture of whatever electronic health record system we are using. It influences our choices every day, but often this is overlooked.*[16]

In conclusion:

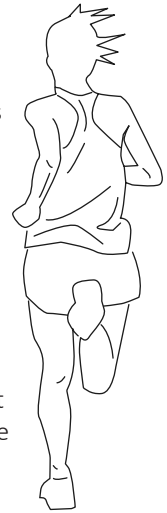
The examples provide a snapshot of just a few of the simple, low-cost, yet astoundingly effective initiatives leveraging behavioural science to improve patient care by improving clinician decision-making. Moreover, we may soon see more units like the Penn Nudge Unit, currently the only one of its kind, working to integrate behavioural science into medical processes and IT systems. Whilst AI-assisted healthcare is currently taking the limelight, BE-assisted healthcare may be equally deserving of some attention!

Our third and fourth articles in this section focus less on medical care outcomes and more on how we can take preventative measures against health related issues by leading healthier lifestyles.

How BE helps us to live healthier lives

Our third article in this section highlights the role behavioural science can play in helping us to help ourselves. Rather than exploring the nudges and choice architecture tools that decision makers can apply to guide our decisions, here we focus on methods that all individuals can use to lead and sustain healthier lifestyles.

Many of us want to lose a little weight and get fitter, stop smoking, drink less, eat more healthily- but struggle to put that into action in a sustainable way.



Behavioural scientists define the problem simply as the 'Intention-Action' gap- we generally have good intentions to do some or all of the things that we know are good for us - but frequently procrastinate, delay and may end up failing to execute any of them. For example, most adults know exercise is good for them and would like to do more, yet global studies have shown that between 36% to 55% of people never manage to convert intention into action[17].

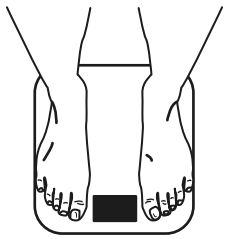
Helping people get fit using a tailored support network and exercise programme, an innovative fitness company called EliteTogether is having astounding success in helping overweight people achieve their goals by applying a little (intuitive) BE in the programmes they run in the North East, where obesity rates are the highest in England at 31% and inactivity rates sit at 24%. Participants are regularly losing tens of pounds or more in a matter of weeks and becoming so motivated as a result that they sign up again to lose more.

EliteTogether's 7-point plan is grounded in behavioural science:

> **First** people sign up to a concrete goal (eg lose 20lbs/9kg) within a six week deadline. Behavioural science tells us that we are more likely to be successful in achieving a goal by making it specific. It helps to make us feel more committed as it's harder to fudge the numbers. It also gets us thinking about how we might go about meeting that goal. For instance, if we need to lose 9kg in six weeks, it means we need to be losing around 1.5kg per week. And suddenly, we realise that this task is going to take some effort!

> Second – and this is the innovative part – the six week programme is free IF people achieve their goal within the deadline. That's a £200 fee returned if they are successful. All they pay is a £20 admin fee for the six week block. This is a great application of loss aversion, an important concept in behavioural science which observes that losses typically loom larger than gains; so the pain of the potential payout drives participants to strive hard for their goal. Pact and stickk.com websites also have a similar approach to achieving goals. The fact that the programme is advertised as free probably helps to hook people in too.

> Third, the fitness sessions are designed and run by experienced trainers (influential authority figures) meaning that all that's required of participants is that they turn up to the session and do what they're told. When people live busy, stressful lives which are already full of decisions and choices it helps to have a decision free zone every once in a while. Like the successful British Military Fitness programmes, the sessions help keep motivation high. In addition to three supervised training sessions at their low-key studio each week, people are also given a tailored meal plan and list of additional training sessions to complete in their own time, providing further structure.



Interestingly, EliteTogether don't even call themselves a 'gym', re-framing themselves as a support network, and moving away from traditional perceptions of what it means to exercise.

> Fourth, every week, there is a weigh-in providing regular feedback on progress to target. Psychologists have found that receiving personalised, regular feedback is a key motivating factor for most people which can keep them engaged and ultimately help them to achieve a goal. Knowing we are making progress week on week can help us believe a goal is possible.

> Fifth, the group context removes key barriers to participation. Since all participants have weight to lose there is a common purpose and a sense of ease and belonging because everyone is in the same boat thereby reducing anxiety or embarrassment about being seen in lycra or struggling to run or lift weights. The studios are private which removes a key social barrier and the often underestimated fear of attending a commercial gym where overweight people may feel intimidated. These peer effects or social norms help bond people together and foster a sense of shared mutual support, the sort of collective spirit seen in AA meetings. One participant (who lost 35lbs) said "there was a safe place I could go to, free from judgment, where everybody has the same goal."

> Sixth, if people succeed in meeting their 'lose 20lbs in six weeks' goal, they can roll their £200 cash back straight into a new six week block with a new goal of an additional 20lbs to lose. This makes it easy to sign up to another course and reduces the pain of paying. Participants, flush with success, may also be elated and in what behavioural scientists call a 'hot state'- an excited, emotional state of mind- spurring them on to sign up to do it all again...

> Finally seventh, breaking weight loss down into 20lb targets also helps to chunk up a broader goal to 'lose weight' into a series of more manageable and achievable, interim goals.
Research has found that small, initial wins or progress can build a sense of momentum to motivate and drive us to keep going. One participant said "I'm going on to do it again in January as I have loved the success I have had and feel so much better within myself and I'm excited to get started on smashing another 20lbs."

Source: Elite Together – Dave's success story

The person in the photo has lost over 200lbs (over 90kg) and countless people have lost 20, 40 or 60lbs so far. Their success in the North East of England has led to expansion elsewhere in the UK too.

Each of the seven BE-grounded strategies above are often effective in generating behaviour change, but perhaps the key to success here is that the whole is bigger than the sum of its parts; that each tiny component has been combined into a holistic approach to create an incredibly effective programme.

> How BE is encouraging people to live more active lives

We used many of these approaches in helping to shape a city sports organisation to encourage its citizens to be more active. We knew that the busy lives people lead meant that again the intention-action gap would be prevalent and although people know they need to be more active they often fail to act and make physical activity part of their daily routine, even though they want to.

We recommended developing communications which leveraged social norms, by using imagery of other people 'like them' to reassure them that the activity or session was designed for them at their relatively inactive, 'unsporty' level. Psychologists have found that we tend to want to do what others do, especially people like us. This type of communication also reassured citizens and helped make them feel less daunted by the prospect of sport. Like the EliteTogether participants, people were often intimidated by sports or exercise

sessions catering to the already physically fit and suffered feelings of fear of failure or social judgement. In addition, communications which appear to be targeted at already physically active people may not even get the inactive individual's attention since they may simply lack relevance and be too far removed from the reality of people's lives.

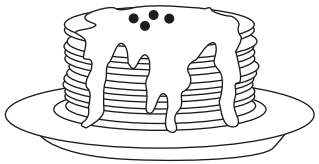
We also recommended strategies which emphasised starting with small, achievable goals and activities, chunking up the overall and often daunting goal of becoming fitter- just as EliteTogether sets its participants an achievable weight loss goal. For example, promoting simple ways of integrating a little exercise into routines and 'piggybacking' these onto existing habits. Behaviour change experts coined this term for the way in which new behaviours can often be built into firm habits by tagging them on to existing routines. For example, people might start walking some of the way to work rather than taking the bus- piggybacking exercise onto the commute, or going for a walk at lunchtime, piggybacking simple activity to a day at the office. Simple piggybacking like this is particularly important for people who tend to be

'all or nothing' exercisers or those who feel their lives are so tumultuous and stressful that it's impossible to fit any exercise in.

> Using behavioural science to break the vicious circle of the unhealthy lifestyle

Many people who do no exercise are often those whose lifestyle incorporates multiple unhealthy behaviours such as smoking, eating poorly or drinking heavily. These traits often go hand-in-hand, trapping individuals in a vicious circle as unhealthy routines and habits intertwine with each other, often triggered by boredom and loneliness, or linked with financial or relationship stresses. This can make changing behaviour even more difficult for people since it can feel very daunting and disruptive to change too many things in their life at once.

We worked with a local authority to look at how they might use behavioural insights to develop a holistic health



improvement service for this group of people. Our recommendations drew on insights from scientific research into habits and looked at how people might disrupt their existing habits to substitute a healthy behaviour for an unhealthy one or 'piggyback' a healthy behaviour onto an existing routine. Asking people to simply stop doing something that provides an emotional or social focus can leave a void in their lives- think of smoking or drinking with friends in the pub- so having healthier alternatives such as a Zumba class or going for a walk in the park with a friend to fill the gap can often make the transition a little easier. Again, we focused on how people could be encouraged to begin with small, achievable goals which might help to get them started and feel motivated to make further changes.

> Leveraging the BE concept of re-framing to help smokers quit

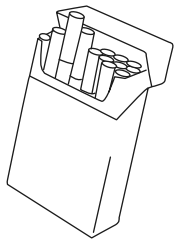
Smoking is another problem behaviour where people suffer from an intention-action gap. A significant proportion of current smokers have intentions to quit smoking, yet fail in their attempts or don't even attempt to quit. So interventions to help people stop are valuable.

Sometimes, a single, often emotive experience can trigger people to change their behaviour for good. They usually know they should be taking action before that, but sometimes it takes one intense moment or experience to really drive it home that they desperately need to make a permanent change.

Five GP practices in England participated in a trial to test this effect on over 500 smokers over the age of 35.

Each participant had their lung function tested using a breathing apparatus known as a spirometer which measures forced expiratory volume in one second, FEV1 (how much they could breathe out in one second). This tests how well the lungs are functioning or if there is any lung impairment, caused by smoking for instance, or asthma or pneumonia.

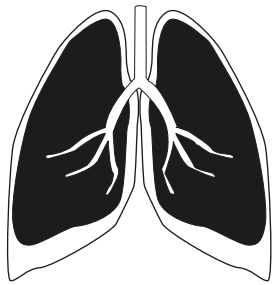
The measure of lung function can also be used to calculate a 'lung age' figure which can illustrate the premature lung damage caused by smoking. For example, a 42-year-old smoker may have the lungs of a 67-year-old non-smoker. For people less numerate and less able to comprehend health metrics, lung age is likely to be much easier to understand than FEV1 and so is likely to be a more powerful and emotive number. It also provides the smoker with a simple reference point against their current age.



Participants in the control group were simply told the figure for their lung function, whilst those in the intervention group had their lung function number converted into their 'lung age'. Both groups were encouraged to quit and provided with details of quitting services.

Those told their 'lung age' were much more likely to quit smoking. Independently verified quit rates a year later stood at 13.6% and 6.4% for the intervention and control group, respectively. And the worse state people's lungs were in, the more likely they were to quit.

Qualitative feedback from healthcare professionals administering the programme illustrated the powerful and dramatic effect of this simple and easy to communicate number[18].



One commented:

> "Literally you'd see the blood rush out of their face when they saw the numbers, and they realised they had a significant problem. And that was your quintessential teachable moment. So you grabbed it with both hands." Another said: "If their lung age was older than their regular age, they would often go out of there saying 'Oh, I've got to quit smoking, I've just got to quit smoking!"

It is also a concept that is far easier to understand than other health parameters. As one professional explained: "[Lung age] is a meaningful concept to them. That was something that they could relate to. You know, a 40 % reduction [of lung capacity], to me, doesn't mean very much."

In conclusion:

We all know we should be leading healthier, more active lifestyles. And in a perfect world we would! But in our not-so-perfect world, full of daily stressors, chaos and unexpected calamities it's much harder to make sure we do what we intend to do. Behavioural science can offer proven techniques and concepts to help us carry through on our well meaning intentions and turning them into reality. Whether it's quitting smoking, drinking less, eating more fruit, veg and wholegrains and less sugar, doing some daily exercise - or all of these, BE makes these goals easier to achieve. Tiny changes in the way information is communicated can have a major behavioural impact. What's more, these simple changes are often virtually costless and, when a number are combined, we can create something that has an even greater reach, making strategies and solutions even stronger. Our forth and final article in this section illustrates how simple and (virtually) costless nudges can be used to help us make better and healthier food choices.

Nudging healthy eating

Health practitioners, policy-makers, and the food industry at large play a major role in our consumption decisions: what we eat, how much we eat, what snacks we consume, etc. Behavioural science can be (and is being) harnessed to assist practitioners in guiding citizens towards healthier choices. However, some interventions work better than others. This article explores the various interventions and seeks to gain an understanding of which actually work, leading to sustainable behavioural change.

There have been countless behavioural science based initiatives intended to nudge healthier eating. But which ones actually lead to a sustained behaviour change? And of those, which are most effective? What concepts, tools and styles of intervention are best at getting us to eat healthy foods, or less of the unhealthy foods...?

Two French researchers, Romain Cadario and Pierre Chandon[19] endeavoured to make sense of all the available research on this subject, collating behavioural science-inspired interventions that took place in real-world environments - cafeterias, restaurants and grocery stores- and excluding any online or lab-based experiments. They analysed the results altogether (known as a meta-analysis), excluding any studies reporting only intention-based findings, focusing instead on those that could report an objective measure of behaviour such as food weight or energy consumed.

After careful analysis, they narrowed down the existing research to 88 studies that have been published in 82 articles. This includes studies on both children and adults. A large proportion of the studies were conducted in the US, with others from Belgium, Canada, France, Ireland, Israel, Japan, Netherlands and the UK. They then categorised the varied interventions into seven different types, across three areas.

In this article, we've brought these seven areas to life below, extracting the main features, examples of application and summing up what works- as well as what does not.

01) Knowledge based nudges

This area tries to change behaviour by sharing information and increasing knowledge and awareness.

> Descriptive nutritional labelling: This includes initiatives like providing calorie or nutritional information on food packaging and on menus, to encourage consumers to select lower-calorie options. It's becoming increasingly popular and can be seen in many of the well-known international food chains, such as in Starbucks (shown here).

COFFEE & ESPRESSO

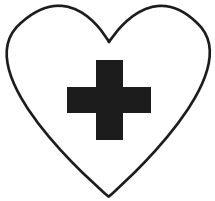
HOT OR ICED

	TALL	GRANDE	VENTI
PIKE PLACE ROAST™	1.55 5 cal	1.75 5 cal	1.85 5 cal
TODAY'S MORNING PICK	1.55 5 cal	1.75 5 cal	1.85 5 cal
ICED BREWED COFFEE	1.90 60 cal	2.20 90 cal	2.55 130 cal
CAFFÈ LATTE	2.65 150 cal	3.20 190 cal	3.50 240 cal
CAFFÈ AMERICANO	1.85 10 cal	2.15 15 cal	2.50 25 cal
CAPPUCCINO	2.65 90 cal	3.20 120 cal	3.50 150 cal
VANILLA LATTE	2.95 190 cal	3.50 250 cal	3.80 320 cal
CAFFÈ MOCHA	2.95 270 cal	3.50 330 cal	3.80 410 cal
CARAMEL MACCHIATO	3.10 180 cal	3.65 240 cal	3.95 300 cal
WHITE CHOCOLATE MOCHA	3.35 370 cal	3.85 470 cal	4.20 580 cal
SKINNY VANILLA LATTE	2.95 90 cal	3.50 130 cal	3.80 160 cal
VANILLA LATTE +PROTEIN	3.45 200 cal	4.00 280 cal	4.30 350 cal
PUMPKIN SPICE LATTE	3.35 300 cal	3.85 380 cal	4.20 470 cal

FLAVORED SYRUP Regular 20 cal per pump or Sugar-Free 0 cal (Add 30¢) · SOYMILK (Add 40¢) · EXTRA ESPRESSO SHOT 5 cal (Add 55¢) · ADD NOURISHMENT +PROTEIN 30 cal (Add 50¢) +ENERGY 5 cal (Add 50¢)

In fact, Bryan Bollinger and his colleagues analysed Starbucks sales data to evaluate the impact of the NYC law mandating nutritional labelling, implemented mid-2008[20]. Analysing data before and after the change, they found that though there was a decrease in calorie consumption after the posting of calorie information, the reduction was small and was almost entirely due to a change in food choices, with almost no change in drink consumption (its core product type). Some argue that the impact could be improved with better health education about labelling, but often even the most informed customers pay little attention to this type of information.

> Evaluative nutritional labelling: Whilst also providing nutritional information, this approach tries to make it easier for consumers to understand and interpret the information, by utilising simple wording and visual heuristics- such as colour coding or types of scoring to highlight recommended items. Typically, green indicates healthier options and red, unhealthy options. Another approach is to place special symbols such as smilies and heart icons, indicative of healthier food groups, on the packaging or menus. Impacts seem to vary- whilst some trials have had a small to moderate impact, others have had none.

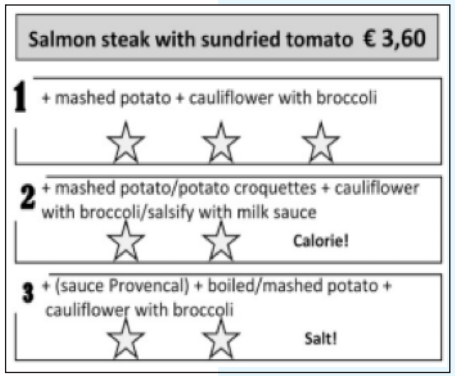


For example, the 'traffic light system' has been applied in many contexts from supermarkets, to school cafeterias, to food halls in sporting centres. The system was implemented in a US hospital cafeteria in 2012.

Foods were rated on three positive and two negative criteria; the positive criteria were having the main ingredient be 1) a fruit or vegetable, 2) whole grain, or 3) lean protein/ low fat dairy, and the two negative criteria were saturated fat and calorie content. Those with more positive criteria were labelled green, more negative criteria were labelled red, and equal quantities were yellow[21].

Researchers compared changes in consumer choices of green, yellow and red foods before and after, finding that the initiative had a small impact on food choices. There was a modest decline in purchases of food groups labelled red (by roughly 11%) and a small increase in purchases of those labelled green (6.6%).

Conversely, another trial in a university cafeteria in Belgium examined the impact of a 3-star recommendation system – similar to Michelin stars – to draw attention to healthier items and caution against unhealthier items (see example).



Salmon steak with sundried tomato € 3,60

1 + mashed potato + cauliflower with broccoli

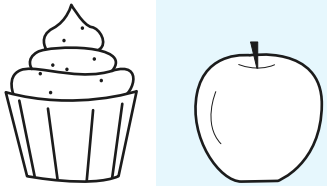
2 + mashed potato/potato croquettes + cauliflower with broccoli/salsify with milk sauce

Calorie!

3 + (sauce Provencal) + boiled/mashed potato + cauliflower with broccoli

Salt!

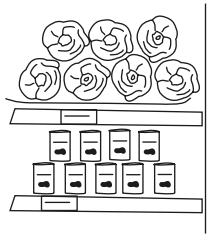
Source: Hoefkens et al, 'Posting point-of-purchase nutrition information in university canteens does not influence meal choice and nutrient intake' American Journal of Clinical Nutrition, 2011



Unhealthy features- such as high saturated fat content, salt or sugar content or calorie content- were also highlighted in red font and marked with an exclamation. However, in this case, meal choices in canteens and nutrient intakes did not improve after the intervention[22].

> Salience enhancements: By placing healthy options in more visible positions such as on shelves, at the top of menus, near the checkout register, or in transparent containers, they can be made to stand out to customers. Alternatively, placing unhealthy options further down the menu, or on the very top/bottom shelf, reduces the visibility to the consumer by moving it away from eye-level.

Again, the evidence is mixed. Some trials have found a modest impact, while other trials have found no impact at all. Eran Dayan and Maya Bar-Hillel tested the placement of choices on the food menu of a cafe in Tel Aviv. They found



that moving an item from the middle of the menu to either the very top, or very bottom, increased its popularity among customers by roughly 20%[23]. So if healthier items were placed at the top or bottom positions on menus, consumers may be more likely to select these options.

However, in another trial run in food stores in two districts of Marseille, there was little impact from a multi-pronged campaign to encourage the purchase of inexpensive but highly nutritional food items. The campaign- named 'Manger Top' meaning Eat Great- promoted foods such as pulses, canned fish, eggs and fruit and veg using shelf labels, shelf placement and in-store posters and leaflets and taste-testing[24].

02) Affective nudges

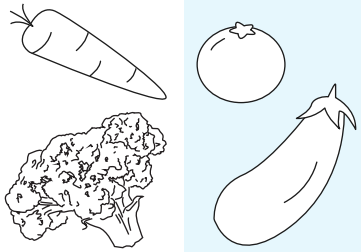
Affective nudges play on our feelings about food and try to generate some sort of emotional response.

> Sensory cues: This type of intervention seeks to increase the System 1, sensory appeal of healthy options, rather than informing consumers about their nutritional quality - a more 'System 2' approach.

> For example, restaurants might use emotional, vivid, affective descriptions or attractive displays, photos or containers.

Two elementary schools in western New York redesigned their cafeterias in the summer of 2011, using sensory cues such as a more visually appealing menu (as shown), fruit displayed in attractive bowls, and vegetables labelled with descriptive names (e.g. "Celery Swords" and "Krazy Kale").

Source - www.smarterlunchrooms.org



Andrew Hanks and his colleagues found that this led to an increase in the consumption of fruit and veg- an 18% increase in fruit consumption and 25% increase in veg consumption. Children were also more likely to consume an entire portion of fruit or veg[25]. They also estimated a modest but significant increase in those actually consuming the selected fruit and vegetables.

> Healthy eating cues: These provide a direct message to the individual to eat better. The messages can be both oral and written and aim either to steer people to choose a healthier option (e.g. "Make a fresh choice!"), or to change their unhealthy choices (e.g. "Your meal doesn't look like a balanced meal"). Whilst seeking to change people's eating goals, from taste to health, these messages might also leverage what are known as injunctive social norms- an indication of what society approves of- as they do in the examples above.

The Cafeteria Power Plus Project, initiated in 2000 across 26 schools in the metropolitan area of Minnesota ran for two years. It utilised healthy eating cues ("which vegetable would you like for lunch?") along with other sensory cues (posters in the cafeteria of life-size fruit and vegetable characters called "The High 5 Flyers"!) and healthy eating challenges (a competition to eat three fruit or vegetables per day at lunch for a week, with prizes for those who succeeded) to encourage young children in schools to eat more healthily. By the end, children's eating behaviours had changed as a result of the program[26].

03) Action/ Behaviour based

These types of nudges focus on directly steering our choices and behaviour, often by default in what we are offered.

> Convenience enhancements:
Some behavioural interventions can change people's behaviour without necessarily influencing what they know or how they feel. What are known as 'convenience enhancements' do this by making it easier to select or consume healthier options, such as fruit and vegetables in 'grab and go' cafeteria lines, convenient utensils or the pre-sliced, pre-portioned food options currently available at most major supermarket stores.

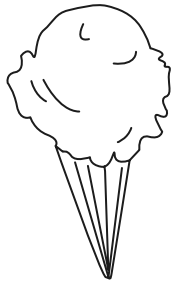
At first glance, this type feels quite similar to the salience enhancements above. However, convenience enhancements are more about making food and drink choices more physically available- easier to grab, whereas salience enhancements are more about making things more visible to the eye for example on a menu but also on a shelf.

This intervention can also make it more cumbersome to select or consume unhealthy options such as putting unhealthy options later in the cafeteria line when trays are already full, or in the middle rows of food bars so they are more awkward to reach.

Many studies have indicated that accessibility can affect what people choose. For example, Paul Rozin and his colleagues found that positioning food on the salad bar in the front rows or in the less accessible middle rows affected what people chose. When unhealthy food was made less accessible, its selection was reduced by a range of 8-16%, which can have potentially substantial impacts on weight loss and habitual food choices[27].

> Plate and portion size changes:

Leveraging behavioural insights on default options (our tendency to stick to the default option suggested to us), this intervention modifies the size of pre-plated portions of food and drink, often found in cafeterias and cafés. This might increase the amount of healthy food offered or,



more commonly, reduce the amount of unhealthy food in a portion – such as smaller ice creams or portions of chips. The effect of portion size on how much we consume is significant; when we are given more, we tend to eat more!

Nicole Diliberti and her colleagues[28] studied this effect by varying the size of a pasta entrée at a cafeteria-style restaurant in Pennsylvania on different days, from a standard portion (248g) to a large portion (377g). Those who purchased the larger portion did indeed eat more, increasing their energy intake of the entrée by 43%. When asked about the appropriateness of the portion sizes, there was no difference in ratings between the consumers of the large portions and of the regular portions. Customers also reported no difference in how much they enjoyed the meal, rating it identically.

> The only significant difference between the portions appeared to be that customers rated the larger portion as better value for money.

This finding not only suggests that large restaurant portions may be contributing to the obesity epidemic through overconsumption, but also that customers are not totally aware of portion sizes. Results are consistent

with other studies in this area and provide compelling evidence in favour of modifying portion sizes to discourage overconsumption of calories and unhealthy foods, as well as encouraging the consumption of healthier options.

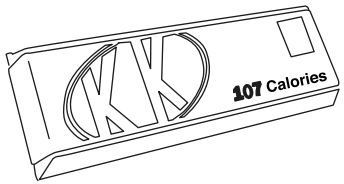
In another study, college students in the US typically ate in the onsite cafeteria where they could purchase an 88g gram bag of french fries, containing around 24-28 fries. Over the course of 3 weeks the contents of the bag decreased by 15g per week meaning that by the end of the experiment, the bag was half the size with only 12-14 fries in! This amounted to a reduction of 150 calories and the majority of diners- 70%- did not notice the reduction in portion size.
Even when the portion was half its original size, some 51% of diners still chose only one bag compared to 87% at the start, and those who were now choosing two bags of fries rather than one were eating no more than they were at the start.

The researchers calculated that portions could be reduced by 17–34% before being noticed by most diners[29].

Another study, this time looking at young children eating in a school canteen, found that they served themselves more food- and ate the majority of that extra food- when given adult size plates and bowls to serve themselves with[30]. These plates were roughly twice the area of the usual size plates and bowls.

Nudging can have an impact

> Looking across all seven areas, Cadario and Chandon found an average positive impact from the nudges was roughly the equivalent of eating 124 fewer calories or eight teaspoons of sugar- or a small glass of red wine or just under three Jaffa Cakes. Whilst this does not seem that much, consuming 120 or so extra calories per day every day can lead to substantial weight gain over the course of a year; as much as 6kg in 12 months. The new research was analysing eating occasions, not daily consumption so the daily effect of such nudges could be even greater. Public Health England recently found that on average, UK adults consumed approximately 195 extra calories per day, and overweight and obese adults approximately 320 extra per day[31]. In addition, Cadario and Chandon also compared the average impact to studies looking at the impact of price reductions on healthy food and concluded that it was equal to a 10% price reduction.



Across the three areas and seven types, two of the three areas were statistically significant. Action/behaviour-based nudges had the biggest impact (200 calories); plate and portion size changes had the largest impact overall (roughly 350 calories- the largest of any type of studies they analysed), while convenience enhancements had a more modest impact (around 180 calories). Affective/emotional cues also had modest, but identifiable impacts (120 calories). What's significant about all these positive impacts from different types of nudges is the potential impact from combining them.

For example, no study (to date) has tried combining reduced plate or portion sizes and convenience enhancements. This may have an even stronger impact. Only the first area- cognitive-based nudges- had no significant impact. This area had only a tiny impact on eating behaviours, an impact which was not statistically significant, particularly for descriptive labelling such as calorie and nutrition labelling. This is particularly worrying, given the UK government's recent announcement to tackle childhood obesity by stipulating that restaurants need to include calorie labelling. However, it may still be worth keeping an eye on this one given the behaviours of millennials; the consumers of the future. A 2017 Euromonitor survey found

that millennials were the most likely out of any age group to 'closely read the nutrition labels of food and beverages' - given that this group tend to want healthier, more natural food and drink[32].

They also found that it's a lot harder to nudge people to eat healthily than it is to nudge them to stop eating unhealthy foods. Impacts were generally larger for initiatives that nudged people to eat less or no unhealthy food, but researchers aren't sure of the cause behind that. Americans also had a larger capacity to be nudged than citizens of other countries, although it's not clear why, flagging a need to trial the more successful types of nudges in other countries rather than the US.

In the future, we also need to run more trials in grocery stores and supermarkets, as well as in cafés and restaurants, to be able to understand how to have maximum impact on a consumer's food purchasing journey.

In conclusion:

Overall, this latest analysis shows that some types of healthy nudges do work and are highly worthwhile, particularly as they are so simple. What appear on first glance to be small tweaks and almost imperceptible changes have a real potential to have a significant impact on society. Once again in this article we show how small changes could make a big difference to people's health.

Part 1 of this section has highlighted the promising role behavioural science can play in the realm of healthcare. In Part 2 we return to the notion of nudging citizens, but instead of nudging them towards making healthy personal decisions, we turn to nudges that can help improve the health of our society; specifically with regards to environmentally friendly behaviour and to charitable giving.

02

Pro-Social

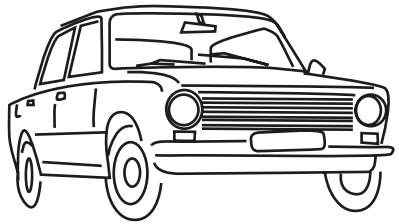
Part 2 of this book looks at how behavioural science can help nudge us into pro-social behaviour. The first two articles in this section explore the role behavioural science plays in guiding us towards more environmentally friendly behaviours; reducing our carbon footprints and water usage. The third article explores how we can improve wellbeing and societal interaction by using behavioural insights to inform city-planning and the last article examines how behavioural insights have been used to encourage more charitable giving. The first article in this section does just what it says on the tin!

How BE is helping us reduce our carbon footprint

Climate change is one of the most pressing issues in our society today. To reduce and minimise the devastating losses and impacts of global warming we need to act now. A report published in 2017 stated that we need to "reduce net greenhouse gas emissions to zero well before 2040 in order to ensure global warming does not go above 1.5 degrees Celsius by the end of the century."[33] A significant part of this action needs to come from reducing our individual carbon footprints. A recent study by the Norwegian University of Science and Technology analysed household carbon emissions for all regions across the EU27. The UK emerged as one of the worst emitters, on a par with Luxembourg.

Across the whole EU region, transport was one of the biggest contributing sectors. Researchers found that transport makes up around 30% of EU household emissions, and in some regions as much as 44%, with most of the impact coming from the burning of transport fuel[34].

A separate piece of research, published last month by researchers in Sweden and Canada, analysed 39 existing peer reviewed studies to identify which behaviours make most impact on reducing our carbon footprint. Reducing car and air travel featured in the top 5[35].



Therefore, effective initiatives that help us to reduce our individual transport emissions and change our behaviour are incredibly valuable, and may also help to inspire other initiatives. Those inspired by behavioural science are now starting to contribute to the solutions on offer. Whilst early in its evolution behavioural science was more often applied to areas such as tax completion, payment of fines, financial management, littering and other small nudges, the field is rapidly advancing to help address weightier societal issues. This includes initiatives and experiments to help us live in more sustainable ways and reduce our carbon footprint.

In this piece we examine the broad range of very different initiatives, each grounded in behavioural science, which have the ultimate outcome of reducing fuel consumption.

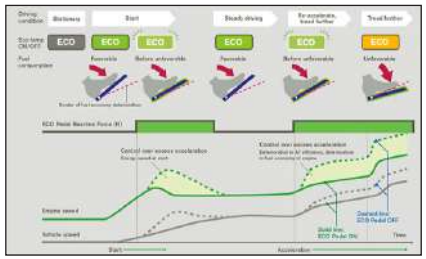
> Real time driver feedback can increase fuel efficiency

One approach to reduce our carbon footprints is to minimise fuel consumption by driving more efficiently. The Energy Saving Trust - a UK organisation designed to help people save energy- has set up the Fuel Good scheme to teach and give feedback to drivers to show how driving more economically really does make a difference to fuel consumption. They provide free one-to-one training sessions to show people how small changes such as not revving the car to more than 2500rpm (for a petrol car, 2000 for diesel) but moving up the gears quickly, turning the engine off when stationary, and driving smoothly- assessing the road far in front to minimise sudden acceleration and braking – can make a substantial difference.

One key part of the training is receiving personal feedback on fuel consumption. Behavioural scientists have found that real time and personalised feedback can motivate people and increase their engagement. So training that lets people see the difference more economical driving can make can help to encourage a change in behaviour and driving habits. At the start of the FuelGood training session, the driver makes a usual journey and drives as they would

normally. The instructor makes a note of the fuel consumption for that journey and then asks the driver to make that same journey again, but this time using fuel efficient driving techniques such as those described above. At the end of the second journey the instructor gives feedback to show the difference in fuel consumption, usually an improvement of almost 15% mpg on the day of training and a maintained improvement of 1-6% subsequently[36]. The Energy Saving Trust has now trained over 12,500 drivers and the impacts have sometimes been impressive; for example Fife Council in Scotland saved over £189,000 on its annual fuel spend of £1.46 million in 2016[37].

Another example of leveraging feedback to encourage changes in driving style comes from new technology. A few years ago Nissan developed a more automated type of feedback mechanism to nudge and change driver habits for good. Their ECO Pedal controls 'heavy-footed' drivers via a mechanism within the pedal



Source: Nissan Global

Source: Nissan Global

that gives resistance when too much pressure is applied, such as foot-to-the-floor acceleration. Such in-the-moment feedback lets the driver know that they could be driving more efficiently, although drivers can opt to bypass it.

The pedal works by analysing real-time data on the current rate of fuel consumption and transmission efficiency while the car is accelerating and cruising. It then calculates the optimal acceleration rate. If the driver exerts too much pressure on the accelerator, the system counteracts with the pedal push-back control mechanism. The driver also receives visual feedback through the colour and flashing of a light on the dashboard. While driving within the optimal fuel consumption range, the indicator is green and steady.

It begins to flash when it detects increased acceleration before reaching the fuel consumption threshold and finally turns amber to advise the driver of the negative impact of their driving behaviour on fuel consumption[38].

Analysis by **Nissan** found that the pedal can improve fuel efficiency by 5 to 10% depending on driving conditions[39]. Whilst this feels like a small impact, if every driver achieved this, it would make a significant difference.

Perhaps even better is the Dash app which provides drivers with real-time feedback on fuel efficiency on a journey, enabling them to track their mpg in real time, and then highlighting parts of the journey where their driving could have been better and providing a journey score based on how economically they drove, giving them a (competitive) benchmark to anchor to on their next trip[40].

This kind of feedback might be further strengthened if it was presented in a way that kept the primary goals- reducing carbon emissions, or even fuel cost for those more money than environment motivated- top of mind.

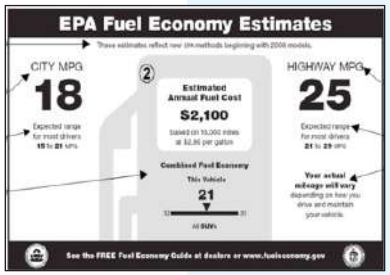
> Impact of mpg data at point of sale

Yet driving more efficiently can only get us so far. Our choice of car is also an important route to reducing our carbon footprints- with some models, particularly newer ones, being highly fuel efficient and achieving a real mpg of around 65 and others, such as some large SUVs barely achieving a real mpg of 20.

However, buying a new car can be a complex decision, and has only become more so in recent years as fuel efficiency and CO2 emissions information has been added to more traditional attributes and qualities such as power and style. Making comparisons presents a challenge for even the most confident driver. For example, people may want to purchase a car with low CO2 emissions but are unsure of what a 'good' or 'bad' emission level is for the cars currently on the market.

The household appliance sector has tried to tackle this problem by reframing the cost of a new appliance over its lifetime, helping to refocus consumers' attention away from the sales price to consider the overall energy running costs over the typical lifetime of the appliance.

The same approach has been introduced in the US to help drivers decide which car to buy. In 2013 the US Department



Source: United States Environmental Protection Agency

of Transport and Environmental Protection Agency designed new fuel economy labels to allow easier comparison of attributes. These labels must be fixed to the side window of all new vehicles for sale at dealerships. The new labels include a scale from 1 to 10 for fuel economy and greenhouse gas rating which is linear in CO2 reduction. Consumers do not need to do the calculations themselves but can instead rely on the rating as a shortcut.
The new label also features other helpful figures including both the mpg and gpm (gallons per 100 miles which consumers often find a more useful metric), an estimate of annual fuel cost and how that cost compares to the annual fuel cost for an average new vehicle. This means that consumers can also see the personal cost saving of a car as well as its environmental performance. For many, cost is still of greater importance than a car's emissions so the EPA have tried to harness both aspects to ensure the label information has a broad appeal.

The new labels help to make the annual fuel cost of the car and emissions ratings more salient and easier to compare. Any car buyer can now compare cars against each other across these parameters. The extremes of the emissions scale (10=best) also provide clear reference points.

> So what impact have the new labels had?

New analysis from Yann Panassie, an economist at the University of California, suggest that they have had a positive impact on people's choice of car[41].

By analysing car sale data in the US and Canada between 2009 and 2015, he found that since 2013 there has been a 1.5% increase in small car market share, together with a corresponding fall in SUV market share.

Whilst the data are only suggestive, with further research needed, these results imply that the adjustments to the labelling have had a worthwhile impact on car purchase behaviour, leading to a sustained reduction in annual fuel consumption among car drivers of new vehicles and ultimately their carbon footprint.

In conclusion:

These examples illustrate how simple tweaks to existing systems can help to change behaviour for the better and reduce our travel emissions. Real-time personalised feedback may be able to motivate us to change our driving habits to be more fuel efficient, whilst how we present fuel efficiency information can help to keep that motivation high or encourage us to make more environmentally sound car purchases.

Maybe carbon footprint aware driving skills should even be made part of everyone's driving test until those fully automated electric cars arrive?

Our next article in this section also focuses on how behavioural science is nudging us to be more environmentally friendly.

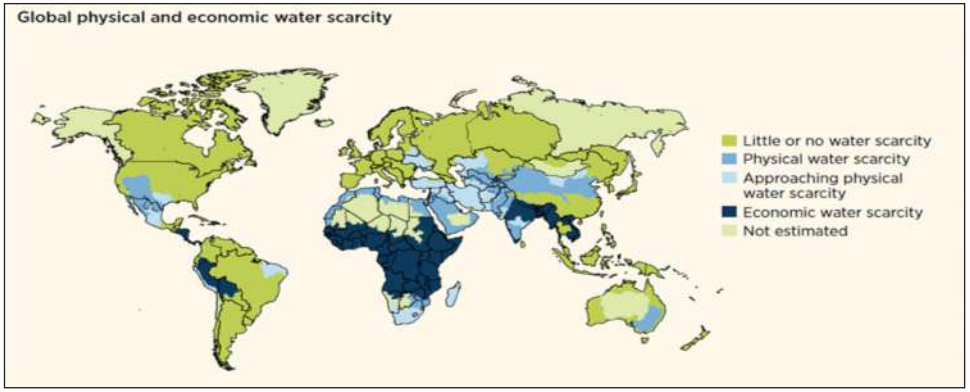
Stopping our taps running dry!

This article continues the theme of examining how behavioural science is nudging us towards more environmentally friendly behaviours. Whilst the previous article focused on reducing our carbon footprints, this article looks at ways in which we can be encouraged to reduce our water usage.

Around four billion people, almost two thirds of the world's population, experience severe water scarcity for at least one month of the year and half a billion live with constant water scarcity[42]. In fact, since 2012, the World Economic Forum has put water supply crises among its top three global risks in terms of impact, putting it on a par with weapons of mass destruction, climate change and the outbreak of infectious disease.

In 2014 the UN forecast that two thirds of the world's population will be living in water stressed areas by 2025. By 2050, demand for water will increase by around 55%, driven by a 60% global increase in food demand, together with a 400% increase in demand for water for manufacturing in developed countries[43] . The World Bank also forecasts that water availability in cities could fall by as much as two thirds by 2050, as a result of climate change and competition from energy generation and agriculture[44].

Currently most affected are households, industries and farmers in Mexico, the western US, northern and southern Africa, southern Europe, the Middle East, India, China, and Australia, where they already regularly experience water shortages.



Source: UN World Water Development Report, 2012

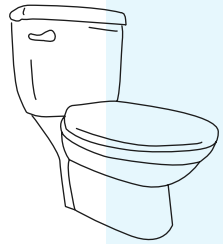
Recently, Cape Town only narrowly averted 'Day zero'- the day when taps would be turned off for its millions of residents, forcing them to queue at military-guarded standpipes for a bare minimum ration of two litres per day- by intricate and cautious management of its supplies[45]. But other regions face long term risk too.

So whilst a significant proportion of the current water supply is used by agriculture, we individuals and households still need to take on some of the burden and manage our water more carefully. A number of organisations have been inspired to develop and test innovative approaches to encourage households to use less water.

What might be preventing us from cutting our water usage?

Research, both qualitative and quantitative, by these organisations, has identified several barriers preventing households from better managing water:

> A major one is that we use it **habitually**, often without really being aware of the actions that trigger us to use it. We turn on the taps, run the shower and flush the toilet on autopilot, without consciously being aware of it.



Research by Michelle Lute, Shahzeen Attari and Steven Sherman found that 80% of people feel flushing the toilet is something they do habitually, having been taught to do so at a young age[46].

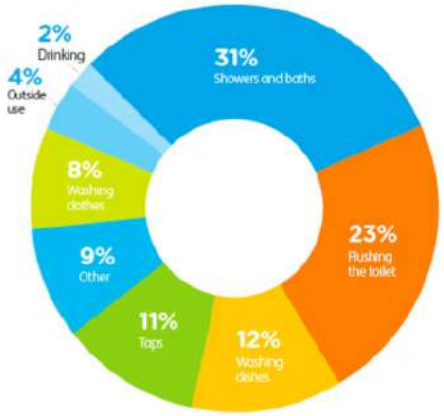
> Utilities companies **don't make it easy for people to understand** their water usage, with **no clear reference points** (known as anchors by behavioural scientists) and consequently customers have a poor understanding of how much water they use. Water bills are typically reported in cubic metres. Yet research in Costa Rica by Ideas42 and the World Bank found that people find it hard to visualise cubic metres of water and lacked intuition into whether an amount billed was large or small.

> Billing is also fairly infrequent, meaning that there are **large time lags in feedback.** Timely feedback on an activity or task can help to motivate us, increasing our engagement and ultimately, helping us achieve our goal.

So behaviour is often more malleable when we receive real time feedback, rather than months after the event, because it allows us to change our behaviour immediately without any delay.

> Also, because the bill comes as a lump sum, it's hard to understand **what changes in water usage** might have the most valuable impact and people often struggle to outline what specific steps they would take to reduce their water usage, not even believing it could be reduced significantly. Some people mistakenly believe that changes such as turning off the tap whilst brushing their teeth will make a difference. Whilst every little effort helps, it's actually showering, bathing and flushing the toilet that use the bulk of our water (see diagram).

> Another barrier is the relatively low cost of water compared to other bills, meaning that any **potential savings often don't feel worth the effort** and more like pocket money, especially for more affluent households. People anchor or compare their relatively small water bill to the



Source: Thames Water

bigger bills generated by electricity and gas supplies and conclude that potential savings on their water bill are negligible. Research by ETH Zurich found that households are often not responsive to price increases because water is relatively cheap and seen as a necessity.

> Finally, we also often misperceive others' water use. It's easy to notice outdoor water-heavy activities such as neighbours washing their cars or watering their garden, but we may be less aware of others' indoor water use. Since **we are often guided by what are known as social norms – by what we see others doing** – we may feel 'licensed' to continue using water as we always have- an 'if no-one else is making an effort why should I change' attitude.

Given these problems and barriers to change, what steps can be taken to help people to reduce their water consumption?

Saving in the shower

A major large scale study[47] run by ETH Zurich has **found that providing people with real-time behavioural feedback** on how much water they are using relative to the ideal might be one solution. First piloted in Switzerland in 2012, this approach has now been trialled in the Netherlands, Germany, South Korea and Singapore with considerable success. This trial targeted shower use only, recognising that showering accounts for more than 80% of hot water demand and a good chunk of overall water demand.

Almost 700 households received smart shower meters, which could be easily installed on a handheld shower at eye level in the shower and required no battery, powered simply by the water flow. The meter displayed how much water and energy had been used since the shower had been turned on – giving people instant and salient usage feedback which behavioural scientists have found effective in motivating people to change behaviour. The idea being that as they shower they watch the litre usage rising, which might be the motivation they need to stop singing and hurry their shower along.

Source: Tiefenbeck, Verena & Tasic, Vojkan & Staake, Thorsten & Fleisch, Elgar. (2013). Contrasting the effects of real-time feedback on resource consumption between single (and multi) person households.

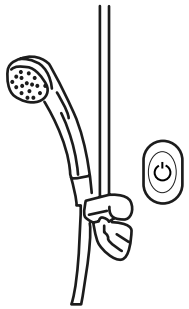
The meter display also showed an ingenious animation of a polar bear on an ice flow.. If someone took a very long shower, the ice flow began to shrink and melt and eventually the entire animation disappeared!

This initiative really made salient the connection between high energy consumption (to heat the water), carbon footprint and climate change. Anyone watching the ice flow start to shrink might be more motivated to hurry and turn the taps off. One group were also given the same information on their previous shower as a reference point. Another group also received feedback on their energy efficiency rating. All this information helped to give feedback at the right time for people to take action. Verena Tiefenbeck who helped run the study says:

> *"We provided the information in real time so that people saw that feedback as they took their showers, while they could still do something about it."*

The impact over the 2-month trial was significant: people cut their shower time by around 20% on average, reducing water consumption by 21%. This also cut energy consumption by 22%, resulting in yearly savings of 452 kWh for a two person household or roughly 12-13% of the average European household's electricity bill[48].

To put that in perspective, a fridge freezer uses around 427 kWh per year and a plasma TV 658 kWh. A previous study by ETH Zurich testing the impact of electricity smart meters found only an 86 kWh reduction- five times less than the shower study and showing that a narrower focus can reap more gains than broader targeting. The device was also pretty inexpensive, paying for itself within 9 months from savings on water and electricity bills. Whilst the initial pilot ran for only two months, later studies



have typically run for up to six months and found no drop off in impact. The meters have also been installed in nine Swiss hotels and received a positive response with the savings almost as big as those in households.

A similar study run in Singapore for 16 months found the same level of impact. Whilst the shower meters still gave real time feedback, the intervention differed slightly in that households were given varying water conservation targets of 10, 15, 20, 25 or 35 litres. They found the most effective target was 15 litres- a moderate volume target- where people used 3.9 litres less water an average. A 10 litre target was less effective, with people only saving 2.9 litres, probably because it was too ambitious- 10 litres is really not a lot of water! 20 litres or more was just too easily attainable for people so they did not have to make much effort to adhere to it[49].

A simple nudge to reduce water usage

Other organisations have had success with even simpler initiatives, simply changing the communications received from water companies to nudge reductions in water consumption. In 2014, ideas42 and the World Bank partnered for a project in Belen, Costa Rica[50].

Costa Rica is already being affected by periodic water shortages yet general awareness campaigns run by the municipal authorities and raising rates by 70% had not had an impact.

Qualitative research had revealed that providing people with comparative points of reference may help to influence their water usage as well as helping people better understand what behaviours could help to reduce their water consumption. So, one solution was developing stickers (see examples next page) to go onto bills informing households about how their usage compared to either their neighbourhood (group 1) or the city (group 2). One had a happy face to congratulate a household with consumption below the median and a second had a sad face if usage was above. From a behavioural science point of view, **we know that people generally want to follow social norms; to fit in and conform with what others are doing, so knowing that we are using more water than others around us could be enough to prompt us to take action.**

Source; Datta, Saugato and Miranda, Juan Jose and Zoratto, Laura and Calvo-Gonzalez, Oscar and Darling, Matthew and Lorenzana, Karina, A Behavioral Approach to Water Conservation: Evidence from Costa Rica (June 2, 2015). World Bank Policy Research Working Paper No. 7283.

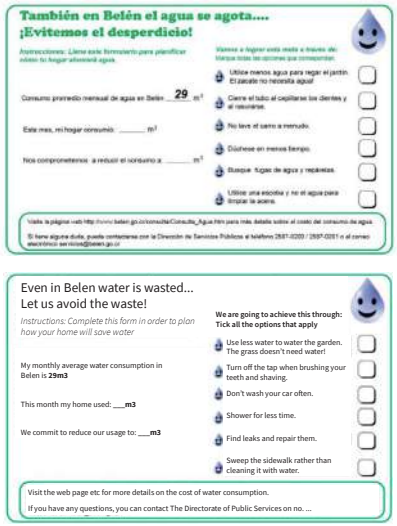
A second initiative was to send out postcards (see image) to all households showing:

> Average monthly consumption in the area, providing households with a much needed reference point- known as an anchor in behavioural science – against which to compare their own usage;

> A space to record their own usage;

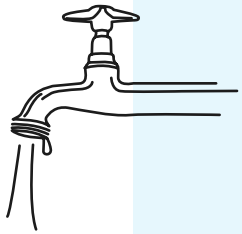
> A space to set a target to reduce their consumption for the month ahead (group 3). Setting a specific target can make us feel more committed to achieving that goal. Writing it down (especially in public) can escalate this even further;

> Six specific ways to save water, such as using less water in the garden, showering for less time, fixing leaky pipes and sweeping the sidewalk rather than hosing it down. Identifying concrete steps to take to meet a goal or target can make it feel easier to achieve.



Source; Datta, Saugato and Miranda, Juan Jose and Zoratto, Laura and Calvo-Gonzalez, Oscar and Darling, Matthew and Lorenzana, Karina, A Behavioral Approach to Water Conservation: Evidence from Costa Rica (June 2, 2015). World Bank Policy Research Working Paper No. 7283.

Overall, there were 5,600 households involved in the trial, split into the three test groups, plus a control group who received none of the initiatives. By analysing households' water usage over the two months of the trial and comparing it to average consumption rates for those months in the previous year, the research team were able to deduce if any of the tests had had any impact.



The neighbourhood stickers worked; households receiving those typically cut their water consumption by between 3.7% and 5.6%. The postcard also helped too with reductions between 3.4% and 5.6%. (The citywide stickers also had an impact, but a smaller one.) This was a relatively low-cost solution amounting to just $400 worth of stickers- a valuable approach for low income or developing countries who may not have the resources for technology based or more complex solutions.

In conclusion

Water is our most precious resource but often our most misused one and one we take for granted. The perilous situation in Cape Town in 2018 is a wake up call for all of us. In this article behavioural science helps us understand why we might often behave in a profligate manner with water - from our tendency to discount the future, our deeply embedded habits and also the fact that utility companies don't communicate our usage in the most cognitively easy ways.

The examples we discuss here, which aim to counter our profligate behaviour, have shown us that by leveraging behavioural science in simple ways - with minimal expense - such as leveraging real time feedback, social norms or giving us simple reference points, we can have a radical impact on our water consumption habits.

… So, go on, turn that tap off!

Using behavioural insights to make cities more people friendly

For our third article in Part 2, we focus less on small nudges to steer citizens towards a particular behaviour, and instead look at the environments in which we operate. City design, whether we realise it or not, plays a major role in shaping our behaviours and wellbeing; affecting whether we walk or take the car, feel safe being out alone, enjoy our public spaces, litter or recycle – just to name a few!

This article looks at how one company is working to leverage behavioural insights to design better cities and public spaces which celebrate how people and communities live, work and play. These insights could facilitate mass behaviour change in cities all over the world and ultimately help to improve quality of life.

How pedestrians have been squeezed out by the car

Over the past few decades, cities have been designed for cars, not people, leading to poor and even unsafe experiences for city dwellers. Cities and urban areas are still, as the esteemed Danish architect Jan Gehl (pictured) says, the "*product of the traffic engineers' heyday*". Often, the ratio of space for cars versus people is completely out of balance. For example, research by Gehl in New York City's Times Square, found that 90% of the available space was allocated to cars whilst 90% of the 'traffic' was pedestrians[51].

City planners know a striking amount about cars in their city and do a great job of monitoring and collecting statistics on traffic flows, parking spaces and driving violations, but Gehl has found, they tend to do a really poor job of gathering behavioural data on pedestrians.

They know very little about when, how and where their city dwellers are moving, what they are doing and what they would like to do. Poor design of urban space can also confine people and encourage them to use their cars to get around, rather than walking or using public transport. In an era of multiple health crises linked to a lack of physical activity, it's even more important to encourage people to use their own two feet and urban design has to incorporate this imperative.

Using behavioural insights for effective urban design

Frustrated with the misaligned focus on the car and spurred by his psychologist wife who asked why architects didn't try to understand ***people*** as well as buildings, Gehl formed Gehl Architects to specialise in the design of public spaces in urban areas[52].

Their novel approach makes them literal behavioural architects! It also bears some similarity to the thinking of Jane Jacobs, author of the 1961 book "The Death and Life of Great American Cities", who was an early proponent of humane urban planning. It was she who said, "Not TV or illegal drugs but the automobile has been the chief destroyer of American communities." [53]

Combining insights and understanding from the social and behavioural sciences with an expertise in architecture and design, they set out to understand human behaviour in a particular space, delving into people's use of public spaces, asking questions such as:

> How are people using their environments?

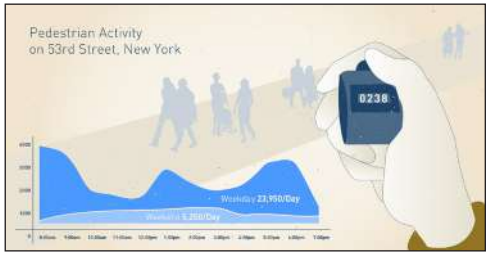
> Where are they spending time?

> How do these environments contribute to their quality of life and lifestyle?

> Where are they walking, sitting, playing or even lying down (if the weather is nice)?

> Who is moving around?- Is it only one demographic, or is it varied, including the elderly and young children?

They use ethnographic techniques to observe behaviour at all times of day during the week and weekends, counting how many men, women and children pass by and what routes they take, where they linger, sit down, what places they avoid etc. For example, see the chart below plotting pedestrian activity over the course of a day on 53rd Street, New York City.



Source: Gehl Architects

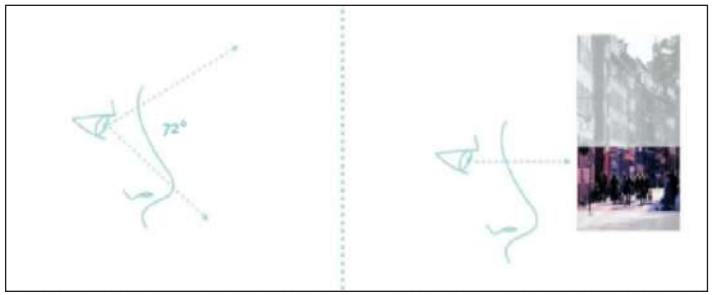
Their observations there revealed that only 10% of pedestrians were children or the elderly, even though these groups make up 30% of the city's population. One thing they've come to understand is that **low numbers of the young and old is a key indicator of a public space that is failing to meet the needs of its citizens.**

They take note of where people jaywalk, how long the wait is at traffic lights (in Sydney's George St they found that wait times could be as much as 52% of the walk time between two places), the areas and streets people avoid, and what obstacles they have to negotiate. They track the literal behavioural journey of urban dwellers. Noting that people automatically tend to take the easiest or most attractive route rather than the designated route, Gehl's team analyses the factors which contribute to attractiveness and ease of movement: the position of and number of bins, the tactile surfaces

of pavements, the availability of seating areas, fear of or threat of crime and insecurity, lighting levels and the need for lighting, and even if wind funnels through certain areas and how and where natural light and sunlight falls through the day[54].

They also analyse "visual pollution" from road signage, since too many signs can be overwhelming. We tend to notice what stands out and is **most salient**, but if there is too much clutter- too much trying to grab our attention- our eyes won't be drawn to anything in particular and we'll experience information overload.

They also focus on the spaces most salient to the human eye. We all know of choice architecture in the supermarket aisles where we tend to be drawn to the products at or around eye level. Urban design for movement works in a similar way, so Gehl's team observe and note what is in view at ground level on the street (that's 72 degrees from eye level).



This approach has generated unique insights which have been used to facilitate mass behaviour change in cities all over the world.

Gehl notes that by:

> *looking closely at what people were doing, we were able to identify certain factors that determined their behaviour and interactions. We were able to prove over many years that every expansion of the pedestrian system brought more people and more seats and more entertainment and more culture. For example, we found that for every extra 14 square meters of car-free space, you got another person participating in public life.* [55]

New Road, Brighton before it was redesigned, where the car is forefront to the design

They've now worked in numerous cities around the world – including Copenhagen – one of the most forward-thinking cities and early movers, Moscow, Los Angeles, Brighton, Sydney, Southampton, Mexico City, New York City, Stockholm, Perth and Sofia.

They use the behavioural insights they collect to improve the 'choice architecture' in a public space - making it easier for pedestrians to move around, making spaces more enticing to linger in by creating positive affect, making them attractive to the eye or touch, removing threats, or priming an activity or mood.

Bringing life back to New Road in Brighton

In Brighton in 2007, for example, Gehl Architects redesigned the New Road area, in the heart of the city one block back from the beachfront. It had become a run-down backwater, a hub of anti-social behaviour, with something of a no-go feel to it, where people with drug problems tended to hang out. It was a very wide street, where cars were prioritised so that there was virtually no pedestrian activity, especially in the evening, when poor lighting and perceived threat were also a discouragement.

To get a better understanding of how the street was being used, the team collected information on who used

the area, how and when they moved in and out of the street, generating a comprehensive pedestrian movement map.

They also interviewed locals, traders associations, councillors and the varied cultural institutions in the area to understand their current use of the shops, restaurants, theatres and gardens; to identify the different types of activity in the street as well as people's aspirations for the area[56]. Because shop owners on the street were worried about losing business if the street was completely pedestrianised, the team agreed to make it a shared space, but one which prioritised pedestrians over cars.

They resurfaced the entire street with natural stone (granite), removing the cues which we automatically associate with the car- the kerbs, crossings and road signs- to leave no delineation between the pavements and roadway. To prime people to linger and make it easier to spend leisure time there, they replaced the car parking spaces with a carefully honed, long wooden bench looking onto the edge of the Pavilion gardens which backed onto the street. To further prime the context to convey positive feelings of relaxation and encourage lingering and appreciation of surroundings they cut back the trees in the park so that the iconic Brighton Pavilion buildings could be seen from the street.

Uniquely, they also consulted the Guide Dogs for the Blind Association, not only to ensure the redesign met the needs of the visually impaired, but also to use the same sensory techniques which facilitate their mobility, to move and channel people through the space, for instance drawing on tactile guidance strips to mark the edge of the street and textured paving areas to mark

thresholds (e.g. to shops) and potential hazards. This generates **unconscious, sensory feedback to guide pedestrians smoothly through the street[57].**

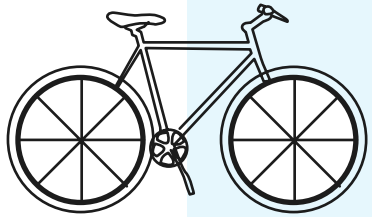
Noting that the street, which houses a number of theatres, had potential for evening socialising, they also redesigned the lighting to be warm and bright so that it felt welcoming and safe, even working with a lighting artist to build tiny lights into the wooden bench to make it feel warmer and encourage people to linger (see photo).

Then they trained city staff to quantitatively assess and track pedestrian movement, so they could measure the sustained impact of the redesigns and analyse and document how people were using new spaces.

A survey carried out in 2008, just one year after the road reopened, showed that traffic levels had dropped by 93%, the number of pedestrians had risen by 162%, and cycling had risen by 22%.

Importantly, there had been a huge uplift- 600%- in people lingering, socialising and enjoying the area. Surveys of the street pre-renovation found little to no activity, but in 2008 a survey at 10am, 1pm, 4pm and 8pm, captured 500 'staying activities'. By 2010 New Road was the fourth most visited place in the city[58].

People now enjoy spending time there. The shared space for cars and pedestrians also appears to have been a success. Monitoring of cars on New Road showed that they drive at extremely low speeds, and very tentatively. The project went on to win no less than four awards in urban design[59].



Other progressive cities are also making steps to claim back space from the car for pedestrians:

> In Madrid, 24 of the city's busiest streets have been redesigned for pedestrians and urban parks will be linked in a network which prioritises pedestrians, followed by public transport, bikes and, finally, cars.

> In an attempt to diminish city centre pollution, Milan rewards those who leave their cars at home with a free voucher for bus or train travel – an internet connected dashboard box keeps track of the car's location.

> Hamburg, like Madrid, is developing a green network across the city, with the aim of making it possible to walk or bike anywhere.

> And a new satellite city planned in SW China near Chengdu, has a layout which has been designed so that any location can be reached on foot in 15 minutes[60].

The redesigned New Road in Brighton, Source: Gehl Architects

In conclusion

You could argue that for years much of the emphasis of architecture and urban design in cities has been anti-people - benches that are uncomfortable to sit on and which discourage lingering and even lying down, the removal of public toilets, a dearth of pedestrian areas and, above all, a focus on the car.

In this context Gehl's clever behavioural work looking at human movement and identifying simple ways to enhance city living for people is deeply refreshing. The ability of small changes to begin to humanise the concrete jungles in which we live gives us hope. Let us not forget that cities are where people come together, where communities need to thrive, where we can grow in all dimensions of our lives. We need human champions in city development, and people to lobby for the needs of residents. And, since we now have affordable housing quotas, why not a quota for human friendly, car free spaces?

In recent years cities have been changing, both their business and social roles are in flux and there is, therefore, no better time for us to 're- architect' cities in a way that understands human behaviour in order to put people first and build stronger societies as a result.

How BE is nudging us to be a more giving society

Whilst sticking to the overarching theme of this chapter, we move away from environmental issues in this final article, and instead focus on charitable giving – *specifically how BE is nudging us to be a more giving society*. In this article, we highlight some key insights and findings that are being applied to help encourage us to donate more and more generously.

The UK is a generous nation. According to the Charities Aid Foundation, UK citizens donated over £10 billion to charitable causes in 2016, and 61% of people report they have donated in the last year[61]. Australians do even better, with over 80% of the population making donations in 2015-2016, giving away a total of $12.5 billion. Still, there are always more worthwhile causes and more people in need, and there is always room to give more, particularly to neglected, yet effective charities.

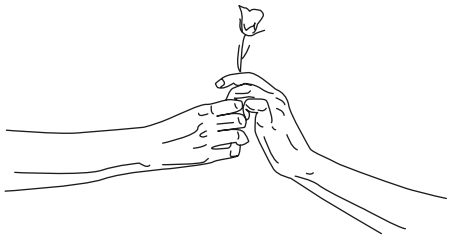
Many recent insights from behavioural science show the potential for boosting donations and making the society we live in even more philanthropic.

Behavioural Insight 1:

We tend to give…. what others have given before us

We are wired to copy others and to follow societal norms, especially when we're unsure what to do, short on time, or feel pressure to conform and 'fit in'. From choosing a restaurant based on the simple fact that it's busy, to buying the same insurance policy, car or gadgets as our friends and family, we are driven to 'fit in' and do what others are doing. Might that apply to charitable donations too?

To test this idea, researchers conducted an experiment over the course of two months at a free art gallery in Wellington, New Zealand. They placed a transparent donation box in a visible location in the entrance lobby of the gallery and then varied how much money it contained.



> The box was filled with NZ$100 in a variety of denominations in one of three ways:

> Mostly coins, (made up of lots of 50 cents!);

> Small bills, ($5 x 20);

> Large bills, ($50 x 2); or

> Or it contained no money at all.

Source: Randal, John, How is Donation Behaviour Affected by the Donations of Others? (December 16, 2009). Journal of Economic Behaviour and Organization, Vol. 67, No. 1, December 2008.

Over the two months the gallery had around 21,000 visitors. Tracking contributions by visitors revealed that donation amounts tended to reflect the original contents of the box. New visitors tended to copy what other visitors had given before them. For example, a donation box containing a large quantity of coins resulted in a large number of small, coin-based contributions, whilst a box containing a few larger denomination bills resulted in a smaller number of contributions, but at a higher value.

Boxes with money inside attracted significantly higher donations than completely empty boxes[62].

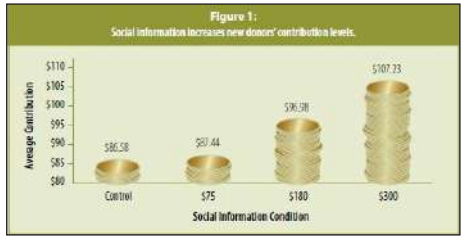
This illustrates how social norms can sometimes influence when and how much we are likely to give. Seeing that others have already made a contribution seems to make us more likely to give, since we want to conform with what others have done before us. The coins and bills in the box may also serve as an anchor or reference point to suggest what amount may be socially appropriate to donate. Amounts and

denominations might also signal the wealth or generosity of previous donors. Seeing the box is full of coins might signal that even the least well-off donate to this cause, whereas a box with a couple of $50 bills might signal that only the very well-off or particularly generous or devoted art fans donate.

Behavioural Insight 2:

We tend to give… what the last person gave

Another study found a similar effect. Mentioning the size of the previous donor's contribution also seems to increase donation amounts. Rachel Croson, an economist at the University of



Source: https://nonprofitquarterly.org/2010/09/21/social-influences-in-giving/

Dallas, and Jen Shang, a psychologist at Indiana University, examined data from a phone-based public radio station pledge and observed how knowing how much previous donors had given could encourage listeners to make larger contributions.

When callers were informed that a previous donor had made a contribution of $300 (where the average contribution was $75 dollars), they gave an average of 12% more[63].

We might explain this by reasoning that, as in the previous experiment, we want to conform to what others have given. But behavioural scientists also note that we tend to make decisions by anchoring to reference points. In this case, the previous donor acts as the reference point and people adjust their own donation based on that amount. Note that if the contribution mentioned was too large, people did not give more, illustrating, as a previous study by Leif Nelson and colleagues also found, that anchoring effects have their limits. If the reference point we are given is too high, we pay no attention to it.

Making a caller aware of a similarity between them and the previous donor raised giving even higher. One group of callers was told, "We had another donor who gave $300". A second group of donors was given similar information, but with the previous donor's gender matched to the caller's: "We had another donor; he/she gave $300." Sharing the same-gender as a fellow donor resulted in a 34% increase in donations, compared to the more general benchmark. Whilst we often want to conform to what others do, we are even more likely to conform if the 'others' are like us – and we have something we value in common with them.

Charities could benefit from making prospective donors aware of what others have already given. Some donation platforms, such as JustGiving provide an option to make this visible, but more likely we are just given a selection of donation amounts to choose from.

Behavioural Insight 3:

We tend to give more… when reminded of our previous donations

Behavioural scientists and psychologists have found that we like to be consistent in our actions and maintain our identity. This seems to be true for many types of behaviour – from being a voter, giving blood, to playing sport and other leisure activities. If we've voted before, we feel compelled to vote again, if we've given blood in the past, we feel compelled to give blood again. A team of behavioural scientists set out to explore whether reminding people of their past donation(s) to a cause can increase the likelihood they will donate again to the same cause and even donate more.

In a large-scale field experiment conducted with the American Red Cross (ARC), researchers sent direct mail to over 17,000 individuals who had previously donated to the ARC but had not contributed in the last 24 months. All letters used the greeting, "Dear Friend and Supporter," but one set of letters also included the note, "Previous Gift: [date]" below the postal address.

Researchers found that including this extra line increased the probability of a donation. Importantly, average donation amounts also increased by around 4%, from $3.41 in the control condition to $3.83 in the 'Previous gift' group. Whilst the increase in amount donated sounds small, if the entire mailing had included the extra line, the ARC would have raised an additional $7000; that's $65,000 instead of less than $58,000[64].

Reminding donors of their identity as supporters of the ARC also played a role in nudging people to feel the need to maintain that identity by donating again, and even donating slightly more. People want to be seen to be consistent with past behaviour; society generally frowns upon inconsistent behaviour such as changing opinions and actions, or not following through on commitments. Those who have been past donors often feel greater commitment to give again. So charities could make good use of this finding by highlighting people's previous donations and forging their identity as donors. If we have donated before, we are more likely to donate again – especially if we are reminded of it.

Behavioural Insight 4:

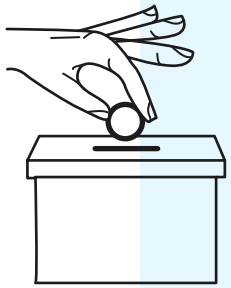
We might give more… when we can signal to others we are donors

Yiwei Zhang, Judd Kessler and Katy Milkman at the University of Pennsylvania recently looked at what might prompt alumni to give to the university[65]. One hypothesis they tested was whether someone receiving recognition as a past donor in the university's Honour Roll might prompt them to give again and/or give more.

The society we live in approves of loyalty, and consistent giving to good causes is an excellent example of this. Add to this our desire to be known to be conforming to these social norms. Zhang and her team wondered if alumni might value the opportunity to signal their loyalty.

Taking a group of 120,000 Penn alumni, they introduced two public recognition programs for alumni who gave to the University in consecutive years. One program publicly recognised any donor in an Honour Roll, ranking them by $ brackets so that not only would others see that they had donated, but they would also get a rough idea of how much. A second program tagged donors with a symbol after their name on the Honour Roll if they had given consecutively over the last three years, allowing donors to signal they were frequent and consistent donors.

In the year the programs were introduced, those eligible for recognition were significantly more likely to donate and donated more relative to those who were ineligible. The first program raised donations – some people even gave just enough to qualify for the next bracket up! In the second program, alumni were attracted to the symbol after their name and the prospect of being publicly recognised for previous sustained donations dramatically increased donations in the current year.



Both programs, however, leveraged our desire to show society we are altruistic people. (And perhaps, more cynically, allowed people to show fellow alumni they were making enough money to donate regularly, boosting their status.) Charities and fundraisers could capitalise on this insight by publishing names according to the amount donated or ranking their most consistent and regular donors.

In conclusion: Towards a better future

We are not only altruistic, but we are also social creatures. Recognising this could help us to become an even more giving society, which, in light of the growing inequalities within our societies, is more relevant than ever.

These simple insights from the wealth of research produced by behavioural scientists today – that we are more generous when we are more aware of what others have given, when we are reminded of previous donations we have made to the same cause and if we are able to signal to others that we are a generous or regular donor - could be applied to help us build better, even more altruistic communities.

We steer away from charitable donations now, and focus instead on how BE can help our own financial decisions and improve our financial health...

03

Finance

In Part 3 of this book we investigate the application of behavioural science to finance, and how it can help enhance our financial futures. Our first article 'Money Matters' explores four effective approaches, founded in behavioural science, that are helping to increase financial engagement, assisting us in adequately preparing for the future.

Money matters

Many of us have a tendency to focus on today's financial needs, burying our heads in the sand when it comes to thinking about saving, particularly for retirement. That time of life can seem such a long way off, whilst in the present moment there are so many pressing demands on our money: a new car, house maintenance and improvements, as well as annual holidays and even Christmas presents for the children.

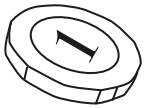
Compounding this problem is our tendency to hope for the best and optimistically believe we'll earn more money in the future, or even that 'it'll all work out in the end'. We also struggle to imagine our future selves – an effect known as the 'end of history illusion' – meaning that we may find it difficult to plan for the future because we don't feel we will change or have different needs from the ones we have now.

On top of this, financial products can be complex and, understandably, people struggle to make sense of them, often losing concentration and switching off. The latest statement is consigned to a pile of unread notifications and emails are left unopened.

Why the 'Autopilot' approach may not be enough

Whilst some 'autopilot' initiatives such as auto-enrolment[66] and auto-escalation[67] in retirement savings – inspired by insights from behavioural science – have certainly had huge impacts and made leaps forward in basic participation in savings schemes, they ask nothing from individuals in terms of engagement.

This type of approach leverages what is known in behavioural science as a 'System 1' approach – when behaviour change is achieved by relying on our tendency towards inertia and settling for the status quo, and for choices and selections that require the least effort in both thought and action on our part.



In this scenario, an individual could be auto-enrolled into a pension in their current job, accept the default fund(s) and the default contribution rate (currently 2% in the UK, but increasing over time to an eventual 8% in 2019), but have very little understanding or engagement with their pension. Individuals might not even remember they are enrolled in a pension plan, let alone think about how to optimise it for their needs. And not consciously choosing to do something can result in a lower level of commitment and responsibility or ownership.

In the US, this lack of engagement also means that people are cashing out their retirement savings, not understanding how vital it is to keep these savings untouched. One in four households with a defined contribution fund cashes-out its savings, meaning that as much as $70 billion is withdrawn from 401(k)s* on an annual basis[68]. *employer sponsored retirement savings plan.

Jonathan Rowson of the RSA summarises the issue succinctly:

> *"Nudge changes the environment in such a way that people change their behaviour, but it doesn't change people at any deeper level in terms of attitudes, values, motivations etc."*

He and other social scientists still see the need for a more conscious, thoughtful engagement, which aims to "foster the transformative learning we need to make significant and enduring changes to our behaviour.[69]

With this in mind, some behavioural scientists and practitioners have been looking at ways to build greater and more sustained financial engagement with employees, so that they become more capable of managing their money for the future. This approach draws more on employees' 'System 2'- their logical, rational thinking style- looking at how we might get them to consciously reflect on how they should best save for their future.

In this article, we discuss four simple, yet effective approaches that are building greater engagement with our finances, so that we are sufficiently prepared for the future. None involve any radical, costly changes- they are just tiny tweaks in how and when information is presented. Yet, all of them show promise.

1) Keeping people's attention by asking less of it

One seemingly counter-intuitive approach proposed by a financial company called *Hellowallet* may increase levels of engagement by engaging with people less often, demanding less of their time and cognitive energy. Hellowallet is a relatively young company based in the US, which puts behavioural economics at the heart of what they do. It provides a web and mobile platform to Fortune 100 companies, which bring together each employee's financial accounts into one place for them to access. It also provides personalised financial guidance to enable better money management and to increase financial well-being.

Using the Hellowallet platform, they recently tested this theory in a series of randomised controlled trials with thousands of their clients' employees. Their standard approach had been to send platform users a weekly Friday email containing a summary of their finances, aimed at encouraging them to control their spending, build their financial literacy, begin to understand compound interest, build a budget, set up regular savings debits, etc[70].

Yet, they wondered whether they might increase engagement if they expected less of users and contacted them on a less frequent basis. To test this hypothesis, they selected one group of employees registered to use the Hellowallet platform to receive the summary email **every other week.**

They found that asking for employees' attention on a less frequent basis resulted in greater engagement over the long term. After 90 days, the open rate for bi-monthly emails was 65% compared to 58% for

weekly emails, a 7 percentage point lift. Click-through rates also increased from 23% to 29%. Their strategy of not inundating and overwhelming employees with communications paid off, with higher levels of sustained engagement in the long run. Whilst it's a small step, tiny adjustments like this can start to add up to increased engagement over time.

Effective communication can also be just about finding a good moment to engage with people. Talk to them when you might be able to get their undivided attention and fit learning around the time that people have. Samsung have been working with Nudge Global – a financial education company – to improve financial wellness among their employees. One of their initiatives has been 'Learn in the loo'- putting simple financial education content in the staff toilets where there is a greater opportunity to get someone's attention[71].

2) Increasing cognitive ease to increase engagement

Sometimes, it's not the frequency of information, but the sheer amount of it that can create a barrier to action. LV= and The Behavioural Insights Team (BIT) recently tested an approach which

focused on getting people's attention by including a simple one-page, 'go-to' summary inside a large pack of information.

In the UK, those approaching retirement are no longer required to purchase an annuity, but instead can take out a cash lump sum. These are complex choices and experts recommend that people seek financial guidance before making any decision.

Therefore, people in the UK can access free and impartial guidance via the UK's Pension Wise service. Those approaching retirement age are notified of the Pension Wise service through a signposting letter included in the standard wake-up information pack. However, these 'wake-up' packs often contain over 100 pages of dense, complex information, causing most retirees to feel overwhelmed and switch off rather than 'wake up'.

To address this problem the BIT consolidated the vital information in LV=’s pack into a single A4 sheet (see image), massively reducing the total amount of information customers have to digest, and making the most important information more salient, including clarifying the next steps to take.

The initiative had a significant impact, lifting the number of visits to the Pension Wise website from around 1% to almost 11%, and also increasing the proportion of customer calls to the service, from 5% to over 8%[72]. Whilst response rates ideally need to be much higher than this, it’s a promising start.

The Behavioural Architects have also been working with a large financial services provider to optimise retirement communications. Together, we’ve helped them to develop an in-house framework for designing customer communications, which carefully leverages insights from behavioural science to enable their team to ensure clarity in any customer communications and to drive action, whilst also steering customers to make informed choices that are in their own best interests.

3) Change the frame to change a mindset

Whilst it’s tough enough managing your money as an employee, the self-employed have an even harder deal. Income can be unpredictable, careful tax planning is required, and retirement savings and health insurance need to be organised and planned for. Many do not save enough money for either. In the US, 10% of US workers are self-employed and in the UK the figure is 15%.


[First Last]
Your Pension Passport
An overview of your pension to help you as you decide what to do with your pension in retirement.
Value of your pension as of 1 July 2015
£[fund value]
Scheme type
[Type of scheme]
Employer
[Employer name]
Membership
[DD MM YYYY]
Additional details
Your pension has a guaranteed annuity rate (GAR) starting on [DD MM YYYY].
Provider
[Provider name]
Reference number
[Reference no.]
What to do next
1 Go to Pension Wise
2 Book a phone or face-to-face appointment
3 Make sure to shop around before you buy a product
Pension wise
HM Government

The Pension Passport used in the LV= trial, source: The Behavioural Insights Team ‘Improving engagement with pension decisions: The results from three randomised controlled trials’ October 2017

To help solve this problem, Dan Ariely’s Common Cents Lab at Duke University partnered with Payable to encourage more self-employed people to open a retirement savings account. Payable helps tens of thousands of self-employed people get paid faster and more efficiently by making invoicing and work-tracking simple.

They used a simple A/B email to test if displaying someone’s income in annual terms, instead of “per job,” would increase their likelihood of signing up for a retirement account. This reframed people’s income to encourage a long-term mindset.

Reframing income in annual terms increased the number of people who clicked through to start saving for retirement with a third-party by 14.5%. Encouragingly, most of the 1099 people signing up indicated that they wanted to save 12% to 20% of their income[73].

4) Reframing information to increase comprehension and action

The Behavioural Architects have also drawn on the technique of reframing pensions information to make it more meaningful and encourage action.

We worked with a large financial services company to redesign the annual statement for retirement savings accounts. These are typically very dry, complex and poorly presented documents. Merryn Somerset Webb, editor of the personal finance publication Moneyweek recently commented:

> *I used to have a workplace pension with Standard Life. It was awful. I got a letter every year with a “plan summary” on it. It told me last year’s value, this year’s value and the amount added into my plan over the year.*[74]

For most people, these numbers are pretty meaningless and can also lead to what behavioural scientists call 'illusion of wealth' effects- thinking we have saved more than we really have, prompted by seeing the value of the lump sum saved so far. It can lead us to feel 'rich' and overconfident about having saved enough for retirement. A lump sum of £100,000 can seem like a lot to someone mid-career, earning an average salary, and may encourage them to rest on their laurels, but it is nowhere near enough to fund a retirement.

Research carried out by behavioural scientists Shlomo Benartzi, Hal Hershfield and Dan Goldstein tested ways to counter this effect in a small field experiment run in conjunction with a financial advisory firm. Financial advisers phoned 139 of their clients and told them how much money they had saved- either as a lump sum or in terms of what that sum would roughly equate to as their projected monthly income in retirement. They then asked them if they would like to change their current savings rate and if so, what that new rate would be. 36% of people who were quoted the monthly income figure opted to increase their savings, compared to only 21% of the lump sum group. In addition, those quoted the monthly income figure increased their savings rate by more than those quoted the lump sum figure.[75]

This finding demonstrates how reframing a lump sum figure into more meaningful numbers, such as monthly income or annual income, can prompt people to increase the amount they are saving. We automatically compare such income figures to our current salary which could help us to realise that we need to save more if we want to maintain a similar standard of living.

Keeping this in mind, we worked with our client to redesign the front sheet of their annual statement so that the lump sum saved so far was also converted into a projected annual income in retirement. For example, rather than a projected lump sum of £200,000 based on current savings and rate of future saving, we displayed it as a £13,000 per annum income in retirement. Enough not to starve, but hardly likely to provide a comfortable standard of living for most. This is the kind of shock trigger that might be necessary to prompt increased engagement with retirement planning.

This and other changes we recommended led our client to be rated in first place (with a score of 7.6/10 from an earlier score of 5.8) by an independent ratings agency for pensions information provision.

In conclusion:

Although initiatives such as auto-enrolment and auto-escalation are helping to get people saving more towards their retirement, they only solve part of the problem. Initiatives like the ones we've outlined, which help to increase engagement and understanding of savings and investments are essential.

For example, think about the time you are demanding of people and when you are asking them; think about whether the information is easy to access and simple to understand; think about different ways you might frame the same information or what reference points might aid understanding and comprehension.... These powerful insights can help radically change how we all think about our money, so we can plan better for the future.
The following articles also look at the application of BE to assist our financial decision making, and focus on:

a) A specific behavioural tool to improve our financial capabilities: **feedback**

b) Applying the various behavioural tools to a particular financial challenge faced by most: **debt**

We don't need no education!

Our second article in our finance section is 'We don't need no education: How financial feedback trumps financial education in improving financial capability'. Here we elaborate upon 'Money Matters' and how behavioural science is encouraging greater financial engagement by focusing on one important behavioural concept in particular: **feedback.**

Financial education is not the only – nor is it the optimal – strategy to improve our financial decisions and capability.

Our financial capability – being in control of managing our money – is crucial to our financial health. Without it, we may struggle to pay off debts, pay bills on time, buy a house, set aside savings for unexpected emergencies, or save for our future. Yet, achieving financial capability is difficult. Basic financial literacy and numeracy skills can go some way to solving the problem, but it's not immediately clear how best to achieve this as financial education seems to have little impact on financial capability. It doesn't help that financial decisions are often one-off, or infrequent, whilst the consumer finance market is dynamic and ever-evolving, meaning that financial education may easily become out-dated.

> *Objective observers generally admit that research to date does not demonstrate a causal chain from financial education to higher financial literacy to better financial behaviour to improved financial outcomes, in part due to biases, heuristics, and other non-rational influences on financial decisions.*

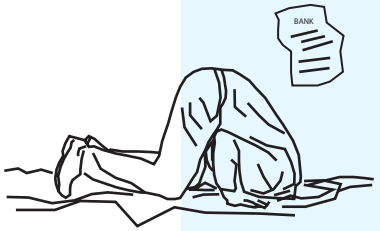
This fairly damning quote comes from Lauren E. Willis, Professor of Law at Loyola Law School and consumer finance specialist[76].

Studies of existing financial education programs have shown that even semester-long high-school courses and 18 months of adult credit counselling fail to have an impact. A 2014 meta-analysis of over 200 studies showed no relationship between financial education and financial literacy. Daniel Fernandes and his colleagues carried out a review of 168 papers covering 201 prior studies investigating the relationship between financial literacy and financial education and its impact on financial behaviours. They found that interventions to improve financial literacy explain only 0.1% of the variance in financial capability and behaviours studied, with even weaker effects for low-income individuals[77].

Moreover, they also found that any impact from financial education seems to have little, if any, lasting effect on financial literacy.

Financial education seems to decay over time; even large interventions with many hours of instruction have negligible effects on behaviour 20 months or more from the time of intervention. After just 18 months, they found there was no significant effect from even 24 hours of instruction.

Compounding this deficit, as Lauren Willis acknowledges above, are the impacts of the many cognitive biases and less rational thought-processes on our financial decision-making. For example, we tend to procrastinate, especially over complex choices that we struggle to understand, we often stick to the status quo- for example, staying with the same bank even though they don't offer the best service, we suffer from present bias; impulsively or emotionally spending our money today rather than using it to pay off debt or save for tomorrow. And we use flawed rules of thumb and mental shortcuts. Many of us are over-optimistic about our finances, sometimes burying our heads in the sand about the future, or 'mentally account' for and spend money differently depending on where it's come from.



In the light of these common flaws and biases which can prevent us from making good money decisions and which are tricky to 'educate' out of us, what other, more innovative solutions are there to help tackle our attitudes and improve our money management skills? This article considers the role of a simple tool which has been shown to change our financial behaviours for the better.

This tool is to **give feedback.** Social scientists have demonstrated that feedback plays an essential role in our ability to learn and embed new skills in many different areas, since it can motivate us, increase our engagement and ultimately, help us to achieve our goal or change our behaviour. Its impact is further enhanced if that feedback is personalised and specific (such as a score or a rating).

> Personalised credit feedback

A recent large scale field experiment devised by Tatiana Homonff, Rourke O'Brien and Abigail Sussman combined these insights about specific feedback to test whether providing recent graduates with their credit score could help to initiate a deeper interest in financial wellbeing and motivate individuals to improve their financial capability and, with luck, their credit score.

Partnering with a student loan company in 2015, they set up a multi-year randomised control trial with 400,000 existing Sallie Mae student loan borrowers and provided them access to view their FICO scores.

The FICO score is used by 90% of the top lenders in the US to determine the credit risk of an individual. It ranges between 300 (poor) and 850 (excellent) and is a factor in how much money a lender will lend someone (e.g. for a personal loan or mortgage) and at what interest rate. Many individuals do not know their credit score, and if pushed to guess, typically overestimate it, assuming they score better than they actually do.

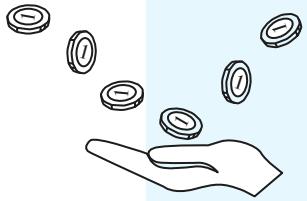
The research team tracked the individuals over the course of 21 months and found a positive, long lasting and statistically significant impact from viewing credit scores. Borrowers were less likely to have any late payments, more likely to have at least one revolving credit account such as a credit card, and to have higher FICO scores. They were also more likely to accurately report their own FICO score and not overestimate their score. Detailed impact evaluation will be published in due course, but these are promising initial findings[78].

This is a tiny, inexpensive tweak and yet one which appears to reap large benefits in terms of individuals' financial capability and awareness, helping to correct and guide people to better management of their finances with little interference from external sources. Frictionless feedback at the right time and in the right context.

Feedback is best when it is not only personalised, but when it is delivered at a time when we'll pay most attention to it. Smartphones are aiding this type of feedback in many channels, including financial decision-making, by removing some of the behavioural barriers and

friction present in the web-based and offline world, and enabling feedback on the state of one's finances at the time when we need it most to make the best decision.

Our bank balance is constantly changing and, frustratingly, still not real-time. Further, many of us are living paycheque to paycheque, or with multiple sources of earned income which can result in a very volatile cash flow.



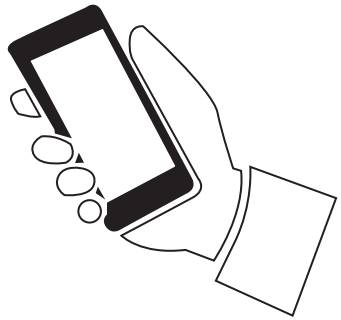
This means we often need to check our current balance before making a purchase, especially if it's a large purchase. Behavioural economists Shlomo Benartzi and Yaron Levi analysed the financial behaviour of customers of Personal Capital after they had installed a new mobile banking app. Personal Capital aggregates all your accounts - from current account, mortgage and credit cards, to investment and savings accounts- bringing them together into a single online dashboard which allows users to track their holistic spending behaviour easily, in one place.

The app provided exactly the same services as Personal Capital's original web platform but reduced another barrier to effective money management – making it easier to keep track of spending and available funds whilst on the move, particularly at timely moments such as a potential point of purchase, as well as making it easy to access via a mobile interface.

Levi and Benartzi compared access rates for the three months prior to the mobile app launch and then for the following four months, using data from Personal Capital. A web-only user viewed their financials 2.14 times a month on the website.

That frequency rose to over 12 times a month – that's three times a week- after someone had installed the mobile app. That was in addition to views via the website platform, meaning these were likely context-based views. These customers also reduced their discretionary spending by over 15%- on items such as dining out and groceries[79].

This behaviour is also supported by survey data from the US Federal Reserve Bank for November 2015 which found that 62% of mobile banking users with smartphones said they had used their mobile phone to check account balances or available credit before making a large purchase in the 12 months prior to the survey. Of those who did this, 50% said they had decided not to buy an item due to low funds in their bank account or insufficient credit[80].



In conclusion:

These simple interventions, leveraging some of the valuable insights from behavioural science, illustrate how improving our financial decision-making is less about rigorous, expensive, intensive financial education and more about providing people with the relevant information they need to know, at the right time, in an easy-to-access format.

BE debt free faster

Our third article 'BE Debt Free Faster' focuses on one specific area of our finances – debt. With credit card debt becoming increasingly prevalent worldwide, we explore the role behavioural science can play in helping people tackle their debts.

Credit card debt is a significant problem for a growing number of people in many countries. For example:

> **In the UK,** credit card debt is growing at a record rate of 8.3% (February 2018); average credit card debt per adult has reached £1,394 and total credit card debt stood at £72.4 billion (September 2018)- higher than even before the 2008 financial crisis. The Financial Conduct Authority has identified 4 million people who have what it calls 'persistent levels' of credit card debt. Beyond that, other forms of debt such as car loans and personal loans have also risen, so that the average household is now expected to owe £15,000 by 2020.

> **In Australia**, credit card debt is also high. Overall credit card debt reached a record high of $52.2 billion in 2016. The average debt of a credit card holder in Australia in 2018 was $3,170; the average card balance attracting interest was $1,903, with Aussies even using credit to pay for basic goods and bills. One survey found that 25% of all credit card spending went on groceries, 16% on utility bills, 16% on general shopping.

> **In the US,** credit card debt reached $1.04 trillion in May 2018, again, the highest level since the 2008 financial crisis and 5% higher than in 2017. The average American has $6,375 of credit card debt. Millennials are also saddled with considerable student debt – the average student debt stands at $37,172, an increase of 85% from 13 years ago and 11.5% of student loans were more than 90 days past due.

There is of course, no single explanation for why people end up stuck in a financial swamp. External factors such as rising living costs and reduced benefits / welfare systems are certainly partly to blame. We also know that financial literacy levels are low and this lack of knowledge and confidence can hamper good decision-making.

In addition to these factors, insights from behavioural science have shown how the very way our brains are wired can also lead us into debt. For instance, our tendency to 'discount the future' and value gains in the present over gains in the future can make it tempting to spend more than we can afford. Impulsive, 'hot' emotional behaviour can accentuate this. Over optimism about the future can also lead us further into dire straits, believing that tomorrow, we'll get that pay rise, or win the lottery. Millennials also often suffer from a type of despondency and inaction related to feeling daunted by the amount they need to pay off or save to reach a personal financial goal. They stall, 'rabbits in the headlights' because they see no point in starting to attempt the goal, or struggle to find the capacity to break up the goal into more manageable sub-goals.

So how are insights from the behavioural sciences being leveraged to help people pay back their debt and keep it under control? Below we outline three different initiatives:

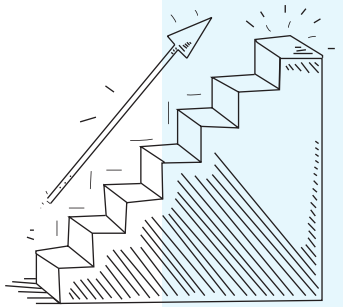
1. How behavioural science is helping us develop a more effective plan to pay back debt

In 2013, a team of US researchers partnered with an anti-poverty agency in Oklahoma, US to run a pilot intervention called 'Borrow Less Tomorrow' to see if they could leverage BE to encourage consumers to pay back their debt.

Over 400 consumers volunteered to take part. The majority were on low incomes, with 75% reporting a total annual household income of less than $30,000. The average individual credit card and auto loan debt of participants was $2,447 and $5,546 respectively. Researchers randomly assigned 238 individuals to receive the intervention, and 227 individuals to the control group.

The intervention was three fold:

> **First,** participants were offered the chance to work with agents to develop a repayment plan. Repayments were designed so that they automatically increased and accelerated over time. As the lump sum of debt is paid off, minimum interest payments fall meaning this money can be used to pay off more debt, snowballing repayments. Making a plan leveraged what behavioural scientists have termed 'implementation intentions'- the act of making a specific plan of action, helps people feel committed to making repayments, eases the cognitive burden of working out the nitty gritty of how best to do it and embeds the plan in the memory so that we remember to carry it out.



> **Second,** participants were given the option to select one or more of their peers to be notified if they fell off-track with their repayments. The peer could then offer encouragement (but not financial support) to help them regain momentum and reach their repayment goal. This leveraged what's known as injunctive social norms- when we are aware of what we should be doing according to societal attitudes- by creating peer pressure to pay down debt.

> **Third,** participants received monthly reminders by email and phone to keep repayments front of mind and reduce forgetfulness. We all lead busy lives and it's easy for things to slip our minds, so using simple reminders prompts us to fulfil our well-meaning intentions.

Of those in the intervention group, 41% signed up for an accelerated repayment plan and after 12 months, 51% were on track with their repayments. And crucially, **debt levels were lower than the control group**. With the three-point plan of action people paid off their debt faster.

2. Reframing the cost of payday loans

Payday loan companies usually charge phenomenally high interest rates, making them an expensive source of credit. Policy makers and regulators are often concerned that these loans are marketed in ways which pull the wool over consumers' eyes- using opaque terms and not making important conditions salient or easy to understand. Are consumers always fully aware of the real cost of the loan or are they being duped? And if it is the latter, should regulators act to make information more transparent and easy for the average consumer to understand?

In an attempt to address this issue Marianne Bertrand and Adair Morse looked at whether reframing the cost of the loan impacted whether and how much people borrowed[81].

There is considerable evidence to suggest that people struggle to fully understand what APR means and even if they do, overconfidence about their ability to repay or the pressing need for money today may outweigh any concerns about how the loan will be repaid in the future.

The researchers wanted to see if presenting the repayment implications in an alternative, easy-to-understand format would make a difference to demand for loans, so they showed consumers how the repayments stacked up over time in actual dollar amounts,

Annual interest rates on different types of loans	
	Median Annual Interest % (from government surveys)
Payday Loan	443%
Installment Car Loans	18%
Credit Card	16%
Subprime Mortgages	10%

Cost in fees or interest if you borrow $300			
PAYDAY LENDER (assuming a $15 PER $100 loan)		CREDIT CARD (assuming a 20% APR)	
If you repay in:		If you repay in:	
2 weeks	$45	2 weeks	$2.50
1 month	$90	1 month	$5
2 months	$180	2 months	$10
3 months	$270	3 months	$15

Top: The old frame using interest rates to compare the cost of the payday loan. Bottom: The new frame using actual dollar amounts to compare the cost of a payday loan, source: Bertrand, M., Morse, A. Information Disclosure, Cognitive Biases and Payday Borrowing, October 2009

thereby enabling potential borrowers to see at a glance how much they would need to repay over time.

Managing somehow (!) to collaborate with one of the largest nationwide payday lenders in the US, they tested framing the cost of a payday loan either:

- in dollar amounts (new frame); or
- using interest rates (old frame)

See image for the actual graphics used in the intervention.

They found the dollar reframe reduced take-up of payday loans by about 10% in the 4 months after people were exposed to the reframe. And importantly, those with less education responded more to the reframe.

This suggests that this type of regulation- about how loan information is disclosed- would have a significant impact on the propensity of people most vulnerable to making a poor decision to take out such loans.

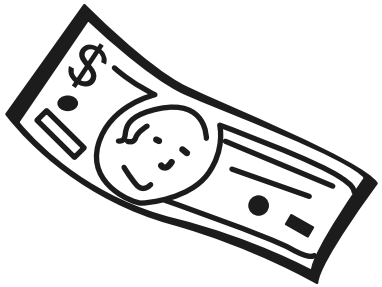
3. Giving people a simple rule of thumb for using credit

We navigate life using many rules of thumb – simple, easy shortcuts for making quick decisions – yet in the financial world they are few and far between, making managing our money a very confusing and complex endeavour. An initiative by the Arizona Federal Credit Union in Phoenix tested an idea based on a simple rule of thumb to see if they could help people buy less on credit. First, they identified 14,000 customers who were not paying off their credit card bills. Over a 6-month period, customers received an email, were mailed a fridge magnet or were shown online banners reminding them about a simple financial rule of thumb centred on the observation that numerous small payments quickly add up:

> ***"Don't swipe the small stuff. Use cash when it's under $20."***

This heuristic made it easy to decide whether or not to pay for a purchase by credit card. It provided a simple and memorable shortcut which guided people into using their credit card less often, perhaps even helping to make using it less of a habit.

By the end of just 6 months, customers' average credit card balance was cut by $104 or 2% lower than the control group. This difference kept on growing over subsequent months. Just three months later, those exposed to the rule of thumb had a balance $161 lower than the control group. Although this is a relatively small impact, it was a virtually costless intervention and the gains quickly build up over time.



In conclusion:

These are just three examples of how insights from behavioural science are helping people to gain greater control of their finances: how simple rules of thumb, tiny changes in how information is presented, defaulting people into repayment plans and simple reminders can have significant impacts down the line.

As shown in the three articles in this section - behavioural science is often not about big, brash, revolutionary changes which turn existing systems upside down, but more about how to tweak and fine tune existing communications to make them work - often astoundingly - better.

04

Regulation

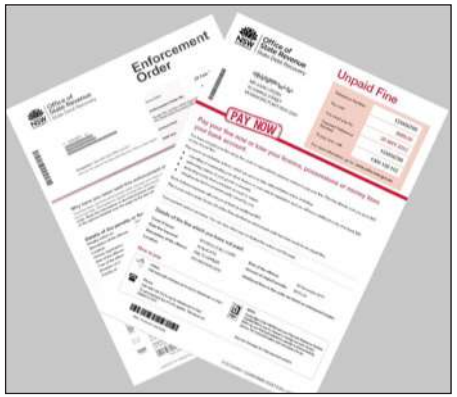
In the fourth and final section of this book, we turn to the less popular but important question of regulation. Our two articles explore regulation from two different angles. The first looks at how behavioural science can help us be more responsible and law abiding citizens, while the second highlights the potential 'dark side' of nudge and how we can use BE as a framework to analyse and regulate company behaviour

How much do you bend the law?

Let's be honest, we all have the best intentions to pay fines and bills on time and comply with the law, but research shows that most of us can sometimes be a little tardy about this, and occasionally, even dishonest, given the right opportunity. And our busy lives don't help. It can be all too easy to simply forget to pay a fine or penalty ticket.

Behavioural scientists have been working with governments and other organisations to try to help us to be more responsible citizens and reduce non-compliant behaviours. Clearly, we benefit from this since compliance will mean we avoid serious consequences- such as larger fines or prosecutions, or the loss of valuable assets such as our car. For government organisations, just a small uplift in response rates from the public can result in significantly higher revenues and less administrative burdens in terms of costs and time wasted, since they no longer need to chase as many non responders. In this article, we outline four examples which highlight the successes and different approaches of the low-cost experiments leveraging behavioural science being undertaken by governments and organisations to tackle this problem. From Australia, to the US and UK, behavioural insights are being adopted to help us behave like the model citizens our governments would like us to be.

How behavioural science is encouraging people to pay their fines



Source: Behavioural Insights Unit, NSW DPC

A few years ago, the Behavioural Insights Unit within the New South Wales Department of Premier and Cabinet in Australia, partnered with the Office of State Revenue to see if they could nudge prompt payments of fines, debts and taxes from citizens.

First, the team conducted in-depth behavioural research amongst frontline staff in the call centre and compliance department to discover why people might not be responding to the payment notices.

They identified three core problems at the root of noncompliance:

> People were not always sure what the payment notices meant

> They were also unsure as to what action they needed to take

> They were not always aware of the consequences of non-payment

With these findings in mind, the team redesigned the payment notices using insights from behavioural science, in particular those which had been found to improve response rates to letters. They made a number of changes:

> To make it clearer that an urgent payment was required to pay the fine, they added a prominent 'Pay Now' stamp. We tend to notice what is salient and stands out- as long as there isn't too much trying to catch our attention.

> Responding to the perception that the letters lacked clarity and direction, they simplified the language used, writing in straightforward English and making plain the consequences of not responding to the letter: '**Pay your fine now or lose your license, possessions or money from your bank account**'. When information is presented in a way that requires minimal cognitive capacity and effort, we are more likely to pay attention, read and absorb that information. As the deadline to payment became more urgent so the language also became more direct, shifting from '**amount owed**' to '**you owe**'.

> The team also made use of colour in the design and text. In Western culture, we know that red is often a negative indicator and usually means we need to take action. At the very least we are wired to pay attention to words in red (it's no accident that all imperative/warning road signs are red). So the '**Pay Now'** stamp and other important parts of the text and design were shown in red if payment of the fine was becoming urgent. (Early versions of the payment notice were printed in blue.)

> They also added a line stating that the majority of people paid their fines on time. For example, '**8 out of 10 people pay their fine on time'**. We tend to want to conform to social norms and do what everyone else is doing. Letting citizens know that they were in the minority for not having paid up, could likely nudge them to respond.

In February 2013, there were over 48,000 people who owed payments of this type. The team sent out versions of the new letter to half of those people and versions of the original letter to the other half.

The new letter prompted an increase in on-time payment rate of 3.1 percentage points - from just under 15% up to almost 18%.

Even though this seems a small relative increase, it amounted to over Aus$1 million in revenue and meant that almost 9,000 people did not face the consequences of non- or late payment, such as losing their licences or having their vehicles deregistered. And with 2.7 million fines issued each year, rolling the letter out more broadly- as they are already doing- will save government departments even more.

The Manager of the Office of State Revenue commended the trial, saying:

"Applying behavioural insights has allowed us to make our letters and notices simpler and easier for people to respond to. By helping people to take action, we are supporting the community to avoid further sanctions."[82]

Using behavioural science to nudge people to pay their bills on time

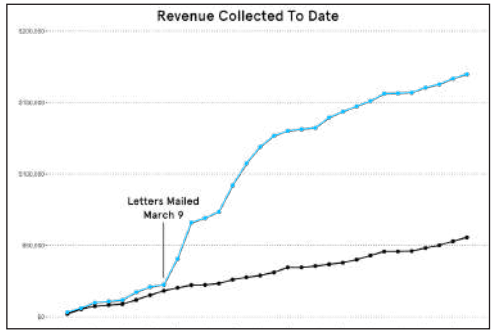
In Chattanooga and Lexington in southeastern US, many people were not paying their sewage bills even though they had the resources to do so. On the understanding that people miss or forget to pay their bills either because they may not open the payment letter in the first place, or because they simply overlook it in the context of direct mail overload, The Behavioural Insights Team in North America designed a different intervention for each city to get people to open the letters and help them understand how to pay their bill. In each of the cities the redesigned letters included a salient red 'Pay Now' stamp at the top and used clever framing to remind people that non-response was a deliberate choice, rather than an oversight.

However, the **letters to the citizens of Lexington differed in one essential aspect** from those in Chattanooga in that **they also leveraged reciprocity**. Reciprocity is our tendency to reciprocate actions others have done to us, creating a 'web of indebtedness'. If somebody does something for us, or gives us something, we are more likely to return the favour or pass the favour on.

Source: BIT North America

Recognising that one of the biggest barriers preventing people from responding to letters stems from them not opening the letter in the first place, a handwritten note was added to the outside of the envelope, encouraging Lexington residents to open the letter. The notes read "Ann, you really need to open this" or "John, you really need to read this", adding a personal touch and reminding recipients that an actual person had sent the letter. The aim was to encourage recipients to feel obligated to open and read the letter because someone else had taken the time to write them a personal note.

Even though both cities have similar income levels, the difference between the two interventions was striking:



Source: BIT North America

> Without reciprocity: In Chattanooga, response rates increased from **31.9% to 35.6%.**

> With reciprocity: In Lexington, response rates more than doubled from **25.0% to 59.7%.**

The two hours that 5 people spent writing messages on about 1,500 envelopes definitely paid off: Every dollar spent printing and mailing letters created a return of $90 in Lexington as compared to $13 in Chattanooga.

Overall, the one-month trial in Lexington generated a net revenue of $139,000. If the revised letter had been sent out to the entire sample, revenue collected that month would have been around $225,000[83].

Creating greater 'Street Harmony' by challenging cyclist behaviour and motorists' beliefs

The Behavioural Architects (TBA) have also been leveraging some of these same insights to improve citizen behaviour in the UK. For example, we designed a simple behavioural intervention to reduce tension between cyclists and motorists in London which resulted in a marked decrease in the number of cyclists jumping red lights at the junctions where it was trialled.

After conducting qualitative research to better understand the behaviour of both cyclists and motorists, we saw there was a big gap in perception versus reality in terms of how many cyclists actually jumped lights compared to motorists' perception of this. On average motorists perceive around 80% of cyclists behave in this way, but in reality the figure is typically around 30% depending on the junction. Behavioural science helps us understand this discrepancy; we know that it is the jumpers who are much more salient in motorists' minds

than those cyclists who wait patiently at the lights and draw no attention to themselves. This can lead motorists to lump all cyclists together, making them, in motorists' minds, all likely to be jumpers and causing motorists to be generally negatively disposed towards all cyclists on London's busy streets.

Based on these insights, TBA designed a simple trial at two high traffic junctions in London. A series of red posters displayed at the junctions, and salient to the eye communicated to both motorists and cyclists that only a minority of cyclists jump red lights; the majority of cyclists 'wait at red lights'.

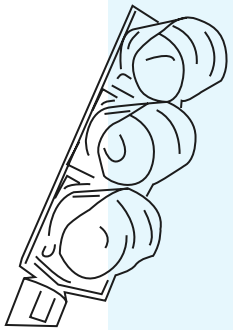
These statements leveraged the concept of social norms, challenging not only the behaviour of deviant red-light jumping cyclists and making them think again before they cycled on, but also the motorists' misperceptions. The trial resulted in a decrease in **'jumping behaviour' of 21.4% at one of the junctions and 14.5% at another**[84].

Source: The Behavioural Architects

The trial resulted in multiple good outcomes- it rewarded good cycling citizens, challenged and nudged deviant ones to change their behaviour, and reduced tensions with motorists by getting them to rethink their belief that all cyclists jump red lights. Expanding the trial to a larger area within London and to other cities could help to improve 'street harmony' and reduce tension on the roads nationwide.

How gaining a deeper behavioural understanding can fundamentally challenge existing beliefs and inspire better nudges[85].

In New York City, citizens caught committing a minor offence; riding a bike on the pavement for example, consuming alcohol in a public place, or littering or spitting in public, can receive a ticket. The ticket, known as a summons, requires citizens to show up in court where they can plead guilty or not guilty to the offence. However, if they fail to show up, the police will issue a warrant for their arrest. It can happen immediately and they can end up in jail, even if only for a short time. Despite the horror of this potential outcome, in 2014 around 40% of the 320,000 New Yorkers issued with a summons failed to appear in court to defend themselves and warrants were issued for their arrest.



Why were citizens failing to comply?

To better understand people's behaviour and the possible triggers for their failure to appear in court and come up with ways of tackling this problem, the behavioural science consultancy **ideas42** partnered with the New York Police Department, the Mayor's Office of Criminal Justice and the NY Office of Court Administration. Ideas42 undertook in-depth behavioural research amongst those citizens who had failed to appear on their court date. Many people in the NYPD and Mayor's Office had assumed that, given the stiff penalty, people would only miss court if they deliberately chose to do so.

However, the interviews revealed that citizens were making decisions skewed by cognitive bias and based on erroneous beliefs.

Some were put off by the negative perceptions they had of the court experience, anticipating that it would be frightening and uncomfortable, perceptions often created and magnified by the media – and known as **availability bias.** There was also a tendency to bury their heads in the sand and try and ignore the whole situation- **the ostrich effect**. Some felt the punishment was excessive and did not fit the crime, whilst others, in the chaos of their busy lives, simply forgot to show up.

There were still others, particularly those on low incomes, who worried more about lost time off work than the threat of arrest. They preferred to put things off, **discounting the future** in behavioural science terminology, preferring to avoid a court appearance now, but risking an even worse outcome in the future.

Finally, many citizens struggled with the practical details of appearing in court, especially those who had inflexible or unpredictable jobs, finding it difficult to put in place a plan for taking time off work and to remember to follow through on that plan.

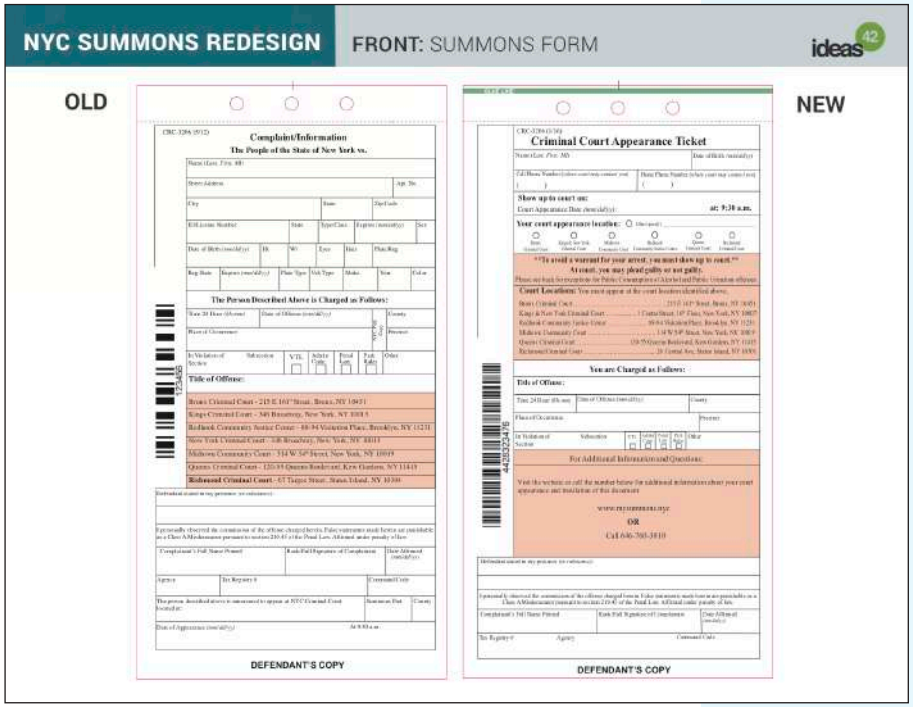
With these insights in mind, ideas42 set about redesigning the summons form (see the old and new versions of the form on the following page.) They made simple, but effective changes to the form including:

> **Changing the title** of the form to make the fact that it was a court summons more salient. The new form's title 'Criminal Court Appearance Ticket' made the individual's status of defendant apparent from the outset, compared to the old form, confusingly titled 'Complaint/Information'.

> **Making clear the negative consequences of not appearing in court,** stating early in the form "To avoid a warrant for your arrest, you must show up in court". This frames and emphasises the potential loss the individual will suffer if they do nothing. Evidence shows that people often respond more to information that focuses on potential losses.

> **Using personal language**, for example **"your arrest**" or **"You are charged".** This engages the citizen directly and gets their attention, making it clear what the form means for them.

> **Making the key information salient and easy to find on the form**, moving the court appearance date and time and location to the top of the form and writing it in bold text. This makes it easier for people to start making a plan as they have the information they need. The new form reduced the number of people failing to attend court from 41% to under 36%. In 2014 had the new form been in place 17,100 of the 320,000 warrants issued could have been avoided.



Source: ideas42 and NYPD

In conclusion:

The examples above are just some of the many initiatives using behavioural science to solve social and government problems. Taking time to understand the barriers and triggers behind any desired behaviour can not only challenge the existing beliefs and assumptions we have about behaviour, but also provide us with a plethora of simple actions that might dial down those barriers and make the triggers more salient, achieving significant behavioural change in the process. And, maybe, making us all better citizens, nudge by nudge.

The BE Police

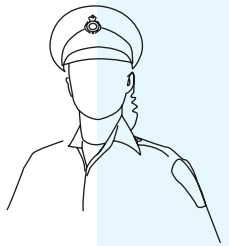
We've looked at how behavioural science is helping to regulate and modify our approach to day-to-day activities but it's now time to explore the regulation of the use of behavioural science itself, and how BE can be used to regulate the behaviour of firms. Bring in the BE Police!

Ask someone if they know what 'nudge' means, and they're increasingly likely to answer 'yes'. 'Nudge' has become a watch word of behavioural science and is widely understood as being indicative of actions which steer behaviour change. But are people as familiar with the related term 'sludge'?

Perhaps not, not yet, but they would be well advised to get up to speed. 'Sludge' has come to represent the dark side of nudge ethics and is used to define and draw attention to companies who use behavioural science and nudges in ways that hurt rather than promote the welfare of consumers. Sludging includes things like hidden add-ons, or long and confusing fine print, hidden subscriptions, or bureaucratic red tape and paperwork. In short, sludge is any measure which makes it harder for a consumer to do what's in their best interest[86].

Sludge was defined by Richard Thaler, this year's Nobel Laureate, who, together with Cass Sunstein, also coined the term 'nudge'. It highlights how companies can and are taking advantage of innate consumer traits and fallibilities such as **inertia** and **inattention,** knowing that they can profit off the back of consumers' weaknesses and biases.

Thankfully, regulators and other organisations are realising the need to monitor, minimise or even stop these sorts of practices- **acting as a type of 'BE Police'** to protect consumers from a potentially deluging 'behavioural goldrush'.



This is a whole new radical approach. Previously regulators have tended to rely on the concept of full disclosure and assume that, as long as companies provide full terms and conditions for a product or service, consumers are protected from wrong-doing. Behavioural science has demonstrated why that wasn't sufficient and has offered an alternative that has recognised consumer biases and fallibilities.

This policing role has two types of remit:

> **The detective:** Here regulators are investigating and uncovering where companies might be using unethical practices to nudge suboptimal behaviour among their customers. In doing so, they are making consumers more conscious and aware of the ways in which they may be taken advantage of.

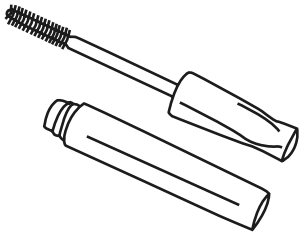
> **The lawmaker:** Where companies and institutions are exploiting unintentional consumer errors (prompted by innate biases), regulators and other institutions are using behavioural science first as an analytical framework to inform guidelines and rules or design new policies or laws to ensure these errors can't occur. Further, behavioural science is helping regulators to understand consumer biases and adapt industry regulations to take account of them.

This article delves into these two types of 'BE policing', showcasing several recent case studies from regulators all over the world.

The detective

One area regulators are focusing on is **subscription traps -** free trials with complex or unclear subscription processes or automatic renewals. These are common across a wide number of sectors including healthcare and technology, particularly those online. We've all signed up for a service or product not realising what payment schedules we are committing to, or taken advantage of a short term free trial which we've then forgotten to cancel.

Behavioural science can help to analyse how these sorts of traps take advantage of consumer fallibilities. Experiments run by the EC in 2016 found that when (an attractive) price is very prominent, consumers tend to be distracted from subscription fees so they are not aware they are signing up to anything (a lack of salience). Consumers also commonly suffer from overconfidence, thinking that they will remember to cancel a free trial / subscription in one, two, three months' time, but when that time comes, forget. Further research revealed that over 97% of the offers screened used a misleading practice and half of the free trials and subscriptions included five problematic practices such as poor clarity around subscriptions and trials, particularly in the case of cosmetics and healthcare products[87].



In the UK, the problem is common too. To try to curb this, Chancellor Philip Hammond announced plans in the March 2017 budget to make subscription terms clearer and included proposals to

prevent "unexpected payments", which could include stopping companies from taking payment details when customers sign up for a free trial. He also handed regulators greater power to fine companies in breach of these standards.

The new legislation is aimed primarily at mobile phone providers, online shops, banks and other financial institutions. Firms will now need to briefly summarise the key points of their terms and conditions in prominently displayed bullet-points or face being named and shamed in league tables of bad practice. Firms will also be banned from taking customers' card details for free trials.

The UK's **Competition & Markets Authority** (CMA) has also been conducting industry investigations grounded in behavioural science.

> For example, in the airline industry, they are aware of the effects of 'drip pricing', where consumers are initially attracted to the headline price and then under-estimate the cost of 'add-ons'. In 2012, concerns about this led the CMA to take action on some airline payment surcharges (typically only revealed at the end of the online booking process).

> They have also restricted the number of energy tariffs a consumer will be offered, aware that information overload or too many options can often lead to confusion, decision-fatigue and ultimately poor choices.

> Large discounts in price are extremely attractive since we feel we're getting a good deal and retailers have long exploited the consumer tendency to anchor on price. Industry research by the CMA found that some sectors, such as furniture retailers, were advertising false discounts based on RRPs which had not previously been sustained[88].

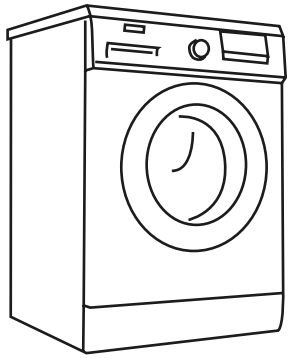
More recently, the CMA announced a new investigation into hotel booking sites, questioning whether 'sludge' techniques are being used here. I'm sure you've all seen those hover messages that flag up on booking sites during your search, saying things like "Only 2 rooms left!" or "10 people looking at this room / hotel right now!". These techniques, known as pressure selling, leverage concepts from behavioural economics such as scarcity bias (being attracted to something in short supply) and social norms (when we conform to what others are doing or have done before us).

The CMA are concerned whether these types of messages create a false impression about the availability of a room, causing consumers to rush to book. Like the furniture retail investigation above, they are also looking to discover if booking sites use false discount claims, hidden charges and if search results are ordered in a way that prioritises consumer preferences or are, in fact, driven by commission-based earnings[89].

The lawmaker

The UK's Financial Conduct Authority adopted a regulatory approach leveraging behavioural economics back in 2013 and have not only conducted investigations on this basis, but also designed new policies around it.

For example, an investigation into general insurance add-ons led to policy action based on their findings. Insurance add-ons for products and services such as gadgets, travel, cars and homeware (boilers and gas appliances and the like) are defined as insurance products people purchase alongside other products or services, in contrast to 'stand-alone' products such as a separate insurance contract, independent of any other purchase of another product or service.



After carrying out both quantitative and qualitative consumer research and a behavioural experiment to test consumers' reactions to the add-on mechanism in a simulated environment, the FCA concluded that add-ons were harmful to consumers. They felt that when products are bundled in this way it is difficult for consumers to understand the overall cost and value of the product presented to them[90].

In 2015 they banned the opt-out selling (i.e. via pre-ticked boxes) of these products across financial services and stipulated that add-ons be introduced early on in the consumer journey / sales process, so consumers are aware of these additional – yet optional – costs as they compare options and reach a decision[91].

The FCA also took action to curb payday loans, a market that had grown rapidly due to new online lenders, where lenders were charging extremely high interest rates for short-term loans. After rigorous quantitative analysis and a review through a behavioural science lens- which concluded that consumers were being exploited by payday lenders - they took regulatory action. In January

2015 they introduced a cap on interest rates charged by payday lenders. Rates could be no more than 0.8% per day, with a further stipulation that no more than 100% of the initial loan could be repaid.

Following the introduction of the caps, the number of loans dropped from a rate of 800,000 a month, to about 300,000 a month in 2015[92]. Since then lead lenders such as Wonga have seen their business shrink and Money Shop, another market leader, has been put up for sale[93].

On the other side of the world, the Australian Securities and Investments Commission (ASIC), the Australian equivalent of the FCA, have also been leveraging behavioural science to inform the shape of new regulation and policy. For example, aware that consumers suffer from inertia, tend to 'go with the flow' and generally accept new terms and conditions without detailed analysis, they were concerned that credit card companies were increasing customer credit limits without asking customers if they wanted the limits to be raised. With this in mind they prohibited such unsolicited increases as part of a policy reform[94].

They also influenced new policy on credit card interest rates after conducting behavioural research into consumer credit decision-making and behaviour. The insights gleaned informed their submissions to the Parliamentary Inquiry into credit card interest rates and were also reflected in the remedies put forward by the Treasury in response.

In conclusion

Whilst behavioural science is, for the most part, being put to good use across a wide range of sectors and purposes, it can also be leveraged to take advantage of consumers. However, in many cases, regulators and other institutions - the 'BE Police' - have succeeded in arming themselves with the new tools that behavioural science offers to combat so-called 'sludge'. Equipped with an understanding of behavioural economics and the effect of biases on consumers, the BE Police are able to conduct deep analysis and design more effective policies with protecting consumers as the driving force.

This section has looked at behavioural science and regulation and completes our 360 tour of how behavioural science is all around us - transforming our lives 24/7.

We hope it has inspired you to look at how you can apply some of the insights to your own work and everyday life.

End Notes

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65. *Kessler, Judd B. and Milkman, Katherine L. and Zhang, Christina, 2018*
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Crawford Hollingworth is co-Founder of The Behavioural Architects, which he launched in 2011 with co-Founders Sian Davies and Sarah Davies. He was also founder of HeadlightVision in London and New York, a behavioural trends research consultancy. HeadlightVision was acquired by WPP in 2003. He has written and spoken widely on the subject of behavioural economics for various institutions and publications, including the Market Research Society, Marketing Society, Market Leader, Aura, AQR, London Business School and Impact magazine. Crawford is a Fellow of The Marketing Society and Royal Society of Arts.

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The Behavioural Architects

The Behavioural Architects (TBA) is an award-winning global insight, research and consultancy business with behavioural science at its core. It was founded in 2011 by Crawford Hollingworth, Sian Davies and Sarah Davies.

The company was one of the first agencies built around the new insights coming from the behavioural sciences. This new thinking has inspired them to develop powerful frameworks that fuel deeper understanding of consumer behaviour and behaviour change.

TBA has offices in London, Oxford, Sydney, Melbourne, Shanghai and New York and has worked with many global corporations, NGOs and governments, reinvigorating traditional research methodologies alongside pioneering new ones. Their aim is to make behavioural insights both accessible and actionable for clients.

The Behavioural Architects invests heavily in its core intelligence team dedicated to supporting its global teams, keeping them up to speed with developments in the behavioural science field; from both the academic arena and among top practitioners.

In 2019 TBA won Best Presentation at the Market Research Society's (MRS) Annual Conference Awards and ESOMAR's Best Global Paper, as well as being a finalist for AURA's 2019 Award for Most Inspiring Agency Speaker. Previous awards include winning the AQR Prosper Riley-Smith Qualitative Excellence Award in 2018, the highly competitive MRS Best Place to Work in 2015 and MRS Best New Agency in 2013.

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