Original Paper

The Changing Meaning of Teenagers in Today's Digital Education and Economy

Caroline Stockman[1]

[1] University of Winchester, UK

Abstract

Teenagers or adolescents are complex cultural constructions. This paper will trace a brief history on the origin of the notions as relevant to the Global North. It considers related UK educational policy, and the specific economic interest in 'the teenage consumer'. The consideration of young people for their significant economic value sparked direct marketing and advertising strategies. Concerns over unconscious manipulation of adolescents were stilled by reassurances of autonomy and freedom of choice. In today's digital economy, similar meaning-making occurs. However, this paper argues that a young person's freedom and autonomy is systematically undermined. Instead, the teenager loses autonomy in becoming a direct commodity. Today's digital culture further complicates the concrete legal and social assurance of autonomy. This is illustrated by a critique of educational technology integration in schools. Specifically, the use of young people's data for product development or third-party business data exchange is critically discussed to show this cultural dynamic. It captures the changing conceptualisation of teenagers in society and education, from autonomy to commodity. Renewing young people's voice and agency in digital rights activism, as well as critical digital literacy in the curriculum is now needed for teenagers to renegotiate their meaning in digital culture and education.

Keywords

Educational technology, digital education, teenagers, adolescence, data privacy

1. Introduction

Cultural anthropologists and historians have documented the vast array of cultural meaning-making that exists around the notion of 'the child', and related conceptualisations such as stages of childhood, transition to adulthood, their innocence, or voice. Culture is never simple; it is formed by messy, hidden, complex patterns of meaning which we can only partially grasp. But we can detect some of the

underlying beliefs through concrete frameworks, such as educational policies or law. Through these constructions, society designates what is appropriate or not, legal or illegal, or – perhaps far more complex – ethical or unethical.

The theoretical lens of analysis in this paper is rooted in Cultural Studies, with a view on culture that it is 'the toolkit by which we construct not only our worlds but our very conception of ourselves and our powers' (Bruner, 1996: x). In his theories, Jerome Bruner advocated an interpretive approach to the mediating and simultaneously constitutive force of culture. Importantly, it acknowledges the agency of people in meaning-making, as they creatively deal with new experiences in their context. However, Cultural Studies is also a search in: 'Understanding how agency comes about in cultural practices, and being witness to its tragic limits' (Stockman & Truyen, 2014:318). There is a reverse effect whereby cultural frameworks change and in their change, affect societal meanings of individuals and groups of people.

In what follows, the analysis will centre on the idea of the teenager or adolescent as a social construction. (These terms will continue to be used interchangeably throughout the article.) In line with the theoretical framework, this focus doesn't imply a fixed identity: 'There is no given identity, only that which is storied by ourselves, fed by the culture in which we live' (Stockman & Truyen, 2014:311). Griffin (1993) warns against simplifications of these notions or their social and academic histories, but postulates that pre-industrial European societies did not yet distinguish this phase between childhood and adulthood (p.12). Instead, changing educational policy and economic influences forged this new layer of society: young people who were from the outset characterised by a certain economic value.

The story of the teenager incorporates freedom and autonomy as central characteristics, which the first section below will seek to highlight. This includes wider observations relevant to the Global North's economic developments, but the section specifically contextualises the related changes in UK educational policy. Much more thorough cultural and historical analyses on the emergence of adolescence have been written elsewhere (see for example Griffin, 1993; Osgerby, 1998; Gildart et al. 2017; …).

The second half of this paper will argue that the historical economic value of the teenager still exists in today's digital economy. Initially, the characteristics of freedom and autonomy made teenagers a viable group for direct marketing and advertising. Today, such targeted advertising still takes place. Even in the early days, there were some concerns over the unconscious manipulation that might occur through such strategies. With the rise of capitalism and a (neo)liberal economy, these concerns were however countered by reassurances of free choice: you may see the advert, and the advert may be tailored to you as a social category, but you do not need to buy it – that's your choice. Again today, we can still observe such concerns over undue influence, and related reassurances. However: 'It is a typical feature of culture that meaning is never fixed, but constructed, reconstructed, and deconstructed in the process of dissemination.' (Stockman & Truyen, 2014:310). Accordingly, this analysis will argue that the original meaning-making of freedom and autonomy has been hollowed by digital society. It is

noticeable in the concrete mechanisms of digital capitalism that often seek to bypass legal protections of (young) people's freedom and autonomy.

Education plays its part in this socialisation. In education, we find a new business domain with a direct, capitalist interest in young people as a consumer market. The educational technology (EdTech) industry is a mediating and simultaneously constitutive force over the new cultural notion of the teenager. It highlights an educational process which normalises the commodification, in return for the contemporary right to be educated. This paper will culminate on a hopeful note, in that a new force of children's rights activism, new legislation, and the digital curriculum can play its part for future teenagers, to regain their voice and agency.

2. Historical Construction of the Teenage Consumer

The constructivist stance of Bruner's work proposes that specific meanings are created and exchanged in a wider context (Bruner, 1990:64), such as the construction of the 'teenager' or 'adolescence'. The advent of puberty or other biological markers have limited power to mark the wealth of distinctive teenage-related societal organisation, youth research, educational policies, social institutions,… (Griffin, 1993:10-11). The 'discovery' of adolescence is often attributed to G. Stanley Hall's work on the topic, though Griffin (1993) is careful to point out Hall's work was also part of the meaning-making, and influenced by the bigger picture of his own time (p. 12). Next to this, she critiques the idea of a 'discovery', for this implies an objective truth rather than cultural construction, where truths are 'relative to the point of view' (Bruner, 1990:31).

The industrial expansion in late 19th century Britain is seen as key to the emergence of adolescence (Griffin, 1993:13). Youngsters of fifteen to twenty-five took on apprenticeships, and were marked by a newfound independence as they left the family home for their education and employment. Formal policy and public opinion sometimes allowed their economic value to trump their education, however. For example, the 1858 Newcastle Commission published its six-volume report in 1861 on the state of public education, and concluded: 'if the wages of the child's labour are necessary, either to keep the parents from the poor rates, or to relieve the pressure of severe and bitter poverty, it is far better that he should go to work at the earliest age at which it (sic) can bear the physical exertion than that it should remain at school' (Newcastle, 1861, in Gillard, 2018:np). Over the next century, educational policy on compulsory schooling became more rigorous, and social opinion changed on the need for young people to be schooled. The contentious 1944 Education Act (or 1945 for Scotland) provided free secondary education for all pupils and raised the mandatory schooling age to 15 years. Two reasons for this change were put forward in the House of Commons at the time: 'We take the view that we must have a national, all-embracing educational system for two reasons. First to find out and train the most talented to fill the most responsible posts. Secondly because if you are to have a democratic system working properly, the whole people must have a high standard of education - a standard of education which will enable them to form judgments on the issues coming before them and the knowledge on which to base

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those judgments' (in Gillard, 2018: np). This cemented a view on the need for education in view of career progression, and on the need for education to develop autonomous thinking in a democratic society.

The time of austerity gave way to celebratory music and new fashion of post-war Britain: 'British pop walked the line between sharp, if not exploitative, commerce and genuine expressions of freedom' (Savage, 2014:18). During this time, the economic value of the teenager became recognised and exploited with renewed efforts. Even in the early stages of direct marketing to teenagers, there were concerns that the manipulative aspects of advertising would have a deleterious effect. In his research, O'Neill (2017) describes an example of a polemic debate between advertisers and 'ordinary Britons' (p. 435). The latter raised concern over the unconscious influencing and irrational consumption, the other defended the ideas of business capitalism and celebrated the indulgence which freedom of choice and affluence can bring.

In relation to this economic meaning infusion of adolescence, Mark Abrams is commonly credited for coining the term 'teenage consumer' in 1959 to designate youngsters with a newly found affluence and freedom in post-war Britain. He defined teenagers as unmarried, employed young people aged from 15 to 24 years' (Abrams, 1961:1). However, others have concluded that teenagers as a consumer group were socially recognised earlier, as shown by targeted marketing strategies in the inter-war period (O'Neill, 2017:416). Nevertheless, Abrams' work formalises the social construction of a particular demographic layer as one of economic interest. The specific data about teenagers' income and spending sparked business marketing strategies. For example, the tobacco industry began targeting teenagers through youth-themed advertising strategies (O'Neill, 2017). Changing cultural notions of smoking then deemed such advertising, and especially its promotion to young people, as unethical. It was subsequently made illegal.

3. Today's Teenager in the Digital Economy

The previous section highlighted that early notions of the teenager attribute a high degree of agency and autonomy in favour of the young person. They should go to school to ensure their bright future. They have spending power, decision-making authority, and choice. These freedoms create their economic value as a consumer group. Today, teenagers are still recognised as a consumer market and are therefore still targeted as such through advertising and marketing, mostly through social media and other online channels (Mishra & Maity, 2021: 1678). While today's 'adtech' can target teenagers, a recent UK government review of advertising to children echoes historical concerns over bad influencing (Conway, 2022). A common core of these concerns is the perceived exploitation of young people's susceptibility to buy something or engage in a potentially destructive activity (such as gambling or harmful eating).

Today's direct marketing and advertising strategies employ 'Online Behavioural Advertising', defined by the UK's Advertising Standards Authority (ASA) (est.1962) as: 'the practice of collecting

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information from web browsers so that it can be used to present [tailored] online advertisements' (Conway, 2022: 9). Teenage characteristics and behaviours can be observed at an unprecedented scale, and much more covertly, behind-the-scenes data logging technologies such as cookies. This allows flooding their screens with much more refined advertising across the apps and platforms they use. To monitor such practices are acceptable, ASA regulations work alongside other bodies and policies, such as the Information Commissioner's Office (ICO), the UK's independent authority which aims to ensure that data protections rights are upheld. In the UK, children have legal autonomy over their data protection rights from the age of 13. However, Nottingham et al. (2022) discuss how for example the right to object to OBA is very difficult to uphold in practice, especially when it concerns educational technology mandated by the school. Such targeted advertising (also called 'surveillance advertising' or 'surveillance capitalism', a term coined by Shoshana Zuboff) has been called a mechanism whereby human experience is claimed 'as a source of free raw material that can be brought into the marketplace, used for production and ultimately used for sale. Private human experience becomes a commodity in this new economic model.' (Zuboff, in: Jenkins, 2019). The introduction of the General Data Protection Regulation in 2018, which sits alongside (many) other frameworks such as the UK's Data Protection Act, shows recent efforts to regulate these new economic strategies. Equally, there are many legal grey areas still (especially for children) (Nottingham et al., 2022) and confusing practices which seem to intentionally obscure commercial tactics (Lomas, 2021: np).

So firstly, there is still a general commercial targeting of 'teenage consumers' in recognition of economic value. It has become much more refined, by ways of intimate and networked customer surveillance. Secondly, the historical trend of concerns over undue influence also persists, and related policies and regulations have been implemented as a result. As a point of difference, teenagers are now part of a changed social and educational framework which affects their cultural meaning. Teenagers have 'lost their special status' as pop culture commentator Jon Savage (2014: 19) suggests, by being simultaneously criticised for being work-shy, and for lacking the rebellious freedom held by the late 20th century pop culture adolescence. Though recent UK statistics show lowering youth unemployment rates, there was an overall rise in the last half century due to increasing numbers remaining in education and therefore being deemed 'economically inactive' (Birdwell & Bani, 2014:63). This seems a confusing paradox, given the mid-twentieth century drive to pursue more education in order to obtain higher-paid jobs. The school leaving age in Britain has increased steadily – both in terms of formal government policy, as well as social and employer expectations. The job market has diversified, and new priorities have arisen for adolescent career decisions: they seek jobs that will give them 'happiness', for which they feel 'passionate' (Birdwell & Bani, 2014:70). Even at a pre-teen age (10-11 years), children are acutely aware of the need to do well in school, as determinants of their own value as 'good' students and citizens in the new age of 'neoliberal responsibilisation' (Keddie, 2016). Simultaneously, the cost of UK higher education has risen with tuition fees currently at an all-time high.

Culture is a dialectic, as Bruner (2002) contends, 'replete with alternate narratives' (p. 87), which emphasises there is no singular truth, but a dynamic social construction process. Birdwell & Bani (2014) point out how a negative portrayal of teenagers persists in media narratives, focusing on binge drinking and anti-social behaviour, for example. They found teachers and teenagers actually paint a much more socially positive meaning, focusing on social action and active citizenship. In the last decade, complex global issues have troubled the post-war peace, such as climate change, social inequality, ill health and wellbeing, various political oppression and fragmentation, a new war emerging in Europe, nuclear threat,…Young people are credited for vigorous activism in light of these issues, such as climate change (Carnegie, 2022) and gun violence (Maloney, 2018). This offers some hope towards culture's vitality (further discussion in section 5 below). This energy and potential for renewal is critical, as the UK deals with the aftermath of Brexit and pandemic measures, including the prediction of a significant recession and cost-of-living crisis.

4. From Autonomy to Commodity

4.1 Digital Commodification

The changing economic value of the teenager is highly apparent in their digital commodification. Of course, this trend applies to a much wider population and dynamics of monetising user data in the current digital society (Jenkins, 2019; Ofcom, 2022). Teenagers, however, occupy a complex social, educational, and legal space. In Bruner's (2002) terms, these are the formalised stories that shape the meaning of individuals and groups. In what follows, this economic commodification is critically discussed through the domain which was meant to be an empowering space: formal schooling.

In school, teenagers often use the technologies mandated by the school for their learning, such as their Virtual Learning Environment (VLE) where they will submit homework and access learning resources. Given low school budgets, the technologies that are easily favoured are those provided by large, well-known companies at no purchase cost or subscription fee, as affordability is an issue for most UK schools (DfE, 2021). Notably, cost of technology for learning and teaching also includes data storage, cybersecurity, human support to troubleshoot or maintain, and more. It is significant that some EdTech can offer all this at no or low cost. Companies operate different business models, and some are known to routinely incorporate commercial data harvesting either legally, illegally, or with questionable ethics (Stockman & Nottingham, 2022; HRW, 2022).

School should be a safe space. In a qualitative study of 169 UK teenagers (aged 11-16 years), Stoilova et al. (2020) found they rarely question data practices in their school context. They place trust in their school, and also don't feel concerned over their own autonomy. However, the researchers found the children 'rather bewildered' (p.200) when explaining the kind of personal data the school holds about them. They also trust the school to keep this data safe, but do not consider commercial contexts in thinking about their privacy (p.201). They understand they are subject to targeted advertising, but don't relate it to wider algorithmic influencing or their development, or how their digital footprint persists

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and connects across platforms. This exact finding is corroborated in the 2022 report by the UK's media regulator (Ofcom, 2022: 4). The knowledge gap also exists amongst adults, even adult school stakeholders: school leadership, data protection officers, and others (Turner et al., 2022). They know that some EdTech collects data about the students, and that it is not always in the young person's best (educational) interest – though they are not always sure which data is collected and for what purpose (Turner et al., 2022). Though teenagers have legal autonomy to object in some circumstances, it is virtually impossible in practice (Nottingham et al., 2022). Part of the difficulty is that this takes place in a mandatory schooling context, with formal and informal hierarchies. There is also a wider societal normalisation and acceptance of data harvesting (Wahl-Jorgensen et al., 2017). All in all, Stoilova et al. (2020) found that for teenagers, 'most experiences, however, teach them that they have little power to manage the commercial environment.' (p.202). Bruner (2002) theorises that the stories we are told about ourselves and the world around us are 'not innocent' (p. 5), as they tell us what should be taken as ordinary or normal. It helps people to make sense of their world and their human experience within it. If powerlessness in the face of economic forces is the story being told, then this is a far cry from the autonomy and freedom of choice that was part of the historical narrative.

Part of the normalised story is also that education has become 'the world's most data-mineable industry, by far'– a quote by an EdTech CEO (in: Fedders, 2019: 1683). A Human Rights Watch report published in May 2022 researched 163 popular EdTech products across 49 countries (many of which were endorsed by their national governments). They found 89% of these technologies were putting children's rights at risk, contributed to undermining their autonomy, or actively violated their rights and privacy by extensive data harvesting for commercial purposes. The commodification of teenagers can further be shown in two other commercial purposes with concrete examples from the digital education sector: product development, and third-party data exchange. These illustrate the cultural dynamics which move the concept of 'the teenager' even further away from the historical characterisations of autonomy and freedom.

4.2 Product Development

Large-scale data mining is used routinely by (educational) technology companies to improve their products. That could arguably be deemed an ethical practice to improve education for young people today, based on principles of student-centred and personalised learning. A meta-review of 802 'big data mining' studies concluded that there are clear advantages for young people's education (Fischer et al., 2020). For example, some intelligent tutoring systems (ITS) may collect data about a teenager's affective state during learning (feeling frustrated, bored, or focused, for example). This data (analysis) can be used in various student-centred pedagogies. The ITS can for example prompt certain interventions to re-engage concentration, or alert a (human) tutor if disengagement is becoming severe. Confused states could spark feedback which is tailored to the human characteristics of that teenager, their learning and stage of development, all of which is known to be pedagogically more effective than generalised feedback (Lim et al., 2020). The product development which takes place is therefore in the

overall best interest of a young person's education. However, a 2022 UK-based report on such data uses by EdTech concluded that there are some benefits, but certainly not to the extent that EdTech companies seem to promote to justify the data processing (Turner et al., 2022). Also, the report's empirical study (32 interviews with school leadership, data protection officers, and other adult school stakeholders) found that the participants' perceived benefits centred on teaching and administrative efficiencies, rather than a young person's educational gain from personalised learning, for example. In other words, the covert and extensive use of young people's data is prioritised in view of the adult economy rather than to the young person's direct developmental benefit. It is especially pertinent given that the 'data' in this case concerns something as sensitive and private as a young person's emotions, during the challenging and high-stakes process of learning.

4.3 Third-party Data Exchange

Data sharing is defined by the ICO as 'disclosing personal data to third parties' either outside the business, between different parts of the business, or other businesses in the same group or under the same parent company (ICO Data Sharing Code of Practice, np). Though a full discussion of the legal particularities of this process is beyond the scope of this paper, perhaps suffice to say here that it is legally possible to harvest young people's data through (educational) technology and to sell this to third parties. In some cases, it doesn't even require consent, for example if the data is anonymised (Tran & Lee, 2022). However, even anonymisation of data has been raised as insufficient to respect a person's privacy (Rocher et al., 2019).

The scale of data harvesting and third-party sharing through learning apps has been called 'dizzying' (Harwell, 2022). However, the exact nature of third-party sharing is sometimes confusing to track or evidence. For example, a 2022 Human Rights Watch report identified certain popular EdTech apps 'may' share their users' phone contact data with third-party companies. The phone contact list includes details such as name, photo, or personal identifiers ('dad', 'sis', 'bestie',…), addresses, email or phone,... Popular platforms such as Zoom, Padlet, and Edmodo for example link to Google Firebase Analytics for such a possible data exchange. Google Firebase Analyics is a free service that offers unlimited analytics reports to 'help you understand clearly how your users behave, which enables you to make informed decisions regarding app marketing and performance optimizations' (Firebase, 2022: np). There is a commercial interest for Google Firebase Analytics to receive and analyse this data, given its parent company Alphabet is a dominant leader in technologies which have data tracking as their core business model, across a vast array of apps and platforms. However, it is not clearly stated how they will use that data other than to enable to company's own advertising strategy and product development. There is also a commercial interest for other companies like Zoom, Padlet, and Edmodo to use their technological capability to harvest certain data and convert this directly into a sales commodity. In November 2020, virtual learning platform Edmodo was for example reported by its parent company NetDragon to reach 9.3 million students in Ghana alone, and more than 125 million members worldwide (NetDragon, 2020). It is a treasure trove of data about young people, but the report

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does not provide concrete information about what is exactly gained from the commodification, and tentative in writing that it 'may' exchange this data. However, there is evidence that certain third-party exchange does take place. In regards to EdTech websites, the report found children are just as likely to be subject to third-party trackers as adults. For example, the report also states that it logged real-time evidence in regards to the popular learning resource website CBC Kids (Canadian Broadcasting Corporation): '29 third-party trackers collecting and sending data about children to 18 AdTech companies […] and another 15 third-party cookies sending children's data to nine companies, mostly AdTech. […] These included the trackers that CBC acknowledged were present but inactive on the site.' (HRW, 2022). It indicates a wider tendency to dismiss concerns raised and muddle concrete insights.

As a bottom-line rule, commercial interests should not override the child's best interests, according to the ICO. It could be said that the added commercial benefit of data exchange makes the business more viable, and more likely to be able to offer their products and services to schools at no or low cost. This could be said to therefore improve a young person's education, in being able to use strong, up-to-date technologies for their learning and teaching. (Though using the technology in itself will not be enough without effective pedagogical principles underlying its use.) Zoom, Padlet, and Edmodo can indeed be used for free, but with some limitations (for example, a Zoom call can only last thirty minutes, or a person can only have three Padlets at one time). Additional functionalities (more Padlets, longer Zoom calls with more people,…) require a premium and for the whole school to use a system intensively, there are monthly or yearly subscription prices. It is difficult to determine whether the third-party data exchange is therefore always 'worth it' in view of the child's best interests. The Human Rights Watch indicates it is an unbalanced deal. The report raises the concern that 'governments enabled third-party companies to infringe on children's privacy by allowing them to conduct unnecessary, disproportionate surveillance on what children do in their virtual classrooms. […] Children and parents were denied the knowledge or opportunity to challenge these practices.' (HRW, 2022: np). Regardless, schools can impose a particular school-wide technology (Fleming, 2021). Or governments can endorse, or buy and roll out country-wide systems for their public education also: to ensure 'no child was left behind in the pandemic', Egypt rolled out Edmodo across primary and secondary education in 2020 (Nahla, 2020), Canada's Education Ministry recommends CBC Kids (HRW, 2022:np), the UK government actively supports schools' adoption of Google education products (DfE, 2020),… When national authorities or school leadership announce the use of a certain technology is 'non-negotiable' (Fleming, 2021), young people are at a higher risk of exploitation, despite formally having some legal and social autonomy.

5. Culture's Vitality

An underlying assumption to this analysis (and related cultural construction of adolescence) is that young people are in some regard malleable, which is not historically unusual (Griffin, 1993:23). It is the beliefs on malleability which gave rise to the concerns over undue influence of advertising. If we still culturally accept this malleability, we must question the constitutive force of commodifying a

young person through their digital education (Stockman & Nottingham, 2022). In relation to teenage consumerism, Jon Savage (2014:19) postulated: 'You raise the young to be materialistic, and so they will be: that does not discount individual choice, but it creates a climate […]'. Therefore, if we raise young people to normalise their commodification in digital education, this will have a long-term ripple effect that will go beyond individual influencing, to the construction of digital society's future: 'Culture, after all, prescribes our notions of ordinariness' (Bruner, 2002: 90). This includes what is deemed acceptable in the education of future teenagers, and what isn't. Commodifying teenagers for commercial purposes in today's digital education is legally and socially possible. Law and policy is slow to catch up on the influence of the cultural dynamics at play: 'So automatic and swift is this process of constructing reality that we are often blind to it – and rediscover it with a shock of recognition or resist discovering it' (Bruner, 2002: 8). In relation to the teenager, Savage (2014:19) asks: 'Is it possible then that the western social definition of youth, the teenager, is becoming obsolete?' That may seem the case, based on the current influence of the digital economy and society on the construction of adolescence, steering its meaning away from socioeconomic freedom and autonomy towards commodity. However, the vitality of any culture lies in dialogue, to come to terms with 'contending views, clashing narratives' (Bruner, 2002: 91). Savage (2014) also provides a hopeful note with regards to young people's transformative abilities and resilience. It offers an optimism for redefinition which shifts agency back to the teenager.

Children's rights activists emphasise the need to give young people a voice and agency in their digital technology use, digital education, and related policy development (Livingstone et al., 2021; HRW, 2022). Research evidence shows teenagers (and younger children) do understand, for example, notions of surveillance and privacy, and that they feel concerned and offended about invasions of privacy (Stoilova et al., 2020). Digital rights activism has had some recent successes, such as the adoption of the UN General Comment No. 25 on Children's Rights in the Digital Environment, which states that a child's universal rights (such as the right to privacy and the right to good education) holds up in the digital world as much as it does elsewhere. The UK Age Appropriate Design code (implemented September 2021) aims to ensure children's rights are embedded in a technology's design. Currently, the UK government is planning reviews of the overarching data protecting regimes, and a new Online Safety Bill. Policy that considers the schooling context specifically is still needed. These developments align with a rising tide of societal opposition to adtech, frustrations with ineffective mechanisms (such as cookie consent pop-ups) and a complaints over insufficient action by the institutional watchdogs to ensure these policies are more than 'paper tigers' (Lomas, 2021: np).

School curriculums can (and should) do more to support this agency in adolescent development: 'If students live in a culture that digitizes and educates them through a screen, they require an education that empowers them in that sphere' (Rorabaugh, 2012: np). Digital literacy curriculums, media literacy or critical digital pedagogy concretely offers a space for this education. Stoilova et al. (2020) pointed towards a knowledge gap, for example that 11-16 year olds are not aware of the bigger commercial

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dynamics at play. This was also found in the 2022 Ofcom report. The UK's digital literacy curriculum mostly focuses on online safety in the form of cyberbullying, grooming, exposure to violent images,… rather than stimulating digital freedom and autonomy of the nature discussed here (Stockman & Nottingham, 2022). Freely available resources may be subject to the same undermining commodification. For example in its report, the Human Rights Watch found that 'children who accessed [CBC Kids] to learn how to opt out of being tracked by cookies were in turn surveilled, and their personal data transmitted, to six AdTech companies. Human Rights Watch detected cookies and ad trackers embedded in the "How to Manage Your Cookies" webpage sending children's data to Adobe, ChartBeat, comScore, Cxense, Google, and Oracle.' (HRW, 2022). A cynical view may also suggest that the critical pedagogy suggested here would not be helpful to the ruling economic forces. Yet one of the reasons for mandating secondary education in the mid-twentieth century was to ensure young people are supported to 'form judgments on the issues coming before them and the knowledge on which to base those judgments' (in Gillard, 2018: np). This was considered particularly important to ensure a free and democratic society.

It is possible, however, that a new way is being paved by the renewed adolescent energy to tackle social and political injustice, the children's rights organisations, and promising new policy on the horizon. Savage (2014: 19) fittingly concludes that: 'Something will have to give and, bearing in mind how deeply the pleasure hooks of consumerism have buried themselves into the psyche of millions, that will not occur without severe upheavals.' Beyond consumerism, the normalisation of surveillance capitalism is a significant factor that characterises digital culture today. But stories can be rewritten and meanings renegotiated in the dynamics of culture (Bruner, 2002).

As a final note, it is worth considering that 'teenagers' or 'adolescents' are a sweeping terminology to designate a vast array of individuals and their experiences. Some variations have been historically distinguished, for better or worse. For example when discussing teenage spending habits, Abrams (1961) for example pointed out various class differences across products and markets, and related male versus female spending patterns. National policy on the education of young people has also been historically developed with clear gender stereotyping and segregation in mind (Griffin, 1993). Going forward, culturally nuanced parsing of this homogeneity can be a positive force for technology's educational potential. For example, in their study of an intelligent tutoring system that detects affective states, Botelho et al. (2017) found the extensively tested system (trialled by over 40.000 students and nearly 1400 teachers) performed relatively poorly on rural students when trained on urban and suburban populations. If implemented beyond a pilot development, the potential educational benefit of the system would be lost on rural students despite testing effective otherwise. Reversely, immigrant or refugee students could be exposed to unique vulnerabilities when entering a digitally saturated classroom that commodifies their data. So a more nuanced parsing of the social category is needed to recognise specific vulnerabilities, and put appropriate regulations in place.

6. Conclusion

The analysis in this paper centres on the cultural construction of 'the teenager' in a UK context. Historically, the story of adolescence adopted the meanings of freedom and autonomy as marking characteristics of this new social category. From its earliest construction, 'teenagers' appeared to be intrinsically linked with economic value that made them a viable group for direct marketing and advertising. That is still the case in today's digital economy, on a far more pervasive and covert scale of data tracking. However, digital culture has shifted the historical meaning-making of teenage freedom and autonomy further towards commodification. Rather than just attempting to influence young people to use their agency to buy certain commodities, they have become the commodity themselves.

Data protection law, educational policy, and other frameworks such as advertising standards, provide reassurances of autonomy and protection, which appear to echo the legacy of concerns over undue influencing of young people through commercial targeting. These laws and policies formalise the narrative of what is normal and acceptable, in Jerome Bruner's terms. The social and practical reality does not, however, give teenagers such freedom and autonomy. Instead, a lack of knowledge only helps to obscure the commodification process.

Digital education has also become the space where the economic forces directly interact with this new meaning of the teenager. In this paper, product development tactics and third-party data exchange were discussed as examples of two legalised, commercial EdTech processes which appear to have a young person's best (educational) interests at heart, yet they illustrate the constitutive force of digital commodification. This is particularly pertinent in light of the historical meaning of mandatory education for adolescents as a place to empower their economic autonomy, and free decision-making.

In a way that was not possible before, the teenage consumer has become the teenage commodity.

Yet culture's vitality offers the power to reshape this narrative. Youth activism over social and political injustices shows a promising drive to renew the world. Children's rights organisations repeatedly emphasise the need to include young people's voices in policy development, and for new policy to better protect their rights. Such policy is in its early stages, but can offer hope for a future where teenagers do regain their human autonomy in the digital space. Specific EdTech policies are needed to ensure this, as well as an education that incorporates a more critical digital curriculum to offer the cultural toolkit for young people to shape their own narrative.

References

Abrams, M. (1961). Teenage Consumer Spending in 1959. *London Press Exchange*, January 1961.

Birdwell, J. & M. Bani (2014). *Introducing Generation Citizen*. London: Demos. Retrieved from http://www.demos.co.uk/files/Generation_Citizen_-_web.pdf?1392764120

Botelho, A. F., Baker, R. S., & Heffernan, N. T. (2017). Improving sensor-free affect detection using deep learning. In André, E., Baker, R., Hu, X., Rodrigo, M. T., & du Boulay, B. (Eds.), *Artificial intelligence in education* (10331, pp. 40-51). https://doi.org/10.1007/978-3-319-61425-0_4

Bruner, J. (1990). *Acts of Meaning*. Cambridge (MA), Harvard UP.

Bruner, J. (1996). *The Culture of Education.* Cambridge (MA), Harvard UP. https://doi.org/10.4159/9780674251083

Bruner, J. (2002). *Making Stories: Law, Literature, Life*. New York: Farrar, Strass and Giroux.

Carnegie, M. (2022). Gen Z: How young people are changing activism. *BBC - Worklife*. Retrieved from https://www.bbc.com/worklife/article/20220803-gen-z-how-young-people-are-changing-activism

Conway, L. (2022). *Advertising to children*. House of Commons Library, no.8198. Retrieved from https://researchbriefings.files.parliament.uk/documents/CBP-8198/CBP-8198.pdf

DfE - Department for Education. (2021). *Education Technology (EdTech) Survey 2020-21 Research report*. Retrieved from https://www.gov.uk/government/publications/education-technology-edtech-survey-2020-to-2021

DfE - Department for Education. (2021). *Schools to benefit from education partnership with tech giants, 24/04/2020*. Retrieved from https://www.gov.uk/government/news/schools-to-benefit-from-education-partnership-with-tech-giants

Firebase. (2022). *Google Analytics, 04/08/2022*. Retrieved from https://firebase.google.com/docs/analytics/

Fischer, C., Pardos, Z., & Baker, R. (2020). 'Mining Big Data in Education: Affordances and Challenges', *Review of Research in Education*, *44*(1), 130-160. https://doi.org/10.3102/0091732X20903304

Fleming, N. (2021). After Covid, will digital learning be the new normal? *The Guardian*, 23/01/2021. Retrieved from https://www.theguardian.com/education/2021/jan/23/after-covid-will-digitallearning-be-the-new-normal

Gildart, K., Gough-Yates, A., Lincoln, S., Osgerby, B., Robinson, L., Street, J., Webb, P., & M. Worley (2017). *Youth culture and social change: Making a difference by making a noise*. London: Palgrave Macmillan. https://doi.org/10.1057/978-1-137-52911-4

Gillard, D. (2018) *Education in England: a history*. Chapter 6: 1860-1900, np. Retrieved from http://www.educationengland.org.uk/

Griffin, C. (1993). *Representations of Youth: The Study of Youth and Adolescence in Britain and America*. Cambridge: Polity/Blackwell.

Harwell, D. (2022). Remote Learning Apps Shared Children's Data at a 'Dizzying Scale. *The Washington Post*, 25/05/2022.

HRW- Human Rights Watch. (2022). *"How Dare They Peep into My Private Life?": Children's Rights Violations by Governments that Endorsed Online Learning during the Covid-19 Pandemic*. Retrieved from https://www.hrw.org/report/2022/05/25/how-dare-they-peep-my-private-life/childrens-rights-violations-governments

ICO – Information Commissioner's Office. (no year). *Data Sharing Code of Practice*. Retrieved from https://ico.org.uk/for-organisations/guide-to-data-protection/ico-codes-of-practice/age-appropriate-

72

design-a-code-of-practice-for-online-services/9-data-sharing/

Jenkins, M. (2019). Shoshana Zuboff on the age of surveillance capitalism. *Contagious*, 60. Retrieved from https://www.contagious.com/news-and-views/shoshana-zuboff-on-the-age-of-surveillance-ca pitalism

Keddie, A. (2016). Children of the market: performativity, neoliberal responsibilisation and the construction of student identities. *Oxford Review of Education*, *42*(1), 108-122. https://doi.org/10.1080/03054985.2016.1142865

Lim, L.-A., Dawson, S., Gašević, D., Joksimović, S., Fudge, A., Pardo, A., & Gentili, S. (2020). Students' sense-making of personalised feedback based on learning analytics. *Australasian Journal of Educational Technology*, *36*(6), 15-33. https://doi.org/10.14742/ajet.6370

Livingstone, S., Atabey, A., & Pothong, K. (2021). Addressing the problems and realising the benefits of processing children's education data: Report on an expert roundtable. *Digital Futures Commission*, 5Rights Foundation. Retrieved from https://digitalfuturescommission.org.uk/wp-content/uploads/2021/11/Roundtable-report-25112-final.pdf

Lomas, N. (2021) After years of inaction against adtech, UK's ICO calls for browser-level controls to fix 'cookie fatigue'. *TechCrunch*, 07/09/2021. Retrieved from https://techcrunch.com/2021/09/06/after-years-of-inaction-against-adtech-uks-ico-calls-for-browse r-level-controls-to-fix-cookie-fatigue/

Lomas, N. (2021). Facebook accused of continuing to surveil teens for ad targeting. *TechCrunch*, 16/11/2021. Retrieved from https://techcrunch.com/2021/11/16/facebook-accused-of-still-targetin g-teens-with-ads/

Maloney, A. (2018). Gun Violence Will be Stopped by These 9 Young Activists. *Teen Vogue*. Retrieved from https://www.teenvogue.com/gallery/meet-gun-control-cover-stars

Mishra, A. & M. Maity (2021). Influence of parents, peers, and media on adolescents' consumer knowledge, attitudes, and purchase behavior: A meta-analysis. *Journal of Consumer Behavior*, *20*, 1675-1689. https://doi.org/10.1002/cb.1946

Nahla, O. (2020). Noteworthy strides in Egyptian education system: Minister. *Ahramonline*, 24/09/2020. Retrieved from https://english.ahram.org.eg/NewsContent/1/64/383662/Egypt/Politic s-/Noteworthy-strides-in-Egyptian-education-system-Mi.aspx

Netdragon. (2020). NetDragon's Edmodo Selected as Exclusive Online Learning Platform in Ghana. *Cision PR Newswire*, 09/11/2020. Retrieved from https://www.prnewswire.com/news-releases/ netdragons-edmodo-selected-as-exclusive-online-learning-platform-in-ghana-301168402.html

Nottingham, E., Stockman, C., & Burke, M. (2022). Education in a Datafied World: Balancing Children's Rights and School's Responsibilities in the age of Covid 19 *Computer Law and Security Review*, *45*, 1-16. https://doi.org/10.1016/j.clsr.2022.105664

O'Neill, D. (2017). 'People Love Player's': Cigarette Advertising and the Teenage Consumer in Post-War Britain. *20th century British history*, *28*(3), 414-439.

https://doi.org/10.1093/tcbh/hwx015

Ofcom. (2022). *Children and parents: media use and attitudes report 2022*. Retrieved from https://www.ofcom.org.uk/research-and-data/media-literacy-research/childrens/children-and-parents-media-use-and-attitudes-report-2022

Osgerby, W. (1998). *Youth in Britain since 1945*. Oxford: Blackwell.

Rocher, L., Hendrickx, J. M., & YA de Montjoye. (2019). Estimating the success of re-identifications in incomplete datasets using generative models. *Nature Communications*, *10*, 3069. https://doi.org/10.1038/s41467-019-10933-3

Rorabaugh, P. (2012). Occupy the Digital: Critical Pedagogy and New Media. *Critical Pedagogy*, 06/08/2012. Retrieved from http://www.hybridpedagogy.org/occupy-the-digital-critical-pedagogyand-new-media/

Savage, J. (2014). TIME UP FOR THE TEENAGER? *RSA Journal*, *160*(5557), 16-19.

Stockman, C., & Nottingham, E. (2022). Surveillance Capitalism in Schools: What's the Problem? *Digital Culture and Education*, *14*, 1. Retrieved from https://www.digitalcultureandeducation.com/volume-141-papers/stockman-2022

Stoilova, M., Livingstone, S., & Nandagiri, R. (2020). Digital by Default: Children's Capacity to Understand and Manage Online Data and Privacy. *Media and Communication*, *8*(4), 197-207. https://doi.org/10.17645/mac.v8i4.3407

Tran, D., & Lee, S. (2022). Pseudonymised Data Is Personal Data – But In Whose Hands? ICO Calls For Views On Third Chapter Of Draft Anonymisation Guidance. *Mondaq*. Retrieved from https://www.mondaq.com/uk/privacy-protection/1163766/pseudonymised-data-is-personal-data-but-in-whose-hands-ico-calls-for-views-on-third-chapter-of-draft-anonymisation-guidance

Turner, S., Pothong, K., & Livingstone, S. (2022). Education data reality: The challenges for schools in managing children's education data. *Digital Futures Commission*, 5Rights Foundation. Retrieved from https://digitalfuturescommission.org.uk/wp-content/uploads/2022/06/Education-data-reality-report.pdf

Wahl-Jorgensen, K., Bennett, L., & Taylor, G. (2017). The normalization of surveillance and the invisibility of digital citizenship: Media debates after the Snowden revelations. *International journal of communication*. Retrieved from https://link.gale.com/apps/doc/A504267245/AONE?u=ucwinch&sid=bookmark-AONE&xid=3b6c76e7