

Detoxing the brain

Understanding digital backlash in the context of the media effects tradition

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ABSTRACT

In the public debate, problems due to excessive use of digital media are often explained with reference to neurological functions and addressed through calls for self-regulation. This digital backlash and the desire to disconnect from the digital environment can be understood as the latest expression of the perennial concern with adverse media effects. For decades, media and communication research has dealt with the question of what the media do to us, pointing out the complex entanglement of social, psychological, technological, political, cultural, and economic aspects that are part of the question. The difficulties involved in reaching any absolute conclusions have motivated critical media studies to formulate different research problems and thus risking missing the opportunity to make an important contribution in one of the more pressing public debates of our time. Drawing on Latour's distinctions between "matters of facts" and "matters of concern", in this chapter, we suggest that critical media and communication scholars ought to treat media effects as a matter of concern to remain a relevant actor in the public debate about problematic media use.

KEYWORDS: media effects, digital backlash, pop neuroscience, Latour, screen time

Forsler, I., Guyard, C., & Andersson, L. (2024). Detoxing the brain: Understanding digital backlash in the context of the media effects tradition. In K. Albris, K. Fast, F. Karlsen, A. Kaun, S. Lomborg, & T. Syvertsen (Eds.), *The digital backlash and the paradoxes of disconnection* (pp. 91–108). Nordicom, University of Gothenburg. <https://doi.org/10.48335/9789188855961-5>

Introduction

In May 2023, the Swedish government decided to halt the proposal for a new national digitalisation strategy for schools in Sweden. This marked a paradigm shift in the official education policy: In 2017, the strategy declared that Swedish schools should be world-leading in facilitating the opportunities of digitalisation (Ljungqvist & Sonesson, 2022), and the proposal for the following strategy continued in the same spirit. According to Swedish school minister Lotta Edholm, a central argument for stopping the new strategy was that the immense criticism from paediatricians and brain scientists had not been considered in the development of the strategy. This motivated a second round of consultation and, based on the comments from 52 institutions and organisations, it was withdrawn. While some universities, as well as the Swedish Media Council, were invited to comment on the strategy, the call specifically asked for input on “the cognitive development, health, and well-being of students” in relation to digital tools (Government Offices of Sweden: 1). Institutions related to neuroscience, paediatrics, and psychology were hence regarded as “the most important consultation bodies” in this process (Letmark, 2023). In addition to the official comments from the consulting organisations, two researchers in neuro and cognitive sciences, together with the head of a brain research institute, published an op-ed where they deemed the proposed strategy a “risky experiment” (Thorell et al., 2023). Following the withdrawal of the strategy, representatives from these fields are frequently interviewed, while arguments from other consulting bodies, which addressed the lack of perspectives on media literacy and children’s digital rights in the strategy, are not even mentioned in the coverage.

Why are critical media studies researchers not more visible in the public debate about school digitalisation? Are they not invited? Or are they not interested in the topic? In this chapter, we discuss how neuropsychologists, rather than media scholars, have become the go-to public experts on digital media use and important actors in what can be described as a digital backlash, at least when young people are considered. We further relate this shift to the tradition of media effects research by suggesting that the arguments underpinning the current concerns regarding media use are rooted in the premise that exposure to media can have an adverse impact on an individual’s behaviour or beliefs. Here, the insights from critical media studies could help nuance and avoid simplistic notions of media effects, but media researchers could also take notice of how pop neuroscience is able to seriously engage with public concern over digital media use, and thus make itself relevant.

In this chapter, we focus on the media debate in Sweden, where representatives from neuroscience, cognitive psychology, and medicine (referred here to as pop neuroscience) have come to dominate the public discourse about digital media use. Even though our examples are from Sweden, the debate is an indicator of a global phenomenon, namely the widespread concerns about the

negative effects of constant connectivity and availability afforded by online media, particularly smartphones (see, e.g., Korte, 2020). The current “screen time panic” (Forsler & Guyard, 2020) is often self-perceived and encompasses anyone with an assumed problematic media use (although children and adolescents, with developing brains, are the main objects of concern; see, e.g., Choudhury & McKinney, 2013; Mills, 2014). People are worried about their own, and others’, almost compulsive use of online media, and psychological research in this area maintains that in extreme cases, problematic Internet use may result in symptoms associated with substance-related addictions (Kuss & Griffiths, 2017). While clinical diagnoses are rare, the notion of smartphone addiction has become common in public debate (Kardefelt Winther, 2017; Vanden Abeele & Mohr, 2021), along with concerns regarding impoverished sociality, diverse health problems (both physical and mental), and shortfalls in cognition, such as procrastination and attention deficit (Meier, 2022; Syvertsen, 2017).

Pop neuroscience and media effects – the case of Sweden

One of the first cases in Sweden where brain researchers entered the public debate over problematic media use was in 2012, when a group of neuroscientists from Karolinska Institute criticised a report from The Swedish Media Council that argued that although aggressive behaviour and gaming might correlate, there is no evidence that videogames alone cause aggression (Statens medieråd, 2011). In the report, the media researchers highlighted the weaknesses of previous studies conducted in this area, for instance, that they have excluded control variables such as sociodemographic or other contextual factors that might contribute to aggressive behaviour. In an op-ed article (Olsson et al., 2012), the Karolinska Institute scientists accused the report of being biased and that the Swedish Media Council adapted to the interests of the gaming industry. In contrast to the arguments presented in the report from the Media Council, the Karolinska Institute scientists claimed that there is in fact strong evidence that playing violent videogames affects the brains of young people and might cause aggression.

A few years later, the concerns about the effects of media on young people shifted focus from aggressive behaviour to cognition and the question of school digitalisation. In 2017, the liberal politician and writer Isak Skogstad argued, with reference to findings from neuroscience, that we should “throw the computers out of the classroom”. In the article, he maintained that the part of the brain that regulates children’s ability to plan ahead and consider consequences is not fully developed, and therefore, it is “rational to assume that children always will prefer Snapchat over algebra” (Skogstad, 2017). Also, Torkel Klingberg, professor of cognitive neuroscience and one of the most prominent voices of criticism against the new school digitalisation strategy, compared school digitalisation with the introduction of pharmaceuticals

and stated that while the latter is subject to rigorous testing, the introduction of computers in schools is proceeding “blindly” (Klingberg, 2019). His main concern, which he repeated in a number of debate articles, is that the use of digital technologies in the classroom might cause an information overload that harms the working memory capacity of students (e.g., Lerner, 2019).

School digitalisation is, however, not the only threat to the brains of young people. Their private media use is also a source of concern for parents, teachers, policymakers, and other interest groups, since excessive screen time is believed to have a negative impact on well-being and mental health. This idea has resulted in a growing market for self-help literature providing brain-based strategies to handle unhealthy media use, for children as well as adults. Without doubt, psychiatrist Anders Hansen has established himself as the most prominent expert in this area in Sweden. In 2019, he published a book about “the screen brain”, *Skärmbjärnan*, which became first a national and then an international bestseller, translated to over 20 languages. Throughout the book, he warns about digital media, particularly mobile phones, that he claims are addictive and have negative effects on well-being, sleep, physical activity, concentration, memory, self-esteem, and learning abilities. That same year, he hosted the first of three seasons of a popular television series about the brain on SVT, the Swedish public service broadcaster, which, among other topics, addressed the effects of digital media use on the brain (ITV Studios Sweden, 2019–2023). In 2021, Hansen’s book *Skärmbjärnan* was adapted for a younger audience, and all schools in Sweden are offered free copies of this book through a collaboration with an organisation promoting healthy living for children (SCRIIN, 2023).

Another digital media self-help expert with a strong media presence is Sissela Nutley, a cognitive neuroscientist who in 2019 published a bestselling book about digital distractions. The book made her a recurring guest on television sofas around the country, where she warned against the dangers of too much screen time. Like Hansen, she is concerned about the addictive behaviour especially young people are developing in relation to smartphones, but she also discusses harmful *content*, such as violence and pornography. Nutley is also one of the initiators of the organisation Arts & Hearts, which aims to improve mental well-being among youth through culture and entertainment, and which was one of the institutions invited to comment on the digitalisation strategy. Arts & Hearts offers online learning material about how to balance digital media use with regard to mental well-being and schoolwork, consisting of short fictional video stories, filmed interviews, and classroom exercises. The organisation has also developed an app where users can self-assess how much time they spend online and receive “strategies for well-being and productivity in school and at work” and a musical aimed at school children. The latter was promoted as a “contemporary reflection over how our analogue lives and relations become digitalised and how this affects the brain” (Arts & Hearts, 2023).

As described in the introduction to this chapter, the concerns about how digital media affects the growing brain have also had an impact on education policy in Sweden. In addition to the withdrawal of the digitalisation strategy, the national Education Act was rewritten in 2022 to allow schools to prohibit smartphones in the classroom, in order to “prevent disruptions in teaching [translated]” (Swedish Code of Statutes: §4b). What we are witnessing is an upcoming digital backlash, at least when children and adolescents are considered. This digital backlash is, as described above, motivated with reference to neuroscience research that illustrates the position of brain-based perspectives in the public debate about potential harms with digital life. With few exceptions, official institutions, from the Ministry of Education to public service television, turn to brain science for guidance on matters otherwise categorised as social or cultural. Furthermore, when representatives from the social sciences are indeed consulted, as in the report from the Swedish Media Council, these actors tend to downplay the question of the relationship between media exposure and negative behaviour by exposing the methodological shortcomings of much of this research. In the following, we develop further how media effects have been treated in media research.

Media effects – a contested concept

It is well-documented how media research in the twentieth century was primarily characterised by an effects-oriented approach, which involved conducting experimental studies within controlled laboratory environments. This approach often adhered to a linear model of the communication process (see, e.g., Livingstone, 1996; McQuail, 2000). However, as the assumptions about stimulus-response models were subjected to empirical observations in natural settings, it turned out to be difficult to detect effects on individuals caused by media exposure (Couldry, 2019; McGuire, 1986). Studies found “intervening factors” between media and the receiver, thereby questioning the influencing role of the media, suggesting, for example, that an individual’s previous knowledge and psychological predispositions may modify the intended meaning of a media message (e.g., Katz & Lazarsfeld, 1955). This led to a critique against effects research within critical media studies, and this previously dominant paradigm was gradually supplemented with other, more constructivist and critical, approaches.

The status of effects research in contemporary media studies can be understood as either an epistemological or an ontological problem. For media researchers who find it relevant to discuss media effects, the main question is epistemological and concerns the development of methods to measure media exposure. As Valkenburg and Peter (2013) have argued, to be able to evaluate media effects, it is crucial that the measurement of media exposure is reliable and valid. However, most of these studies rely on self-reported data that tend to be imprecise due to cognitive or motivational reasons. On top of that, the

proliferation of ubiquitous and mobile media technologies has made it almost impossible to estimate the degree of media exposure.

The media-saturated society of today can also be framed as an ontological problem that departs from the question of whether specific media effects are a relevant topic of study at all. Following the past decade's interest in "mediatisation" within media studies (e.g., Couldry & Hepp, 2016; Hjarvard, 2013; Lundby, 2009), it has become common to deny possibilities to separate specific individual responses to media exposure or use. Mediatisation theory perceives contemporary societies as "permeated by the media, to the extent that the media may no longer be conceived as being separate from cultural and social institutions", and therefore, the media cannot be "considered to be the independent variable that affects the dependent variable: the individual" (Lundby, 2009: 2). The implication here is not the need for methodological advancements to study media effects, as when epistemological issues are raised, but rather a dismissal of the very idea that media have direct effects that *can* be studied.

In academia, according to John Durham Peters (2017: 11), it is "a regular sport to contrive doctrines that nobody believes and attribute them to one's enemies", and effects research has become one such slur that is used to indicate a naïve understanding of media as having the power to directly influence the behaviour or beliefs of an audience. Indeed, as Sonia Livingstone has argued, the term "effect" is seldom used within most contemporary media research because of its association with a research tradition based on laboratory experiments and behaviouristic methods that "presumes the public to be a gullible mass, cultural dopes, vulnerable to an ideological hypodermic needle" (Livingstone, 1996: 2).

Instead of framing media effects as a problem for the individual, media researchers have rather addressed "digital entanglement" as simultaneously a personal and a social problem (Karlsen, 2013; Syvertsen, 2020). These works have provided valuable insights by putting the contemporary situation in a historical context, comparing concerns over digital media overuse with previous media panics (e.g., Drotner, 1999), while at the same time pointing out what might be historically unique with the dominant media technologies of our time.

Reframing media effects as "matters of concern"

One way to approach critical media studies' hesitancy to engage with issues related to harmful media effects is to use a distinction made by Bruno Latour (2004) between matters of fact and matters of concern. According to Latour, the way in which academic expertise has developed in the humanities and social sciences, especially those branches that derive from critical theory, has made it unfit to address questions of general concern. Instead, it has developed into a critical position that aims to lift "the rugs from under the feet of the naïve believers" (Latour, 2004: 246). Undoubtedly, the scientific project has

from the start always emphasised the importance of building knowledge about the world “as it is”, to establish facts beyond appearances. However, as Latour pointed out, reality is more than “matters of fact”. Matters of concern, then, is the gathering of separate facts put into context in ways that resonate with the lived experience of people. Even if decades of media research have failed to establish any clear facts about the nature of media effects, it does not mean that *experiences* of media effects are not real. If negative media effects are “matters of concern” for many people today, they deserve to be taken seriously. Latour warned that if the social sciences and humanities fail to take on such challenges, the public will turn to other authorities for answers and advice. This has also been the case when it comes to questions about the negative effects of digital media, where popular renditions of neuropsychology have been far more successful than critical media studies in addressing public concerns about media overuse.

The tendency in critical media studies to avoid questions of media effects; leaving the public arena to experts from other sciences is, however, only one side of the coin. The other side is a growing confidence in neuroscientific thinking in current public debate. In the following, we discuss how pop neuroscience has secured this position by considering media effects as “matters of concern”. For the sake of the argument, we focus on how media effects are framed within popular scientific accounts of neuropsychology, not the academic discipline, since it is in this accessible and straightforward form that the wider audience is reached by neuropsychological ideas of problematic media usage. Popularised accounts of brain science are nowadays widely found in mainstream news outlets and science journalism, as well as in other more popular media, such as websites, trade books, and tabloids (Choudhury & McKinney, 2013; Pitts-Taylor, 2010; Rose, 2013). Our ambition is thus not to undermine the validity of neuropsychology as an academic discipline, but to discuss the allure of its popular renditions that have contributed to the widespread acceptance of brain-based explanations of what is, in fact, a social phenomenon – that is, human communication.

Based on an analysis of the rhetoric found in popular neuroscience (Jack & Appelbaum, 2010), we suggest that the privileged position of pop neuroscience in public debates over negative media effects can be understood through its ability to maintain a sense of concern and to convincingly show that 1) the problem with excessive digital media use is *real* (objectivity claims), 2) this problem *can* be fixed (self-improvement claims), and 3) it *should* be fixed in order to maintain well-being in a world that is no longer suited for human biology (authenticity claims).

Objectivity claims

A first rhetorical asset employed in pop neuroscience is the aura of objectivity surrounding brain research. The public trust in neuroscience has been

referred to as “a cultural revolution” (Mora, 2015) where human behaviour is increasingly considered a result of brain functions rather than socially shaped mental capacities (Choudhury & McKinney, 2013; Pitts-Taylor, 2010; Rose, 2007, 2013). According to Nikolas Rose, this represents a shift in human ontology, where we do not think of ourselves as having a brain *and* a mind (or soul). Rather, the brain is conceived as foundational to understanding human nature and social life while the “mind is simply what the brain does” (Rose, 2007: 192; see also Mora, 2015). The public fascination with neuroscience also means that methods from neuroscience have found their way into research fields outside neurobiology, often used as a way to combine neurological approaches with cultural and social theory. One such example is neuropsychology, which combines psychology with neuroscience to explain how cognition and behaviour relate to neural systems (Damasio, 2006; Fiske & Taylor, 2008).

In these explanations, visuals play an important role, and Weisberg and colleagues (2008: 1) argued that the “seductive allure of neuroscience explanations” is connected to the emergence of neuroimaging technologies used to visualise activities in the brain (e.g., fMRI, EEG, PET, SPECT). These images, highlighting active areas in the brain with vibrant colours, can be employed to offer perspicuous and trustworthy explanations of how the brain works (see also Pitts-Taylor, 2010; Sandoboe & Berent, 2021). Even if an image or model of the brain contains the same information or data as the associated text, the image is typically perceived by a lay audience as more trustworthy and objective than the text alone: “Seeing is believing”, as McCabe and Castel (2008) put it in their study of how brain imaging shapes the reception and judgement of scientific reasoning. The rhetorical power of these images as direct representations of reality can also be explained through the long-standing use of technologies such as camera and x-ray machines in science and medicine (Daston & Galison, 1992).

The aura of objectivity that follows the use of images has, however, been criticised as simplified and “grounded in the belief that fMRI enables us to capture a ‘visual proof’ of brain activity, despite the enormous complexities of data acquisition and image processing” (Racine et al., 2005: 160). It is important to note that images produced through neuroimaging techniques are by no means direct reflections of an objective reality, but rather “visualized arguments or enhancements” (Gruber, 2021: 20). Still, the rhetorical function is persuasive and has an advantage compared with more abstract arguments about media use and its potential effects. By showing what “happens to the brain”, visualisations can put facts into context and provide concrete explanations, despite them being complex renderings of data, manipulated to communicate certain results through, for instance, photo-editing techniques such as adding colour and contrast, cropping, and other digital effects (Jack & Appelbaum, 2010; McCabe & Castel, 2008).

The idea that changes in the brain structure is proof of direct effects of, for example, media, is expressed not only in images. One of the paediatricians who voiced their concern over the afore-mentioned strategy for school digitalisation is Hugo Lagercrantz, who wrote in an op-ed about the concrete effects on the brain when books are replaced by a screen:

In a more current American study (Hutton et al., *Acta Paediatrica* 2020), it has been found that the brain develops better in children who grow up in homes with many books and a lot of time for reading aloud, compared to those who mostly watch screens. In the former, more white matter is formed in the brain structures involved in reading and writing. This indicates that the nerves become thicker and thus conduct the nerve impulses faster [translated]. (Lagercrantz, 2022)

Arguably, white matter and neural connections are real, tangible things that can be observed and measured, which help to build a convincing argument about adverse effects. The brain itself has become a symbol for human thinking and creativity that lends its credibility also to non-scientific images and narratives (Andreu-Sánchez & Martín-Pascual, 2014), not least in self-help genres like the mindfulness movement (Betancourt & Labbé, 2014). We find examples of this casual use of brain images in Swedish mainstream media reporting about brain health as well as in pop psychology books, video lectures, and online material. One example is educational material about the effects on digital media on the brain produced by the above-mentioned initiative Arts & Hearts (2023), which includes an animation with a spinning brain with neurons lightning up in different colours, shown when the voice talks about the importance of experience in learning, but with no explicit reference to the image.

A limitation with the objectivity claims outlined above is that they could come off as deterministic, and in the next section, we discuss how the question of biological determinism versus change and improvement is handled within pop neuroscience.

Self-improvement claims

The second rhetorical asset that we want to highlight is the argument that the brain is adaptable, that it is possible to “train” the brain for behavioural change and improvement of mental well-being. This approach is commonly referred to as brain plasticity, or “the capacity of the brain to modify itself in response to changes in its functioning or environment” (Pitts-Taylor, 2010: 636). In the context of adverse media effects, the brain plasticity argument has two functions: On the one hand, excessive use of digital media leads to compulsive behaviour where the brain has become accustomed to quick dopamine doses, while on the other hand, if we understand how the brain works, we can use techniques to circumvent and correct our behaviour.

The increasing prominence of the brain in the public debate on human behaviour has sparked apprehensions concerning biological determinism and essentialism, especially within the domains of social and human sciences. The idea that our behaviours are determined by neural processes within the brain fits badly with contemporary understandings of human life, where change and individual development are vital ingredients (Pitts-Taylor, 2010; Rose, 2007, 2013). This means that neuroscience supports two opposing viewpoints at the same time: Our ways of thinking and acting are certainly steered by the brain, but since our brains are alterable and capable of modification, we are not determined by our genes or by automatic brain reactions. Rhetorically, neuroscience has thus managed to nuance the meaning of what biology is about through the notion of the plastic brain, which has been crucial to gain acceptance among the public. It has been argued that the huge influence of popular neuroscience is dependent on the simultaneous existence and mutual reinforcement of these contradictory perspectives: “It is because we are so convinced that our brain totally determines our lives that techniques promising to optimise it are so persuasive” (Zivkovic, 2015: 412).

A consequence of the popularisation of the concept of brain plasticity is encouraging individuals to improve with medical or other brain-enhancing interventions physically or psychologically (Choudhury & McKinney, 2013; Pitts-Taylor, 2010; Rose, 2007, 2013). As Nikolas Rose (2013: 5) explained: “Today, to deem something biological is not to assert destiny or fatalism, but opportunity”.

Plasticity is thus generally viewed as a positive thing. It is possible to “learn, change or recover”, although, as is often emphasised when “compulsive teenage media users” are discussed, this demands discipline, which is more likely found among adults than among children and adolescents (Choudhury & McKinney, 2013: 206, 195). In relation to the question of screen time and the difficulties in resisting digital media, the idea of neuroplasticity fuels anxieties of what a distracting online environment might do to the vulnerable brain, as well as hopes of gaining a strengthened and resilient brain (Forsler & Guyard, 2020). In “the rise of a self-regulation society, where individuals are expected to take personal responsibility for balancing risks and pressures” (Syvertsen & Enli, 2020: 1270), regulating one’s media overuse and thereby improving brain function is both a promise and an expectation which have given rise to a new industry of “digital well-being interventions” including digital detox programmes, self-help guides, and software applications that block or limit certain content (Biedermann et al., 2021; Vanden Abeele, 2021).

In this context, pop neuroscience experts constitute an important group of self-help coaches (Madsen, 2015), offering guidance on how individuals can take responsibility for their own lives and well-being by disciplining themselves and moderating their media consumption. The guidance provided is often simple and practical, akin to other self-help recommendations, such as

refraining from constantly checking e-mails, disabling notifications, ensuring sufficient sleep, and so on (see, e.g., Levitin, 2016). Typically, these instructions are presented in the form of checklists that emphasise self-regulation and strategies for resisting temptations, and both Nutley (2019) and Hansen (2019) included such lists on how to handle digital distractions in everyday life in their bestselling books.

Aside from tangible advice and technical interventions, pop neuroscience approaches to compulsive media use typically endorse mind-enhancing techniques, such as when individuals are taught to change a negative mindset or behaviour, thereby learning how to be in control of negative thoughts (see, e.g., Greenfield, 2014). This strategy of altering the attitude (instead of removing the cause) takes inspiration from “positive psychology”, a movement that encourages positive attitudes as a buffer against weakness. Positive psychology, whose influence has spread across numerous institutional and cultural settings, is described as “the scientific study of optimal human functioning” (Binkley, 2014: 6). Positive thinking is an efficient supplement to the brain-training discourse that is stressed by neuropsychologists. The strategy of altering thoughts to cope with unwanted behaviour is also visible in mindfulness-based practices, which is applied in many schools today “for improving attentional, socio-emotional and regulatory skills among youth” (Choudhury & Wannyn, 2022: 48), but also in various sources that promote digital detox (Morrison & Gomez, 2014; Syvertsen & Enli, 2020). The mindfulness movement has also inspired the digital detox camps that emerged in the early 2010s and were “spin-offs from the healthy holiday market of spirituality, yoga and mindfulness” (Syvertsen, 2020: 8; see also Syvertsen & Karlsen, Chapter 15 in this volume).

We believe that the capacity of pop neuroscience to explain, caution, and propose solutions to problematic media use – often through tangible advice, digital self-control interventions, and mindfulness practices – helps explain its popularity. Above all, the promise that improvement is possible is a desirable idea. In the final section, we develop the accessible and persuasive language of neuropsychology experts by discussing their use of familiar metaphors and narratives that play on people’s longing for a true and authentic life.

Authenticity claims

A third rhetorical asset in pop neuroscience is the use of metaphor-rich language that invokes notions of authenticity and origin. These metaphors imbue the debate on negative media effects with a normative or prescriptive element, suggesting that these effects are not only real and curable, but that compulsive media use is fundamentally at odds with human biology and psychology, thus necessitating correction. One example of a recurrent theme found in pop neuroscience is the reference to our common origin as nomadic tribes on the African savannah. Satoshi Kanazawa (2004) has described this

rhetoric as “the savanna principle”, a narrative trope that uses evolutionary theory to state that the human brain has difficulty adapting to the modern world and situations that did not exist in the ancestral environment. According to this claim, early humans lived on the African savannah for over 2.5 million years during the geological epoch named the Pleistocene, and that this setting serves as the default mode for our physical and psychological constitution (Kanazawa, 2004). In essence, it suggests that our brains are adapted for a different era and environment, leading to difficulties in coping with the complexities of the contemporary world. This rhetoric reinforces the notion that excessive or problematic media use is a detachment from our evolutionary heritage, making it appear as if our biology is ill-suited to handle the challenges posed by modern digital media. Consequently, it frames the issue of media effects as a problem to be solved, aligning with calls for corrective action to realign human behaviour with this purported ancestral norm.

Another example of a frequently invoked narrative is that of expanded social interactions. Neurobiologist Martin Korte (2020), for instance, highlighted the dramatically increased complexity of our social interactions in today’s crowded and busy societies. He drew attention to the fact that our brains were not designed for such extensive social engagement and argued that the maximum group size with which humans can maintain stable social relationships is around 150 individuals, and he raised concerns about the potential consequences of subjecting our brains to what he termed “cortical overtaxing” (Korte, 2020: 108–109). In other words, he questioned how our brains will adapt and cope with the strain of navigating the intricate and multifaceted social environments that modern society presents. This perspective often serves as a warning about the potential negative effects of excessive connectivity and information overload on our cognitive well-being.

A third form of authenticity claims assumes an existentialist perspective, pondering the essence of being present and genuine in a world increasingly shaped by online interactions and accelerated activities. In these discussions, the use of digital technologies, particularly when excessive, is sometimes portrayed as inauthentic and trivial. This perspective questions whether our digital interactions and the pace of online life allow for truly authentic and meaningful moments of existence. As Syvertsen and Enli (2020: 1272) have maintained, in “the age of constant connectivity, a key question in media research is to what degree real and authentic communication is possible online and to what degree only face-to-face interactions are to be considered as authentic”. Digital detox texts idealise authentic living, “where you are grounded in a sense of ‘hereness’ and belonging” (Syvertsen & Enli, 2020: 1280). The call for (temporary) disconnection is thus often framed as reclaiming “real” social interaction with your “real” self and other “real” people. This rhetoric, although not explicitly referring to the human brain,

alludes to heritage, belonging, and authenticity (Sutton, 2017; Syvertsen, 2017; see also Jansson, Chapter 17 in this volume).

The rhetoric used within pop neuroscience is furthermore marked by metaphors that are used to vivify and criticise excessive media use by comparing it to unhealthy food. Theodora Sutton (2017: Discussion section, para. 5) explains how this is used to imply value judgments about digital media use by claiming that “online life is indulgent and unhealthy, while off-line experiences are more demanding but ultimately better for you, like a McDonald’s burger versus a hearty home-cooked meal”. When a brain perspective is added, the narrative is usually that online media, just like sugar, feeds the reward system of the brain and leads to addiction (Forsler & Guyard, 2023). As with the savannah narrative, the lesson is that our brains are not made for a life where neither food nor impressions are available in abundance.

A concrete example of how the food metaphor is used in pop neuroscience can be found in the YouTube series “Anders Hansen’s screen school”, where the Swedish psychiatrist gives advice to children and parents about screen time. In the opening of one of the episodes, he compares the use of mobile phones with candy, and explains:

It [the phone] triggers a series of deeply inherited mechanisms that makes it hard to keep it away. It is the same with candy. It triggers our craving for fast calories, and we know that if we have candy laying around all over the house, we will eat it, it is impossible to resist. And in the same way as we don’t keep candy everywhere, we should not have our phones available at all times [translated]. (Generation Pep, 2020)

What Hansen described as “deeply inherited mechanisms” is rooted in the notion of authenticity, that humans are biologically predisposed for a life on the savannah, where their primary concern was finding food and staying alert to potential threats from wild animals. By drawing parallels between human biology and notions of authenticity, these metaphors frame aspects of the modern digital world, such as excessive screen time and constant notifications, as disruptive to the core of human nature. This framing suggests that these behaviours are unnatural and potentially harmful, encouraging individuals to limit their exposure to such distractions in the interest of well-being and a return to a more authentic way of living. When the material is directed towards children and their parents, as in the example above, it is particularly illustrative of how these metaphors are used as pedagogical tools to explain science to a lay audience.

Concluding discussion

In this chapter, we have explored how pop neuroscience addresses the question of harmful media effects, which is a matter of concern to many people

today. We have argued that the success of neuropsychological explanatory models in the public debate on media effects can be explained by their rhetorical qualities along with a general trust in brain research. To begin with, pop neuroscience actors acknowledge that negative effects of media use is a real problem. New technologies for neuroimaging offer a kind of visual proof that media effects are real and cannot be whitewashed by social science theories. Underpinned by an understanding of the human mind as a mere extension of the brain, these images promise not only proof but also an explanation of why we experience media as having effects by, for example, showing how media activates the reward pathways in the brain in a similar way as drugs and other addictive substances.

In addition to these explanations, pop neuroscience offers hope that the problem can be fixed. Drawing on theories of brain plasticity, it comes with the promise that, despite the constraints of our biological brains, we can train them to become more efficient and stress-resistant. This is especially important for children and young people, whose brains are not only described as more vulnerable than the adult brain, but also more malleable, meaning that it is easier to create new neuron pathways, and thus optimise the function of the brain at a young age. The promise is made attainable through concrete advice and self-training methods for managing negative effects of media, such as checklists and digital detox approaches, offered by experts from pop neuroscience that have come to constitute a core group of the rapidly expanding self-help industry.

Finally, pop neuroscience actors provide arguments for why problems related to media use should be fixed. By referring to the biological evolution of the human body and brain, they convincingly explain how our brains were not designed for this society of abundance and hypermediation. A recurring trope in this narrative is the savannah as a place of origin where humans had to be on constant lookout for wild animals (which makes us easily distracted) or hunting for food (which has shaped the reward system of our brains to constantly crave kicks). Similar metaphors are used in pop neuroscience self-help literature, where smartphones are compared with candy or drugs, something almost irresistible that we must learn to consume moderately. Digital communication is further contrasted with face-to-face interactions in the “real world”, suggesting that the latter is a more authentic form of connection. This use of familiar examples and narratives assists concerned users in why it is urgent to deal with the problems.

Like all popular science, these pop neuroscience explanations of media effects have their limitations, but have nonetheless managed to capture and create engagement around a shared experience of media as shaping our thinking and behaviour in ways that are not always desirable. What is missing from the explanatory models offered by pop neuroscience is an account of how the social plays into this dynamic, as well as a more nuanced understanding

of digital technologies than just “screens”. Digital media use cannot be reduced to an individual choice, but must also address how media is embedded in social relations, institutions, and everyday practices. Is it even possible to disconnect when most social small talk and planning today takes place online? What kind of media use do people experience as problematic, and what do they want to keep on doing? Which media practices are necessary for work, studies, or civic engagement? These are questions that are already well-researched in media studies and which would be beneficial to address in the public debate about media overuse.

However, media effects are, in Latour’s (2004) terms, often treated as a “fetish” in critical media studies. As discussed above, the methodological limitations in early effects research – combined with a historicising perspective that reveals the recurring nature of “media panics” (Drotner, 1999) – have led to a view on media effects as popular myths that lack proper empirical proof. This has in turn motivated critical media studies to formulate different research problems and thus risk missing out on the opportunity to make an important contribution to one of the more pressing public debates of our time. If critical media studies are to be relevant in the public debate, we need to acknowledge these experiences instead of focusing on the limitations of media effects research. Following Latour, it is only when we approach things as matters of concern, rather than deconstructing them or taking it as an indisputable fact, that we truly come close to our object of study. “The critic”, he wrote, “is not the one who debunks, but the one who assembles [and who] offers the participants arenas in which to gather” (Latour, 2004: 246). By reframing media effects as matters of concern, we can approach self-perceived media overuse and addiction as an experience that includes – and to some extent is shaped by – the explanatory models offered in pop neuroscience.

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