

Thoughts about smartphones, social media and possible effects on young people and their mental health and well-being

Are Smartphones making our children mentally ill?

Over the last several years I have noticed an increase in the amount of our students who come to see me who self-injure/harm and talk openly about wanting to die. Some have even planned how they are going to carry out this act. This is a worrying and heart breaking trend and one on which I have pondered as to what is at the root of children's unhappiness. An unhappiness to such an extent that some of our children and young people are cutting, taking pain killers, drugs or using alcohol as a response to the way they are feeling. What is happening in our society that might be attributing to this shift? One question being asked over the last few years is, 'to what extent is the use of smartphones playing in the well-being and mental health of our young people?'

Julie Lynn Evans, a Child Psychotherapist for 25 years, working in hospitals, schools and with families says she has never been so busy. She says it's not just her that's busy, as when she tries to refer people on, everyone else is choc-a-bloc too. "We are all saying the same thing. There has been an explosion in numbers in mental health problems amongst youngsters." She noticed the floodgates of desperate youngsters opened in 2010, "I saw my work increase by a mad amount and so did others I work with. Suddenly everything got much more dangerous, much more immediate, much more painful." She goes on to say that she is seeing the evidence in the numbers of depressive, anorexic, cutting children who come to see her, "and it always has something to do with the computer, the internet and the smartphone." Whilst she says her view of the smartphone is a simplistic one, "it's the ubiquity of broadband and smartphones that has changed the pace and the power and the drama of mental illness in young people." With a smartphone, children can access chat rooms, self-harming websites, anorexia websites, pornography, and a whole visible world of dark places.

What are the findings that suggest we should be alarmed about the effects of smartphones and social media?

Jean Twenge, Professor of Psychology at San Diego State University. Identifies that "around 2012 something started going wrong in the lives of teens". She says that she and her colleagues found that the increases in depression, suicide attempts and suicide appeared among teens from every background...across all races and ethnicities... (and that) those born after 1995 were much more likely to experience mental health issues than their millennial predecessors. Twenge reports that "after scouring several large surveys of teens for clues, I found that all of the possibilities traced back to a major change in teens' lives: the sudden rise of the smartphone".

According to the Pew Research Centre, smartphone ownership crossed the 50% threshold in late 2012 - right when teen depression and suicide began to increase. By 2015 73% of teens had access to a smartphone. Here in the UK it is estimated that in

2018, 83% of teenagers now own a smartphone, which raises the question of device addictions from an early age. (BBC.co.uk Click 9.9.18)

The amount of time spent on line has also been linked to mental health issues, teens are spending less time interacting face to face. Feeling isolated is one of the major risk factors for suicide. Another factor is sleep deprivation. The sleep patterns of teenagers are being disturbed as they respond throughout the night to texts, instagrams and snapchats, perhaps while even watching a video. Reed Hastings CEO of Netflix, speaking in April 2017 claimed that the Company's biggest competitors weren't Amazon Video or YouTube it was sleep. He said "when you watch a show from Netflix and get addicted to it, you stay up late at night. We're competing with sleep". Some of the students I see tell me they are tired and when I ask about this, often the answer is "I was watching Netflix till late".

Happiness isn't the same thing as pleasure, is it? How do our brains differentiate? What effect does social media and smartphones have on our brain?

Samantha Lee writing in the Business Insider says that "the brain chemical dopamine, associated with reward and motivation, is very different from serotonin, which is associated with contentment and true happiness. You can't get contentment from an app or from a purchase, but you can click or buy your way to a whole lot of reward and pleasure. The language difference between "happiness" and "pleasure" is subtle, but the chemical difference is huge. These chemicals are the reason why our 'phones can feel addictive".

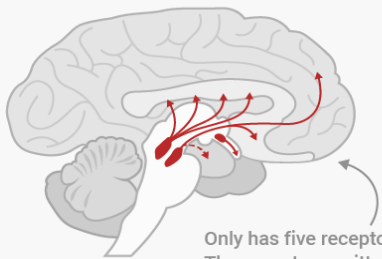
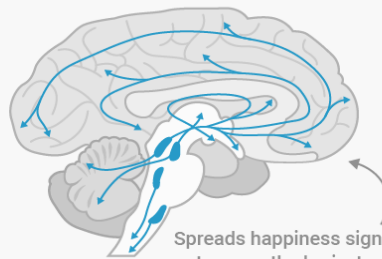
Robert Lustig, Professor of Paediatrics at the University of California suggests that "notifications from our 'phones are training our brains to be in a nearly constant state of stress and fear by establishing a stress-fear memory pathway. And such a state means that the prefrontal cortex, the part of our brains that normally deals with some of our highest-order cognitive functioning, goes completely haywire, and basically shuts down".

Lustig explains that "technology is a dopamine stimulator... anything that causes dopamine to rise has, as its end point, addiction." However, Lustig suggests that technology doesn't quite work on our brains in the same way that if we are addicted to drugs or alcohol. When we turn off the phone we don't get visceral withdrawal symptoms like jitteriness or headaches. However, the dependency we are developing to our 'phones doesn't cause a feeling of contentment, calm or peace. The constant signals from our phones which alert us, are fuelling the release of stress hormones and our brain's pleasure and reward-related chemical, dopamine.

Dopamine touches very different areas of our brain than serotonin. Serotonin is involved in decreasing anxiety and counteracting depression. Serotonin is so closely related to happiness that it's one of the key ingredients in many anti-depressant drugs.

There is a difference between how happiness-related serotonin and addiction-related dopamine circulate in the brain, as depicted in the following graphic by Lustig:

Why addictive pleasure isn't the same as true happiness

<p style="text-align: center;">Dopamine Pleasure</p>  <p style="text-align: center;">Only has five receptors. The neurotransmitter fuels desire and motivation.</p> <ul style="list-style-type: none"> • Addictive • Short term, like enjoying a piece of cake • Visceral—it's felt in the body • Inspires taking, like cashing in your chips at the casino • Typically experienced alone (eating, shopping, drinking, bingeing) • Makes the brain say, "This feels good, I want more." • Too much leads to addiction 	<p style="text-align: center;">Serotonin Happiness</p>  <p style="text-align: center;">Spreads happiness signals out across the brain, touching at least 14 different receptors.</p> <ul style="list-style-type: none"> • Not addictive • Long term, like contentment • Ethereal—it's felt above the neck • Inspires giving, like volunteering at a soup kitchen • Generally shared (spending time with friends, family, colleagues, a congregation, etc.) • Makes the brain say, "This feels good, and it's enough." • Too little leads to depression
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Source: Robert Lustig BUSINESS INSIDER

Samantha Lee explains the graphic: "serotonin spreads happiness signals out to many different parts of the brain, touching at least 14 different receptors. Scientists like Lustig think this is part of the reason why happiness can be felt in so many different ways: sensations of joy, love and contentment might be sparked during different interactions serotonin has with receptors in different parts of the brain. Dopamine, on the other hand, only has five brain receptors. The neurotransmitter interacts with those receptors to fuel feelings of desire and motivation. Dopamine is involved in regulating many things in our brains: rewards, motivation, pleasure... but because it fuels a cycle of motivation and reward, it will never make us truly happy or content, feeling like we have enough and we are enough."

I wonder if some of our smartphone savvy children are losing the sense of what it means to feel love, joy, contentment and happiness. Are their brains being hardwired to be stressed by becoming isolated as they lock themselves away using their 'phones? Have they stopped discovering the world in a physical sense through play and face to

face interaction? Are our children relying on a dopamine hit to feel happy, are they confused as to what it is in life that makes them feel happy and content? How can we encourage them to produce more of the Serotonin hormone?

Richard Graham a Child and Adolescent Psychiatrist who runs the Tech Addiction Service at London's private Nightingale hospital, feels there could be something else going on for our young people. An identity crisis, "trying to find a place in the world of near-adults". For these young people, games and social media aren't just fun - they're business. Whether they monetise their YouTube channel or not, this is a way to succeed, to harness digital capital and turn it into self-esteem".

What makes children and teens feel validated? - "I'm so excited I got hundreds of likes on my Instagram and Snap Chat photo that I posted" exclaimed a vulnerable Year 8 student

Young people who live in a virtual world have no time for reflections, Julie Lynn Evans suggests it gives young users no time to reflect or learn about the consequences of their actions. "So if you are having a WhatsApp chat with your friends, and it all goes very wrong, you can say to them, 'I wish you were dead,' because they haven't got time to reflect, and then their words go everywhere. Kindness, compassion, ethics, it's all out of the window when you are in this instantaneous gossip world with no time to think, and no time to learn about having relationships." Cyberbullying is a problem for adults too as they also can fall victim to being gossiped about. For information on what to do if you are being bullied on a social network contact BullyingUK (part of Family Lives).

What happens to a young person's self-esteem when they rely on the judgements of not only family and friends, but from the army of 'friends' they have acquired through the apps on their 'phone? A child's developing sense of self, which may be fragile, can feel deflated and depressed when they feel that they don't match up to the unrealistic perfect images they see on screen. Or, if they don't get the required number of 'likes' to a photo they have just posted, does their own instinct, self-worth and belief about themselves gradually become eroded, especially, if that all important 'like' button falls silent?

Carl Rogers (1950) termed the phrase 'locus of evaluation'. Which means, if a person is operating from an internal locus of evaluation they are able to trust their own instincts...they use their own organismic valuing process. However, many people operate from an external locus of evaluation, this means that they introject the values of others, they judge themselves according to whether others find them acceptable or not.

Why is it so difficult to ignore the smartphone?

How often do we see people with headphones hanging out of the ears whilst staring at their 'phone? We see them on buses, walking along, or collectively in social groups

maybe having a meal. All interacting with their phone rather than with the world and people around them.

Smartphones have been designed to leave us always craving more. There is an entire industry dedicated to mapping out our cognitive weaknesses and exploiting them. James Williams, speaking on BBC Radio 4, a former google employee of over ten years says, "behind the screens we use daily, there are thousands and thousands of some of the smartest designers and engineers in the world, whose job it is to get us to look at the thing, click on the thing and every time we pull out the device we are going up against them in that persuasive battle. Technology is designed to capitalise on vulnerabilities and our weaknesses, it's a kind of power over our attention that is at a scale which is unprecedented. Facebook has the power over two billion users on a daily basis. A power that goes beyond the power that governments or religion have."

The tech giants employ neuroscientists' who design on the principle of the reward & pleasure areas of the brain. 'The slot machine effect' where you randomise the psychological order that you give somebody so that they do a certain behaviour more than they otherwise would. Like pulling down to 'refresh' the page on your smartphone. The smartphone is designed to speak to the parts of us that clicks and looks without thinking. (Panorama 4/7/18) Behaviourists, like John B Watson, believe that all "behaviours are the result of experience and that any person regardless of his or her background can be trained to act in a particular manner given the right conditioning." The tech neuroscientists are designing phones with this in mind. In the same way that slot machines were first designed to get our attention by the bright flashing lights and the randomised clattering sound of the pay out in the tin tray, our smartphones are also being designed to get our attention by the subtle flashing light that tells us we have a message, or the tuneful, playful, melody that alerts us to a WhatsApp, message or an email.

Our attention to our phones is in overdrive, we can even sometimes imagine that our phones have beckoned us as we go to check for a message. Our fingers endlessly scroll down the twitter page to see who has said what. For what reason are we hooked? What is the purpose of this? Advertising maybe? Advertising is worth billions and could it be that our attention is being manipulated and drawn to products through the adverts placed between the twitter messages and news feed? "For the media industry it's worth keeping us on the platform, this is their business model. The longer they can keep us looking at their services or clicking and scrolling or tapping then this translates into revenue for them because in the large part the business model is advertising. (BBC Radio4).

Is there an answer?

A study by the London School of Economics and Political Science showed that banning smartphones in schools caused a clear improvement in students' test scores. We lead

by example and it is a positive move that here in school we have taken a strong stance that mobiles should not be seen or heard in classrooms/school either by students or staff. Smartphones are not inherently bad however, but they are designed to increase addictive behaviour. Being constantly stressed and on edge long term will have a negative effect on our bodies.

We don't start out by thinking how much time can I spend on YouTube, Twitter or Snap Chat today, but before we know it, hours can go by without realising. Smartphones have been designed to highjack our attention. Perhaps the only antidote is to stop staring at our screens, put our phones away and limit the alerts. Is this abstinence unrealistic though? Perhaps finding a balance would be more attainable, where adults/parents lead by example to young people to show them they are more in control of their relationship with technology by limiting its use. Richard Graham talks about learning to use technology in a measured and controlled way. He says "if someone goes diving and is deeply immersed in the ocean, you can't just bring them up quickly without significant effect, so rather than talking about digital detox, we need to think about digital decompression." He suggests the 'Family Media Plan', which the whole family should be prepared to sign up for. (See bibliography for details)

I wonder if it's possible to unlearn some of the habits that we have seemingly slept walked into with our smartphones and technology. Would a greater awareness of what's involved behind our screens help us to regain control? Can we somehow find a balance to be able to reclaim our time, peace and our own sense of self in the world around us? Perhaps we could look for ways that will increase our serotonin, the feel good factor hormone, by spending more time outdoors, exercise, get a massage, soak up some sun, watch what we eat and meditate for example. Ray Mears, 'Bushcraft' and survival expert of 35 years, believes that we should turn 'phones off occasionally. He says that some of us "grew up in a world that was analogue, we were able to have proper childhoods. The applications are great but are designed to be addictive. I can resist the computer game because I have seen reality first but children are growing up and their reality is the app and they are locked into it for life". As Ray Mears believes "there is no more precious gift for any human being than time, the time we have to live." Our time is being stolen by technology companies because money is made from all the time we are spending on the apps.

We might look back on this era of smartphones and social media and define it as the time our children's brains began to develop differently. We may not know the long term effects, if any, on our children's mental health and well-being for many years. Perhaps smartphones and social media should not be totally demonised as technology and its uses are phenomenal, we just have to learn to control it. As Jean Twenge also says in her report about smartphones, depression and suicide have many causes: "genetic predisposition, family environments, bullying and trauma can all play a part." She says that "some teens would experience mental health problems no matter what era they lived in".

Just to finish, the tide might well be turning as Matt Lees a creator of many viral YouTube videos, who has had millions of followers, has recently spoken out and said that "he is quitting the platform due to it leading to a life of stress, loneliness and exhaustion." (Sky News 16/9/18) And there is always the possibility of overkill of course as we might just get fed up with being bombarded with media and advertising through our smartphones and devices. Richard Grahams suggests that technology companies and their products are relentless and "if it's this relentless, the so-called attention economy will fall down, because we'll all be too exhausted." Now there's a thought!

Meanwhile A few tips to help build digital resilience:

1. Be united as a family, limit access to 'phones to one room in the house
2. Have a switch off time, no 'phones in bedrooms
3. Parents think about the example you set your children, pay them the attention, not your smartphone
4. Young people can be responsive when adults change their own behaviour
5. Plan activities outside the home as a family
6. Have bedtime and sleep routines, eat well and do some physical activity every day

For further information and tips go to:

www.bullying.co.uk/cyberbullying/what-to-do-if-you-re-being-bullied-on-a-social-network/ Part of Family Lives Tel: 0808 800 2222

<https://www.internetmatters.org/advice/digital-resilience-toolkit/>

<https://youngminds.org.uk/resources/policy/resilience-for-the-digital-world/>

Recommended viewing is Panorama on BBC1 shown Wednesday 4th July.

<https://www.bbc.co.uk/iplayer/episode/b0b9dzb6/panorama-smartphones-the-dark-side>

Family Media Plan

www.healthychildren.org/English/media/Pages/default.aspx#home

Audrey Boot, Trust Student Counsellor

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