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The following evidence is presented by a team of academics from the University of Leeds and Leeds Trinity University who have collaborated on two recent studies funded through Research England. 'New Uses of Screens in Post-Lockdown Britain' (NUSPB - University of Leeds) investigated the broad use of screen devices during and after the pandemic, which built upon data drawn from 'British Families in Lockdown' (BFIL – Leeds Trinity University). BFIL began during the first lockdown in March 2020 and continues to collect data on British family experiences.

Introduction

It is broadly understood that the usage of screens is beneficial since they provide users with access to digitally stored information, software tools for completing tasks and they support connectivity with others. In fact, screens are so incredibly useful and benefit all our lives so greatly that we are witnessing a steady increase in the use of them, particularly following the pandemic. Incremental use is facilitated by regular technological developments of screen hardware by major tech companies and government drives to improve digital access and digital literacy among children and adults.

Whilst we know screens are functionally beneficial, what we know less about are the extents to which screen use may be harmful. Over the past 30 years since the establishment of the 'Health and Safety Display Screen Equipment (DSE) Regulations' of 1992, concerns about the negative impacts of screen use upon physical and psychological health have been regularly raised, yet during this time there has been no consensus reached amongst global academics about the extent to which screen use does cause harm. This is largely because screen use is a very complex phenomenon. For medical researchers to undertake accurate dose-response type studies, they must overcome multiple methodological challenges. For example, which screens should be researched – TVs, computers, tablets, smartphones, games consoles and how long should test subjects be studied? Perhaps due to these methodological quandaries and others, studies have not been able to accurately identify the collective health impacts of screen use. There is a particular scarcity of longitudinal research in this area.

We do know from small scale rigorous studies that have been undertaken in the UK and elsewhere that links between screen time and negative health outcomes have been successfully identified, but there have also been other conflicting studies, which have suggested that there are no causal links between screen time and negative health. A summary of existing research [or lack of it] led to the unhelpful conclusions of the UK Chief Medical Officer (CMO) in 2019 claiming that there was inconclusive evidence that screen time has negative impacts upon health. This was unhelpful since some journalists and members of the public took it to mean that screen time was not harmful and was therefore safe, furthermore, the CMO suggested that limits on screen use can be negotiated and flexible for adults and children.

The CMO's actual advice for children in regards to screen time, was that households should decide their own limits on screen use and that parents should "lead by example" when using screens. However, as the NUSPB study identified, adult screen use may not be healthy. Data from the NUSPB study shows that:

- 1 in 6 British adults look at screens for 16 hours combined each day.
- 1 in 2 British adults look at screens for 11 hours or more each day.
- 59% of British adults report negative health impacts from screen uses.
- 93% of negative health impacts occur in those who use screens for more than 6 hours each day.
- British adults often wait for the onset of negative health symptoms before regulating their screen time. Some medicate through ailments and continue screen time despite negative impacts.

If adults are to be the role models for children, what examples are being set and what may be the impacts on the learning and development of children? In order to ascertain, it may be useful to look at the impacts upon adults in the UK obtained from the NUSPB study, as a way of gaining insights into the potential experiences of children and young people.

Physical health impacts reported by adults include: Eye strain, headaches, dry eyes, lethargy, stiffness, body pain from posture, vision impairment, neck pain, finger problems, repetitive strain, fatigue, putting on weight, lack of exercise, less time outdoors, wrist pain, back ache, shoulder pain, phones catching fire, lack of fresh air.

Mental health impacts reported by adults include: Less motivation, body image, depressing/negative content, vicarious living, mood swings, no social interaction, reclusiveness, dependency on screens, habitual use, arguing online, jealousy of others, feeling unproductive, guilt, toxic people online, socially anxious, hard to switch off, irritable, distracting, losing attention span.

Evidence Regarding Children and Young People

Evidence presented below is drawn from several methodologies used across both studies, which include a nationally representative survey (2022), an online questionnaire on lockdown experiences and attitudes (2021) and 110 qualitative interviews conducted between 2020 and 2022. By interviewing parents about the changing uses of screens during and after the pandemic, as a research team, we have been able to gain valuable insights into children's experiences. Since we have been able to revisit some parents for multiple rounds of interviews over time, our research provides both qualitative and longitudinal insights into current screen experiences in the UK.

Child Development: Positives

1. We have heard positive parental accounts that screens allowed children to learn about a range of issues, which benefited their development, knowledge and understanding. For example, watching documentaries and developing empathy for others.
2. The time spent as a family on screens for educational purposes often extended into other realms, as households began to connect over TV, films, online gaming, online videos, and social media due to government restrictions. Many families reported the development of positive bonds between parents and children as a result of sharing time together in these ways.
3. In some instances, parents and children watched screen based content together that was aimed for older children or adults, such as films and programmes. Parents felt that supervised co-viewing allowed children to learn about mature issues, with opportunities to ask questions, which could aid children's development.
4. The use of screens led to conversations around online safety in some households.
5. Varied amounts of screen use during lockdowns led parents to have a better appreciation of the positive benefits of screens for children's development and learning.

6. Some children who suffered from anxiety caused by going into school, greatly benefitted in terms of their wellbeing and happiness by learning remotely via screens.

Child Development: Concerns

1. Some children were left unsupervised whilst using screens which led to inappropriate viewing of content. This was particularly the case when screens were used as 'baby-sitters' during the lockdowns whilst parents juggled employment, childcare and other demands. It also occurred when children would meet peers and friends online unsupervised.
2. Parents reported that some relatives allowed their children to view potentially harmful content whilst in their care [e.g., scary films].
3. Parents expressed concerns about the accumulative hours spent looking at a screen for children. Some felt that increased or excessive use was not good for their child's development. Worries included eye strain, reduced or impaired vision, lack of exercise, inability to concentrate, restlessness, and over stimulation. Parents were aware of the current myopia epidemic.
4. Parents were concerned about children's potential or actual addiction to screens.
5. Parents themselves often felt addicted or compelled to use screens and reported high usage which children often witnessed.
6. In a number of minority ethnic households particularly where parents did not speak English as a first language, older siblings were asked to help younger siblings with screen based learning during lockdowns. This often resulted in the older child's frustration or difficulties in terms of managing their own schoolwork and the parental request to help siblings.
7. Parents were concerned about the information being shared with children online, that it was false, misleading or dangerous.

Children's Education: Positives

1. Children developed IT skills in areas which they had little or no experience prior to the COVID-19 outbreak [e.g., navigating and using Microsoft Teams, Zoom, etc]. At times, children assisted adults or other children in the household who were less proficient in navigating and using screen based technology.
2. Children could dictate their own educational journey by choosing what to engage with screen wise, whilst having the opportunity to explore new interests. This in turn promoted and encouraged positive learning behaviours, autonomy, and ownership over learning.
3. Children's ability to learn at their own pace using screens and being able to take breaks when needed was welcomed by children, rather than adhering to the set timetable of schools.
4. Parents of some children with additional learning needs felt that the flexibility of screen based learning during lockdown was beneficial for their children's development and educational outcomes. Others felt that children with additional learning needs missed their routines and specialised teachers.
5. Since the ending of national restrictions, the use of screens and remote based learning has allowed children to continue with schoolwork when there are unexpected school closures [e.g., snow days or teacher strikes] or unexpected pupil absence [e.g., injuries and illness].

Children's Education: Concerns

1. Parents complained that there was often a mismatch between screen based activities set by teachers and a child's ability. This could lead to negative feelings for children including upset and worries over competence.
2. When completing screen based work sent home from school, children could not always concentrate on screens for prolonged periods of time, particularly younger children.
3. Often screen based learning was heavily reliant upon specific online learning apps and there were sometimes concerns over the safety of these apps.
4. During lockdowns, parents wanted teachers to be more creative and use screens in a range of ways. Such as group work and opportunities for children to interact with peers, as well as 1-to-1 sessions or teacher-parent consultations. Some parents welcomed the continuation of some screen based activities when lockdown restrictions were lifted [e.g., online parents' evenings].
5. Other parents wanted children to have a 'detox' from screens and would prefer the option of non-screen based learning or a reduction of screens for educational purposes during and after lockdowns.
6. Some parents felt that being on screens for school work would encourage children to get distracted by games and apps.

Positive Social Impacts of Screens

1. Some children learn additional skills through screens such as fitness, music lessons and cooking, which help enhance feelings of wellbeing.
2. Screen time enables children to connect with friends and family which is perceived as a positive influence on children's wellbeing, including mental health.
3. The use of screens could also reduce feelings of loneliness and help to sustain or build friendships for children [e.g. social media, online gaming].
4. The use of screens and online technology was a significant source of information for migrant or ethnic minority parents and children, in terms of news overseas, as well as staying connected with friends and family.
5. Shared screen time and screen based activities could create bonding moments for families, leading to enhanced feelings of wellbeing and positive mental health for children and parents alike.
6. Additionally, through shared screen time, families could use these moments as opportunities to get to know their child better, prompt useful conversations and explore the child's feelings. This was particularly helpful when children were concerned about the pandemic.
7. The ability to learn from home via screens during lockdown was significantly beneficial for children who felt anxious about attending school, including those who had been bullied in terms of the child's wellbeing and mental health.

Negative Social Impacts of Screens

1. Children would seem to be visibly unwell after spending long periods of time watching films or playing computer games.
2. Some children experienced arguments and fall-outs online with friends and peers, sometimes late at night that negatively impacted their sleep and their wellbeing.
3. Some children preferred to be on a screen rather than spending time exercising or doing other activities with friends. Parents felt that this could affect the child's wellbeing and mental health.

4. Parents worried about screen time and their children becoming detached from a sense of reality, including relationships with others [e.g. when playing computer games, following social media trends].
5. In some households, screen use could lead to feelings of disconnect between family members including confrontations over screen time and arguments over screen use.
6. Monitoring and regulating children's screen use and screen time could be difficult for parents depending on the child's age and where children used screens [e.g., in the privacy of their own bedroom, at friends' houses, within schools].
7. Parents were concerned about how easily accessible content was for children via screens, including inappropriate or harmful viewing. This included the use of apps, streaming services, websites and social media.
8. Some children had been exposed to misinformation and disinformation when using screens which could lead to upset and angst.

Policy Recommendations

1. Parents felt strongly that guidance should exist for themselves, so they could set a better example to their children. Parents were unsure about the existence of screen use guidelines for adults or children. They overwhelmingly wanted guidance. We advocate the creation of better guidance for parents and children on screen use.
2. CMO advice suggests that parents should role model appropriate screen use to children, but our data showed that adults often used screens to an excessive amount themselves suggesting that parental support is required. With half of British adults looking at screens for 11 hours or more each day, we advocate that adults are better supported to reflect on their own screen use.
3. Parents were concerned about the child's accumulative use of screens. Schools need to be aware of parental views and concerns, especially if formal educators expect children to engage in screen based work at school and home. Some adults undertook a 'screen detox', often for their own physical or mental wellbeing. Schools which expect parents to support children's learning via screens may therefore face resistance or disengagement from such families. We advocate that digital agendas towards learning, literacy and access be balanced and schools should advocate analogue and non-screen based activities. This is a crucial consideration in response to the myopia epidemic.
4. Led by the Department of Education, discussions between educators and families are needed with regards to appropriate use of screens and length of time on screens to help manage children's negative screen behaviours.

Summary

The use of screens and screen time for adults and children increased during the pandemic owing to the restrictions which were enforced in relation to school, work, and other realms. Post-lockdown, the increased use of screens has continued and become further entwined in the lives of families.

Parents reported positive outcomes from screen use for children, especially during lockdowns when children were entertained by screens and able to stay connected with peers and friends during the most restrictive phases. Educationally, there were also benefits noticed in terms of the flexibility of screen-based learning and the ability for children to set their own pace of learning. However, parents aired concerns that screens could also have a negative physical, mental, and emotional impact on children including screen addiction and exposure to harmful content. Parents' ability to manage children's screen use was dependant on the child's age and parents could not always

monitor children's use, including within schools. Schools were reported to use screens for school and homework purposes with a heavy emphasis on screen based learning during lockdowns. Some parents felt that schools could reduce screen use or provide non-screen alternatives to help children manage their screen use.

Of notable mention is parents' screen time and the implications this has for screen norms and behaviours within the household. Current guidelines suggest that parents role model appropriate screen use but often parents found it difficult to regulate their own screen time [due to work, leisure, and other reasons]. Many parents were high or excessive screen users themselves which children of all ages observed. Parents expressed the desire for further guidance and support in relation to screen use for children and themselves. The increased use of screens post-lockdown further underlines the importance of support for parents in terms of their own screen use and managing children's usage.

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