

CHAPTER TEN – HEALTH

DOCTOR KNEW BEST

“If someone went onto *Dragons Den* to ask for investment in smartwatches back in the 1940s they’d be told to fuck off.” At first sight this statement from a participant in his fifties might seem bizarre, but let’s entertain it for one moment. The participant is referring to a 21st century television show, *Dragons Den* that celebrates the business acumen of the entrepreneur. On the show, a panel of business tycoons bid for a stake in good ideas (that is, ideas that have the potential to make money), and for entertainment value they mock those ideas thought never to catch on.

Suppose then, that this programme could be transported to the 1940s, as the participant above suggests. How do you expect that the businessmen and women on the panel would respond to the concept of 21st century personal health technology? For augments sake, let’s imagine that the person making the pitch to the Dragons is a young Steve Jobs to ask for \$10,000 investment in his latest design of ‘Smart Watches’ for 5 percent stake in his start-up company, Apple (in 1940 \$10,000 was equivalent to \$172,451 in 2017 [Apple Inc. was actually founded by Steve Jobs, Steve Wozniak and Ronald Wayne in 1976]).

Of the Smartwatch’s many features, Jobs is able to explain that it has built-in GPS (but this spooky feature will deskill a nation of map readers, warn the Dragons). It’s capable of recording distance and speed while users walk or run (but the Dragons don’t see the significance of this. After all, the stop-watch is perfectly adequate). It has sensors that measure heart rate and it displays various metrics derived from physiological functions that are going on inside your body (but that’s what the doctor is for, cry the Dragons). So, would the Smartwatch catch on, or would it be thought of as ridiculous and meaningless?

The point that our Screenager is making is that what people consider to be useful and relevant ultimately changes across time as the constitution of society is made and remade by agents when negotiating their environment - including the capabilities of technology. He explains further:

People design technology based on concepts that seem socially palatable and 1940s Britain wouldn't have looked twice at a smart watch. First in the 1940s the doctor knew best and his authority would go unquestioned. Second, because of manual work, people were looking for a break from exercise and wouldn't have thanked you for the personal exercise guilt-trip watch.

From a scholarly point of view this insightful notion is reflected in the views of French intellectual, Pierre Bourdieu (1930-2002). In his 1990 work, *Photography: A Middle-Brow Art*, Bourdieu reminds us that technology is largely socially shaped as are its meanings and terms of use. In other words, the social function of technology is created not only by its makers but by its users, and as our participant notes, its users must be ready.

This trail of thought is also adopted by numerous other researchers, including Anne-Marie Barry and Chris Yuill in the 2017 book *Understanding the Sociology of Health*. They argue that if we take the time to step back and think a little deeper about the world around us it will become clear that technology is bound into social relations "and plays an important role in producing and reproducing those relations" (p. 286). After all, the scholars argue, technology does not exist in its own world, but it exists because of and is implicit within wider social relations.

With this in mind, the following chapter sets out to address a call proposed by scholars, Debora Lupton and Annemarie Jutel in 2015. The authors point out that research into digital health (and health apps more specifically) has largely taken an instrumental approach by focusing on content or legal issues - and yet few studies have concentrated attention on the everyday experiences of users. When making this point the authors highlight the need for future research to examine digital health from a socio-cultural perspective. Doing so, they suggest, will provide an insight into the evolving relationship between individuals and attitudes towards bodies, commercial health applications, even perhaps - the implications of health technology for doctor/patient relationships. As we agree with Lupton and Jutel, this is the approach that we intend to take here.

But before we discuss the impact that digital health technology has had on the lives of our Screenagers (and having already uncovered the history of the screen and digital technologies

in chapter 2) we take time to explore the evolution of what we call ‘the health habitus’ (a set of embedded but ever fluctuating dispositions, values and common thought processes) which has made it possible for personal health technologies to seamlessly integrate into the lives of many world citizens.

HEALTH HABITUS

According to Bourdieu in his 1977 book *Outline of a Theory of Practice*, within any given field (at any particular time) there tends to be a set of ideas, rules, regularities and forms of authority that are likely to be accepted and upheld in practice. Note: by *field*, Bourdieu is referring to the context in which social interaction occurs, and in this chapter, we locate action in the fields that intersect with health and fitness. He reminds us that whilst social fields might look or feel stable to agents in the moment, they are in fact continuously in flux (though perhaps only moving slightly) as people shape and react to emerging social circumstances, trends, political movements, business ideology, technological advancements, and many other issues besides.

Just like a domino effect, small alterations reverberate throughout cultural fields, nudging agents in the direction of change and gathering momentum as the message spreads. Those out of line with the domino rally are left standing (effectively becoming relics of a pre-gone age) while others keep pace with the trends of our times. One Screenager of pensionable age recognises this argument: “the internet hit me like a steam train, I felt out of my depth online but I knew that I had to stick with it or get left behind.” Another in his early forties stated: “in this day and age you’ve got to keep your eye in with technology, the world is now online and you’ve got to keep up.”

Keeping up with technology in a changing social world, according to Bourdieu, will impact on the constitution of one’s habitus in the moment and into the future. For Bourdieu, habitus is a complex term that encompasses many things, but simply put it can be defined as a system of dispositions (that is - lasting, acquired schemes of perception, thought and action) that humans develop in response to the cultural and physical environment that they find themselves in. Simplified even further, our habitus is what makes us who we are and effects

our capacity to make decisions in this way or that. It's principally influenced by previous cultural teachings, including ones learned aptitude to reflect and adapt.

In *Screen Society*, then, reflexivity is as much the habitual outcome of field requirements as any other disposition. In fact, on reflection it's more important. Changes to the modern environment have summoned conditions via which the 'reflexive habitus' has become increasingly common in the sense that uncertainty and change are becoming a familiar occurrence in most fields.

Consistent with this logic, participants in the *Screen Society* project have noticed a gradual shift in social attitudes towards exercise, fitness and health. For example, a male participant in his late forties said: "Society as a whole has become more concerned with image, but dresses it up with concerns about health." Another in his twenties suggests that social media use has made "people more conscious of what they look like and they attend gyms and diet more strictly than any other time I've been aware of", whilst a woman in her early forties refers to "today's generation" as overrun with self-absorption which manifests as a cultural "appetite for mirror gazing." She continues: "I'm not even sure that health is the objective of most people, it's probably looks. Health consciousness is just a by-product of our desire to look good that has crept up on us."

THE RISE OF INDIVIDUALISM

This creeping, shifting attitude is not lost on Marc Stern in his 2008 historical paper on the US fitness movement and the fitness centred industry from 1960 to 2000. Drawing on various surveys conducted in the US, Stern points out that prior to the 1970s, only 24 percent of Americans regularly exercised. However, he explains that the 1970s witnessed the emergence of wholesale attitude change, instigated largely for two main reasons. First, in keeping with the idea that young men should be in physical condition to serve America physically if required, the government aired their concerns for national health. But secondly and perhaps most significantly from a social evolutionary perspective, attitude change was encouraged, promoted and marketed by an emerging commercial leisure industry. We'll return to this later in the chapter.

To address the former issue, in 1960 US President John Kennedy set the cogs turning in the minds of American's when wrote an article in the magazine *Sports Illustrated* that was titled, 'The Soft American'. In it, Kennedy explained to the readership that "the age of leisure and abundance can destroy vigour and muscle tone as effortlessly as it can gain time." He warned:

The television set, the movies and the myriad conveniences and distractions of modern life all lure our young people away from physical activity which is the basis of fitness in youth and in later life ... no matter how vigorous the leadership of government, we can only restore the physical soundness of our nation only if every American is willing to assume responsibility for his own fitness and for the fitness of his children.

Presumably heeding Kennedy's warning, corporate America became the trend setter for the adoption of physical fitness, though the motives of this fitness trend would serve functions that differed from the philosophy outlined by Kennedy. First, exercise and fitness would be used as a form of conspicuous consumption in the sense that nineteenth century scholar Thorsten Veblen might understand this situation (i.e. using the guise of exercise as a form of social distinction for the professional class who 'do business' in the luxury, high-tech surroundings of health clubs); and secondly, it was used as a strategy to increase business productivity in the workplace.

This was shortly followed by (and ran simultaneously to) a more inclusive fitness movement that again held a different ideological and moral framework to that expressed by Kennedy in 1960. Whereas Kennedy's concern was to improve national fitness and to challenge the mind-set of the couch potato that was associated with rising leisure cultures and convenience technologies; the 1970s movement towards exercise, fitness and health quickly became fixated on individual aesthetic beauty and self-actualisation. This was captured by scholar, Dr. Warren Guild who commented in *Vogue* magazine (1971) how "Fitness has to do with vanity ... anyone who says he doesn't want to look neat and trim. i.e. 'sexy' is a damn liar."

Whilst Dr Guild captures the underlying essence of the nascent fitness market, it's important to acknowledge one further point. Fitness was just as much about consumption and economic philosophy as it ever was about health. Reflecting on this, one Screenager in his late thirties points out:

Reagan and Thatcher [US President 1981-89 and UK Prime Minister 1979-90 respectively] shared the same idea in the 1980s which was to put responsibility for health and fitness onto the people for just about everything with the aim of reducing government spending and encouraging private companies to make and sell health-related products.

Here, this participant is referring to the emergence of neo-liberal political philosophy in the 1980s and the inevitable enhancement of the role of the private sector in the economy and, by implication, into the field of health and fitness. According to Umberto Eco, those with opportunities to make money from an emerging consumer health market did not need to be asked twice. He recounts that commercial leisure companies were quick to capitalise on emergent trends in youth culture, with sport and leisure branding used to sell dreams, lifestyles and aspirations of the beautiful body. After all, under neo-liberalism it became possible to create aspects of one's identity via the process of consumption and by focusing attention on looks.

CULTURES OF NARCISSISM

The rise of *The Culture of Narcissism* is perhaps best captured in the 1979 Christopher Lasch book of the same name where he sketches out a picture of American life in an age of diminishing expectations caused by a multitude of factors including Vietnam, Watergate, economic stagnation and the impending exhaustion of natural resources. In an environment of low expectations where Americans had lost faith in politicians, other leaders and even family groups, people convinced themselves (according to Lasch) that what matters is psychic self-improvement including the desire to get in touch with their feelings, overcome the fear of pleasure, and expand ones consciousness of health and personal growth.

As well as gracing the pages of academic publishers, Lasch's arguments struck a chord with the White House too. Most notably *The Culture of Narcissism* is thought to have influenced a speech delivered in 1979 by then President Jimmy Carter, warning of the perils of self-worship. Known as the 'National Malaise Speech' Carter said: "in a nation that was proud of hard work, strong families, close knit communities, and our faith in God, too many of us now

tend to worship self-indulgence and consumption.” His intention was clear: to attempt to steer Americans away from a life of self-obsession.

But like King Canute who, back in the 11th century, so aptly demonstrated that no ruler can hold back inevitable flows (in his case, England's North Sea), Carter too proved himself ineffectual at reversing the rising tides of change. Self-indulgence, it seemed, was here to stay. It had already become a feature of the modern habitus, not only in the US, but in Britain too.

In a 1979 article entitled 'Has the ego trip gone too far?', a correspondent for the *Guardian* newspaper wrote about the “personal growth movement” in Britain. His argument was this: Britain’s are part of a narcissistic movement, which, in the Freudian sense means “you become an object of your own interest and seek self-gratification.” In the same vein that Tom Wolf had labelled 1970s America the ‘into me’ decade, the correspondent argued that Britain too was becoming “absorbed in the quest for self-gratification.” This was typified, he suggested, by a growing desire for laypeople to sign up to personal shrinks, life coaches, therapists, fitness gurus and the demand for cosmetic surgery.

A proliferation of additional articles in the British Press signifies the scope and intensity of this movement as it entered into public consciousness. For instance, a brief inspection of *The Observer/Guardian* newspaper archives reveals articles such as: 'Slender success or is it just fat chance?' by Judy Mazel in 1982; 'Another day another diet' by Liz Jobey in 1983; 'A Healthy diet of yin and yang' by Christina Probert Jones in 1989; 'The Guaranteed truth free diet' by James Erlichman in 1992; and 'Fat is a pessimist’s issue' by Gary Younge in 1999 (to list only a few related articles). These focused on the latest science-based evidence (intertwined with anecdotal rubbish) to ‘educate’ readers on nutrients and commercial supplements, all the while keeping them gripped with information on how to stay thin, bulk up with muscle, or lose fat.

Healthy lifestyles were also narrated through the appearance and commercial success of the high-tech gym/health club. Articles such as: 'Fitness and wealth' by George Parker-Jervis informed the readership that the fitness industry was worth £3.1 billion in 1988, “with

spending on par with electricity, furniture and more than any other leisure sector including audio or DIY"; 'Gym and Tonic' by John McVicar in 1993 writes of the demand for health clubs; Cosmo Landsman in a 1995 article titled 'THE BLOKE', explains the effects of the health movement on men, with gyms and beauty products equating to "the final step in man's evolution from primate to peacock"; and Lisa Buckingham in the 1998 article 'Profit from the body beautiful' encourages the readership to join the two million Britain's that spend £1 billion in the fitness business.

As the reporters suggest, new gymnasiums or health clubs (as they were increasingly called) are businesses that attract customers by selling a fitness experience that encompasses specialist equipment, latest technologies and industry experts that are willing to share trade secrets. All of this is designed to enable people to invest in the most important person in their world – THEMSELVES!

In a more recent example, journalist Dominic Utton (writing for the *Telegraph* in 2014) describes contemporary gym goers as, "drunk on self-love and paying handsomely for it." He goes on to argue: "in a culture where appearance is more important than substance, the gym becomes a place of worship. And what people are worshipping is themselves", not only at the gym but when they get home too – because, he explains, "taking a picture of yourself working out is now as much part of going to the gym as actually working out." The typical workout, according to Utton, looks like this:

Work up a sweat, gaze at yourself in the mirror. Take a photo of yourself to show the world. Find a similarly hot chick with whom you can validate your opinion of your own beauty then hit the showers ... when things really become unbearable.

Thus, drawing on evidence derived from both Screenagers and newsprint archives, the point we are making is this: the health habitus that we recognise today is an extension of a social narrative that has been created by agents since the 1970s. Political, economic, cultural and technological advances have combined to influence individual action that is centred on self-absorption. Likewise, individual action has influenced socially acceptable ideas about health, exercise and fitness - where looking after one's health is no longer enough.

In Screen Society, the good citizen must be seen to be healthy and youthful, and if this can be achieved (not only in physical appearance, but also e-photos that saturate cyberspace) it brings rewards. In the physical world, a compliment on aesthetic look equates to an example of social capital gain; on social media, a like, a retweet, or a positive comment is all that matters.

In effect, Screen Society encourages agents to be fixated on three things: new technology, screens, and themselves. All feature predominately in the latest advancement of gadgets that are designed to aid the individual in search of their health needs. Here we are referring to the personal health app, a form of software designed to run on smartphones and other mobile devices and it is to this that we now turn.

PERSONAL HEALTH APPS

“Every day it seems as though a company releases a new wristband that tracks physical activity to monitor glucose levels or some other tiny, shiny smartphone-enabled medical doohickey”, writes Roger Collier in his 2014 CMAJ commentary paper, ‘rapid growth forecast for the digital health sector’. As he explains it, health apps generally fall into three categories: (1) fitness trackers to count steps and calories burned etc.; (2) real time monitoring to track vital signs in order to assist with chronic conditions; and (3) sensor-based systems to improve safety for seniors living at home.

It is largely accepted that each of these health-related categories is set to grow exponentially; and for researchers Nikhil Balram and colleagues, this is just the tip of the iceberg. In a paper published in 2015 they project that ‘The Infinite Network’ (TIN) (that is what the authors perceive will be the next stage of development from Web 2.0, in which all things and all people will be connected to the internet at all times) will help individuals to make the right choice at the right time on health-related issues. In effect, this trail of thought suggests that in the future, every human being will have the benefit of robotic personal advisors.

A future guided by robots might sound weird, but to an extent this happens already. For instance, a Screenager in her twenties states: “the internet is my ‘go to’ on health issues.” Likewise, a participant in her late fifties explains: “I rely on apps to keep an eye on what I’m

eating." "Having a family history of hypertension, I use an app to measure blood pressure", writes a similarly aged man with a self-proclaimed "stressful job." With this, it is worth reiterating the following point: the internet is already embedded in our psyche as a 'go to' tool to help us cope with our current lifestyles.

In keeping with Collier who reports that the most developed niche of the health gadget market is the fitness tracker, the majority of apps used by our participants, although varied, were fitness related. But whilst the plethora of apps available for use might suggest a complicated and multifaceted picture of the desire for and use of various health applications (given that apps cater for individual use), the reasons for use seem to be a little more uniform. For instance, common consensus from respondents, typified by the contribution of a male in his early forties indicates that "apps allow individuals to monitor their own physical and health related data as a tool to support fitness and healthy lifestyles." A similar aged female shared similar thoughts: "increased awareness of health-related issues allows people to take more individual responsibility for health through education and motivation." The following Screenager in his early forties put it in more simple terms: "fat people walking more because of apps. What's not to like? Less pressure on NHS."

Implicit in those statements above is an acceptance of a term that is attributed to Robert Crawford in his 1980 article 'Healthism and the medicalization of everyday life'. As the title of the article suggests, the term is 'healthism', and as Crawford explains, it describes an emerging sense of health consciousness that occurred throughout the 1970 and 1980s and is now firmly planted into the lives of Screenagers. As we can see from the responses above, healthism is (for a number participants) a general state of mind, an attitude and disposition that is ingrained on one's health habitus in the sense that it is acted out 'naturally' on and through the body. (Crawford's full definition of healthism is: "The preoccupation with personal health as a primary – often *the* primary – focus for the definition and achievement of well-being; a goal which is to be attained primarily through the modification of life styles.")

Kathleen LeBesco discusses this very topic in a 2011 article which details the moral perils of fatness. She argues that where public health strategies were once focused on hygiene issues, today it appears that the behaviour and appearance of bodies is far more important. Having

a healthy body, she explains, has come to signify the morally worthy citizen, and this is a position supported by Nike Ayo in a 2012 paper discussing the subject of health promotion in a neo-liberal climate.

The point that both authors make is this: healthism is a habitual way of thinking that (whilst it appears to be driven by individuals) is complementary to and is encouraged by those holding neo-liberal political agendas. After all, by looking after their health, consumer citizens become partners in the governance of their own affairs and bodies. But more than this, there is a desire amongst some Screenagers, to raise one's profile as a health conscious citizen. For example, one participant in her early fifties explains that social capital can be raised through the consumption of goods and services, including: "buying organic foods, sports clothing, pills, powders, potions, energy drinks, diet coke, diet supplements - all carry the message - "I'm looking after my health"". She continues: "Health apps are just a new version of this process, but they can be more fun."

FUN, FITNESS AND SURVEILLANCE

The fun and desirable features of fitness apps, according to some Screenagers, tended to be in keeping with an apps ability to observe, record, analyse and monitor behaviours and to incite light-hearted, friendly competition with self or others. For instance, a male in his late twenties illustrated: "it's all about the metrics for me. I'm a stats man and I like to see improvements, that's the only way it keeps me motivated and disciplined." A woman in her early twenties who uses a data sharing app said "the social support is good. Sharing my data with friends is fun and we inspire each other to do more", whilst this male in his forties agrees: "by fostering social connections between amateur athletes, fitness apps have been beneficial in encouraging people to take a healthier outlook on their lifestyle." Sharing data was an important motivator for many others too. One Screenager in his early thirties explains: "I know at some point I will end up showing my stats to my mates in the pub. That's a competition that no one likes losing."

Two of these points are worth noting in relation to the commonality of participant responses. First, what appears as fun can also encourage discipline. In a 2014 special edition of the journal, *Societies*, Deborah Lupton argued that apps tend to work as disciplinary tools that

create docile bodies and incite desire in the autonomous individual to follow health messages. Secondly, it appears that for some, the popularity of fitness apps is based on the concept of lateral surveillance, a term first coined by Mark Andrejvic in the 2005 essay 'The work of watching one another'.

As Andrejvic describes it, lateral surveillance relates to the process by which individuals showcase their achievements in order to seek social approval whilst simultaneously spying on peers and judging their actions accordingly. For Screenagers, social media provides the perfect platform to engage in a spot of lateral surveillance, and in this setting, fitness apps can be used to impress or to evaluate the worth of others. One participant in his thirties explains:

I upload my latest run via the phone and it makes it available for others to see and comment on. You get likes from others that view your run and the app has a list of best times for different segments of the run so you can see how you compare to others and get ideas about where to run next.

According to Tony Rees, in his 2017 PhD thesis which explores the lives of racing cyclists and features their use of the cycling app Strava, it's the balance between accurate information relating to personal health goals and the creation of an enjoyable app experience that fitness app users desire. He explains how digital apps tend to have inbuilt 'gamification' elements which heighten excitement on behalf of the user. Simplistically put, gamification relates to the application of playful context to typically non-playful situations, such as physical training (see chapter 9 for more on gaming).

During his research (which spanned four years), Rees witnessed what he calls the 'Strava effect', where a largely physical community of training athletes began to embrace online training features, as cyclists in the observed group succumbed to the lure of digital technology. Strava became a training aid that was to be relied upon for its accuracy of information e.g. for the digital recording and analysis of training routes, power output, distances and speeds. In addition, the social media element took off too, with riders seeking new forms of social capital gained through online interaction and the peer to peer surveillance of training rides.

At less specialised levels of exercise, similar experiences were expressed by Screenagers that hold more modest aspirations for personal fitness. For example, one participant in her late twenties explained:

I've found my health watch and its app to be inspirational. I didn't know how little I was doing every day because I'd never recorded it before. I didn't know how much I'd eaten for the same reason. It's the recording and sharing information with friends that makes losing weight enjoyable for me.

In sum, digital technology has made Screenagers think differently about health matters, and this in turn, has implications for their relationships with health professionals.

SMART PATIENTS

"They used to say the doctor is always right but that was before computers", writes a Screenager in her early fifties. "The internet has made everyone an expert because all the information about any ailment is there for you. We are in an age where the computer is your personal health mentor." Another participant in his early fifties concurs:

My kids just google anything they're not sure of and find the answer immediately. Their attitude to health is much more proactive than mine ever was. We were pretty much in the dark and relied on professionals who kept us at arm's reach.

The synopsis of an evolving triangular relationship between health professionals, patients and computers is not only common to *Screen Society* participants, but it is also recognised by scholars such as Balram Nikhil and Tosic Harsha in their 2016 explanation of digital health in the age of the infinite network. They write of the Smartphone as a super-computing, super-communicating and super-sensory platform that can provide insight into the health of a person, enable better diagnostics, more effective treatment and proactivity for preventative care.

Yang and colleagues in 2012, Thomas and Bond in 2014 and Lowe, Fraser and Souzamotoeiro in 2015 share the same sentiment. That is to say, digital technologies are encouraging proactive health at the individual level by enhancing mindfulness and slowly shifting one's

health related habitus from one of reliance on professionals into a cold state of reasoning based on e-information that is gathered outside of general practitioner (GP) surgeries. Perhaps most aptly, Leslie Robinson when writing for the *Journal of Medical Radiation Sciences* in 2003, coins the phrase 'smart patients' to describe a new breed of well prepared and knowledgeable agents that are reflexive, equipped to research and share knowledge as well as listen to it.

This is typified in the logic displayed by the following Screenager in his early fifties when reflecting on his own medical condition and that of his late father:

We know more about so many conditions - physical and mental - and our food information is way better than it was thirty years ago because of the net. I have type 2 diabetes and am fit because I am informed. My father died in 1974 at the same age. Maybe if he had been born when I was, he might also have found he was diabetic and been able to do something to prevent his own death.

Like this participant, many Screenagers were well versed on all medical conditions that affect them directly and they informed us that a visit to the doctors now extends the physical appointment as patients turn to the internet for additional guidance. In fact, some had the following general message for GPs: "Please don't treat us like children and withhold information or talk in code, cos we'll check for ourselves on the internet and we get frustrated with poor information" wrote one participant in her late thirties. Other Screenagers warned practitioners that 'smart patients' are less likely than previous generations to accept the word of a professional without getting a second opinion from Dr Google (a term that was used by multiple participants). For example, one Screenager in her late sixties writes:

In the last weeks I was told a blood test for CA 125 was being done but they offered no other information. When I came home I looked it up and discovered that they were checking for cancer. They never mentioned that at the appointment. It's made me sceptical and I'll be double checking anything I'm told from now on. [Note: a quick Google search reveals that CA125 is a test that may be used to look for early signs of ovarian cancer in women]

In an era of declining trust in expert authority, social theorists are beginning to explore the relationship between lay and expert knowledge. For instance, in his 1990 book *Consequences*

of Modernity, Anthony Giddens writes of the increasing scrutiny of expert opinion by lay people who go on to make pragmatic calculations based on their own research. As reported above, this was true of our Screenagers too, many of whom believe that the power balance between the health professional and patient has shifted (or is in the process of shifting) because of: available information in the screen age, the rise of computer literacy, and the support that patients can muster from online communities of agents who have experienced or are experiencing the same medical condition.

As well as emotional support, scholars Devon Johnson and Ben Lowe, writing in 2015, have explained that online communities can share practical knowledge too. Patients can enquire between themselves what treatments ought to be available, discuss the facilities on offer, or, as in the following example (provided by a female participant in her early fifties) receive advice about how to jump the waiting list: "I'd been on the NHS waiting list for a knee operation and got talking to someone on a forum. One lady told me to book a private consultation to jump the cue. It worked, and I was seen quickly on the NHS."

In spite of the thoughts of some Screenagers, Deborah Lupton and Annemarie Jutel urge research theorists not to exaggerate claims of perceived authority shifts within the practitioner/patient relationship. They remind us that computers can make mistakes too, and for that reason all apps tend to come with the following caveat. If concerned, seek medical advice from 'real' experts.

So, the power balance might be safe for the time being, but Screenagers are right to point out that the personal dynamics of the relationship have altered course. For instance, in the past, people attended GP surgeries because they had symptoms and wanted to know if those symptoms were underpinning a definitive medical condition, and in turn, what treatment was required to combat the known condition.

Now patients can research symptoms online before booking an appointment at the practice. In such situations it is conceivable to suggest that the role of the doctor changes from one of information provider to a facilitator who aids with the digestion of information already collated. As one participant in his late forties illustrated:

Gone are the days when you went to the quacks, were told that you had a condition that you couldn't even pronounce let alone spell, and were sent home with a pat on the head and a drug that might or might not help. Now you can look up your diagnosis, see what medication regimes and care pathways are available, and hopefully have a much more informed discussion with your healthcare provider.

What Screenagers like this are calling for is a model of medical care that is based on co-production. The philosophy behind co-production is this: in an overly medicalised field, health professionals ought to recognise service users in the design, implementation and decision making processes that dictate service delivery. Users should be considered as experts in their own circumstances, and unless proven otherwise, capable of making decisions as responsible citizens. This strategy appears to be embedded into the lives of many Screenagers who monitor their own health and the health of loved ones with the use of digital technology. A cross-section of experiences include:

Multiple sclerosis: "My mother suffers from MS but she stays in touch with her grandchildren, through screens"; *Alzheimer's:* "For my mother in law we were able to monitor her health, mobility and safety (via camera hook ups and sensor based system) which allowed us to care for her for 8+ years at home, rather than in residential care"; *Cardiovascular defibrillator:* "My brother-in-law has just been fitted with a defibrillator inside his skin and computers monitor whether it goes off. He gets notifications on his phone. Incredible"; *Parkinson's:* "I have Parkinson's ... the internet provides great detail about my condition and helpful advice"; *Gall stones:* "I used the internet to diagnose stomach pain which my GP said was indigestion but turned out to be Gall Stones ... I went to A&E and they confirmed my diagnosis and operated immediately"; *Dialysis:* "I am a dialysis patient and the internet passes time on 4-hour sessions." *Skin cancer:* "Apps are used to take high definition photographs of moles and look for signs of melanoma."

Whilst this represents only a small section of the usage of digital health technology, it's important to acknowledge that not all Screenagers advocate the use of the internet for health related purposes, nor did they all see the internet as beneficial for public health more generally. Below we give space to the cyber cynics.

CYBER CYNICS AND INFORMANIACS

The old adage "knowledge is power" (often attributed to 16th century philosopher Francis Bacon and used on multiple occasions by our Screenagers) assumes that insight can provide

a stable base from which to question propositions or authoritative diktat in order to make informed decisions. The philosophy seems logical, but it isn't always true according to scholar Leslie Robinson who asked the following question in 2003: "Is digital technology empowering patients?"

In her answer, she acknowledges that talking to others through internet groups and watching podcasts and videos that provide vibrant and dynamic information will arguably better prepare patients for a forthcoming medical experience than it would by reading static information from leaflets and pamphlets. However, Robinson (and some of our Screenagers too) share the concern that too much information (gathered in a haphazard manner online) is difficult for the layperson to process.

Gunnar Trommer agrees, and when writing in 2015 about the gap between promise and reality for digital health, warns: "too much information is worse than not enough information since it numbs us to what is truly relevant" (p. 183). Far from being empowering to the individual, Trommer suggests that unfiltered information can hold negative consequences for health systems as they become awash with confused and anxious patients. One participant in her twenties has a word to describe the confused and anxious patients that Trommer is referring to: INFORMANIACS.

According to this and other participants too, 'informaniacs' are the hypochondriacs of the Screen Society age who, according to one guy in his early twenties "spend their time combing the net for signs of personal illness", or they "simply misread information to end up fearing the worst", states a participant in his early fifties. For Scott Lash, this type of behaviour is symptomatic of a broader process that he calls 'informationalization'. In his 2002 book *Critique of Information*, he explains that informationalization is unique to societies where the speed of information flows erodes the space needed for critical reflection. This includes Screenagers that have become dependent on the internet for the acquisition of personal knowledge.

The problem, as Lash sees it, is that genuine knowledge frequently becomes diluted, decontextualized, ephemeral and ultimately lost or contaminated with untruths and as such,

it can be rendered meaningless. After all, information can be added to the web by anyone at any time and it can be redistributed, edited and rehashed throughout cyberspace via simple posts, tweets, blogs, or any other social media publishing form without question or quality control. The upshot is that agents are presented with a landscape of ever-changing information with unclear origins, content and value. Of course, in the context of health, misinformation can be dangerous.

Michael Hardy, writing in the 2013 book *Key Concepts in Medical Sociology*, floats the idea that danger to health can extend beyond the more obvious risks such as: incorrect self-diagnosis, self-medication, or following a fitness regime that is too advanced for a person with underlying health conditions. Rather, he reminds us that social media and associated 'self-help' groups that enable people to discuss information anonymously across the globe aren't always good for us. He writes of online groups such as 'Proana' groups that provide information to those wishing to lose weight to a degree that may result in clinically dangerous outcomes, not to mention the dark web and its capacity to aid steroid users that are prepared to do anything to build muscle in spite of long term health risks.

Whilst our participants did not make direct reference to such risks, a small number spoke about the capacity that the web and health apps have to reignite previously diagnosed mental health conditions. For instance, when describing personal experiences with fitness apps, a woman in her late twenties explained how she had "an issue with a food tracking app that slightly brought back an eating disorder." She explained how the app encouraged her to "severely control" her intake of calories, and points out: "if I hadn't realised when I did I could have become obsessive and compulsive regarding it. There were no fail safes in the software to protect people from this."

SNAKE OIL SALESMEN

As well as failing to protect those looking for a quick dieting fix or those with histories of psychological body dysmorphic issues, other Screenagers were concerned about the commercial sales of digital health related products that potentially draw on, rather than fix human vulnerabilities. As one participant in his early fifties puts it, there's a conflict of interest within a commercial company that sets out to fix health related problems for individuals

because “they rely on insecurities in people who they want to buy the product”, whilst a woman in her late thirties worries that fitness apps are “nothing more than a marketing exercise to extract payment from a gullible public”. Another agrees that “all these fitness apps are doing is lining the pockets of companies by fuelling already sedentary lifestyles and providing a false sense of wellbeing.”

Sceptics of digital health technologies (whilst in the minority of surveyed Screenagers) share the doubts of some academic researchers which were reported in a 2017 *Telegraph* newspaper article, written by Sarah Knapton, entitled 'The 10,000 steps a day myth: how fitness apps can do more harm than good'. The article heeds a warning delivered by Dr Greg Hager, an expert in computer science at John Hopkins University, who told delegates at the American Association for the Advancement of Science annual meeting in Boston, that the 10,000 steps doctrine was based on just one study of Japanese men dating back to the 1960s.

For Hager, 10,000 steps is an arbitrary figure that is built into fitness apps with very little evidence behind it. Dr Steve Flatt of the University of Liverpool takes this a step further to suggest digital medical apps (some of which GPs are encouraged to recommend to their patients) lack scientific scrutiny and he likens the field of digital health apps to the snake oil salesmen of the 1860s, that is, rogue traders who knowingly sold fraudulent goods to gullible customers.

So, for some scholars and for some Screenagers too, it’s the conflict of interest that exists between the pursuit of technological health aids (based on sound scientific / ethical principles) and the pursuit of profits which causes most concern about digital health futures. Screenagers were aware of some techniques that are used to generate income in the field of digital health, including the practice of selling on user information to third parties, who in turn, seek to profit from the collection of big data.

The big data economy is a symptom of our Screen Society and as Prainsack suggests in a 2014 paper, it’s part of a lucrative commercial market that is promoted in the interest of manufactures who sell technologies, or to pharmaceutical companies who, in turn, market goods to agents that are likely to be interested in specific products. Big data takes little effort

for companies to assemble because its collection is driven by users of websites and apps who are typically asked to give up their geolocation, unique phone identifier and to enter personal details into the app. From this point data can be sold, and as one Screenager in her twenties explained, the price for staying connected with the rest of the world is that you must give up your personal details. She explains that the process is unnerving because “I’ve no idea who will be using my information.”

Unnerving or not, one of the seemingly positive implications associated with Big Data (as part of a late liberal environment) is that targeting individuals through digital fitness apps can potentially reduce health problems at the micro level, whilst simultaneously enabling commercial companies to make money. This might seem like a win, win situation, but scholars such as Nick Fox of Sheffield University, point out that focusing on our own individual health (which has become a feature of our evolving health habitus) means that we do little to identify the broader social, cultural and political dimensions of ill health and the reasons why people may find it difficult to keep up or respond to health messages.

Again, this subtle but crucial point was acknowledged by a small proportion of Screenagers, some of which were concerned that “digital health technologies preach to the converted” writes a female in her late twenties. “Educated people that already look after themselves find health apps very helpful but”, she argued “people that arguably could be helped the most (the uneducated) won’t be interested.” Another Screenager in her early forties agrees: “there’s a digital divide where apps and devices are marketed to middle class professionals and this becomes a health issue that no commercial company is vaguely interested in addressing.”

CHOOSE TO BE HEALTHY

Whilst the perceptions of our Screenagers are not always harmonious, it is possible to summarise some of the themes that accompany discussions of digital health from a socio-cultural perspective. First, participants describe a habitus where agents have become preoccupied with their own feelings, interests or situations - which in turn, reflects the way that people address their own bodies and by implication, health. This movement is thought

to be an extension of the Culture of Narcissism that Christopher Lasch described in 1979, but its advancement has intensified with the onset of the internet, and web 2.0 more specifically.

Interactive websites, smartphones, selfies, social networking sites, and personal apps are transforming the field of health and fitness for everyday people. Most notably participants accept that people have a greater awareness of health related issues than previous generations, and this was largely perceived as a positive outcome of the digital age. For participants, free access to information had begun to change the way that they manage personal health issues, and this was reflected in their thoughts about the relationship between patients and health professionals.

Participants shared their experiences which ranged from: the use of online information to instigate educated discussions with GPs to using personal research in order to correct misdiagnosis from professionals. For our Screenagers then, the internet has become a tool against which all professional opinion and diagnosis can and will be checked. As such the rise of the net has meant that we tend not to rely on GPs and medics, but we self-diagnose and self-medicate more. Again, this is consistent with self-absorption and is reflected in our attitudes towards exercise, diet and lifestyle.

As well as being cited as a positive experience for the layperson, our Screenagers have largely accepted that the availability and desire for health related information brings with it a heightened level of personal responsibility for our own health and for that of our dependents. In other words, participants were aware that we have become a society of self-monitoring subjects, who are expected (perhaps unreasonably) to self-regulate in a market that paradoxically encourages unfiltered consumption and self-indulgence.

Achievement of self-regulation (which, in the mind of Screenagers tends to equate to staying slim, young, beautiful or athletic) is rewarded with positivity (though sometimes envy) from a society that values aesthetics. As the logic goes, because of the omnipresence of digital technology and e-information, fitness is perceived as a choice where people can, as one Screenager puts it “choose to be healthy or choose to be a burden.”

This state of mind, though not a universal position, features predominantly enough to make the list of implications and it's a notion that other scholars have noticed too. For instance, Alan Peterson observes in his 2003 work on the subject of governmentality and medical humanities, that the expectation on contemporary citizens is that they must, as a condition of access to healthcare services, adopt appropriate practices of individual healthcare prevention. Moreover, participants have acknowledged that a heightened sense of responsibility (embedded within the health habitus) can lead some agents to develop negative attitudes towards other people who don't exercise, or are perceived to be lazy, or overweight.

Consuming the latest health-related gadgets and gismos was one option that some Screenagers took to avoid feeling the disapproving glare of the panoptic eye. They understood that fitness apps have the potential to be personal trainers to all: telling us what we ought to aspire to, advising us what think, plotting how much exercise we've done against what it thinks we ought to have done, informing us of what to eat and what to avoid eating, measuring our physiological response to exercise, and of course – photographing our bodies so that we can showcase the end results to our friends, colleagues and to anyone else that cares to pay attention and agree about our social worth.

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