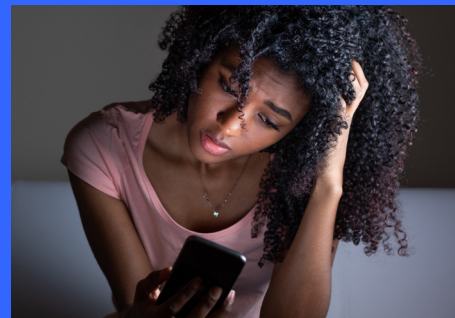# Children and families' wellbeing in a digital world: a four-dimensional model

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Contents

Wellbeing in a digital world means the processes and pathways for accessing the benefits of digital participation, in ways that manage risks and maximise opportunities to us all. Wellbeing in a digital world includes the relationships between digital participation and developmental, emotional, physical, and social wellbeing. It happens in the context of a wider world. It applies to everyone. It changes all the time.

Overview

*Being online, in a world mediated by **digital technologies**, brings significant benefits to children and young people. This is already recognised by those who have an interest in their wellbeing – their **families** and the professionals and communities who support them. In fact, digital interaction has become almost indispensable for participation and progress in the modern world, and the development of these skills is an essential part of preparedness for adult life. The pandemic has offered societies an opportunity to shift away from debates surrounding 'digital wellbeing', and towards the more nuanced concept of 'wellbeing in a digital world'. 'Digital wellbeing' implies digitally-mediated wellbeing as distinct and with clear boundaries. In contrast, 'wellbeing in a digital world' acknowledges the complicated world in which our children and young people grow and change, and offers a number of opportunities.*

The shared digital world, the Internet, has grown rapidly and become endemic in children's lives, and yet the social norms and protections have been much slower to resolve meaning there remain considerable concerns. With this growth are frequent digital world changes, and much of this is unregulated, with few social and legal constraints to protect us as we make our way. Such challenges related to mass participation have become even more urgent with the COVID-19 crisis.

Most people want to be good parents, carers and family members. Most families who have access to digital technologies, therefore, want high quality advice on how to help themselves and their children make the most of opportunities, while managing risks. They recognise that this is not just their responsibility, but the responsibility of schools, technology companies, and governments.

They want **agency**, for example knowing how to report someone behaving in an inappropriate way towards children in a digital setting.

Families want to know how best to talk together about the way everyone in the family uses connected technology. It is hard to compare your own experience with those of others. For example, questions may be raised, like are you spending too much time online? Are your children spending too much time online? Or is this typical for children and young people nowadays? Parents want to address not just how long children are spending on devices, but what they are doing with that time. They want to know whether they are making the right choices about their use of technology: both individually as adults, by children and within the family.

Many families do not have access to technologies, but children and young people who do not have access at home, will do so in other places - such as school or friends' houses - and therefore they need both advice and guidance as much as anyone else, but also opportunities to benefit from the use of digital technologies. Unfortunately, some families are unable to, or struggle to, provide a healthy, happy environment for their children, and we need to make sure that digital technologies are used in ways that give these most **vulnerable** children every chance of a good life.

In this context, considering the range of digital access, usage, and behaviours in different families, we want to understand what wellbeing is in a digital world, and how to best support families in managing their use of technologies. We seek to develop a definition and benchmark for wellbeing in a digital world in the UK in the 2020s. This will help to give a 'big picture' of where we are, and what problems people are struggling with. A benchmark of digital wellbeing will allow each family to judge for themselves where they are doing well. It might also suggest the need for a change in behaviour, by the adults as well as the children in a family. And it could be a catalyst for seeking help from communities, schools or expert organisations.

Any assessment of digital wellbeing must capture the full range of impacts arising from digital participation, and recognise that the evidence is complicated and mixed. Approaches which look only at risks and harms fail to account for the

imperatives which keep people connected to this complex world of risks and opportunities. On the one hand if we emphasise the bad side, we fail to understand why people need to be online. But on the other hand if we only talk about the good side we will fail to see the risks. Our model must balance, as real life does, the potential for good and bad and the vast continuum in between.

Previous research tells us that any measure must be multi-dimensional and dynamic to reflect everyday family life. For the first time, our work will do this in a way that reveals the complexity in this landscape, helps us to explain changes over time, and enables us to give guidance to families tailored to their own circumstances. Our model also acknowledges and respects the **diversity** of modern populations, for example diversity of gender, neurotype, ethnicity, or cognitive capability, or the socio-economic circumstances in which a family may find themselves. When we universalise, we may fall into the trap of modelling majority or dominant lifestyles. All measures must be reviewed with diversity and inclusion in mind.

And finally, research has identified sub-groups of **vulnerable** children, young people and families who may have multiple, **intersectional** issues such as disrupted or unsafe family lives, experience of living in care, chronic ill-health, disability and structural, chronic disadvantage. Our research tells us that these groups experience a disproportionate amount of online risk, with negative feedback into already challenging lives[1].

The four-dimensional model

The four dimensions of digital wellbeing within families

There are many ways of defining and measuring wellbeing[2]. Drawing on the wider literature and our conversations with 31 people from multiple sectors, we propose that digital wellbeing is assessed along four dimensions, which comprise:

1. **Developmental wellbeing:** realisation of cognitive capabilities and achievement of educational potential; managing financial responsibilities that come with maturation; personal growth.[3]

2. **Emotional wellbeing:** healthy emotional development; ability to cope with stress and setbacks; spiritual development; development of thoughtful values and a positive outlook; space and opportunities to flourish; life purpose; autonomy; feeling successful.[4]

3. **Physical wellbeing:** achievement and maintenance of healthy thriving; development of physical capabilities; using technology in physical safety; access/lack of access to supportive or accessibility technologies.

4. **Social wellbeing:** participation in wider communities including schools, clubs or societies; being an active citizen; ability to work with others; healthy interaction with online communities; maintenance of positive and sustainable online personae; managing the risks of grooming and exploitation; development and maintenance of good relations with significant people both online and offline; communication with people we know.

The model operates at two intersecting levels – the individual (parent or child) and the family. These two levels exist in a wider social, political, and economic and technological ecosystem that includes schools, work, and leisure. It recognises that – in a digital world – family wellbeing does not just comprise the sum of the wellbeing of people within the family. It also recognises that the responsibility to be 'well' in a digital world does not solely lie with children, young people and their families; it lies with technology designers and developers, platforms, and policy-makers to create a 'level playing field' for everyone.

We recognise that all of these dimensions have potential to be interlinked. All this in the context of a wider set of intersecting life journeys for families, of which digital experience is an important part but not the whole. The wellbeing of every person is embedded in a larger social and environmental context which depends on and relates to the health and wellbeing of the people and groups within it. Families form part of this wider context, but live in complicated socio-economic worlds. The wellbeing of each person depends upon opportunities for appropriate economic participation, and social and political engagement. And a healthy society is made up of people who are willing and able to work collaboratively towards a sustainable future.

The next section summarises some of the positive and negative impacts of digital participation on the four dimensions of wellbeing in a digital world. Many of these impacts can also change over time. So, in our model we think about them not just as positive or negative, but as a range or continuum. Crucially, the model will enable us to begin to understand both the experiences of individual children and young people, and also complete family units.

> *Everybody is responsible for managing the risk and making the most of the opportunities for developmental, emotional, physical and social wellbeing in a digital world – individual, families, communities, policymakers, professionals and technology designers and developers.*

1. Developmental wellbeing

People should be able to think and reason and apply their abilities to problem solving and to become able to use technology in ways that suit their needs; whether that be to make effective use of a social media site, or to design and create a new app. Most young people will gain skills for future employment. **Developmental wellbeing** depends on the realisation of our **cognitive capabilities** and potential. It includes competency, maintaining attention, memory, and critical thinking. It means access to the systems and processes that are in place to support learning and thinking, and an awareness of the responsibilities they need to assume and the rights[5] to which children, young people and families are entitled. For families, children and young people it means engagement with formal and informal education, and the journey to mature adult cognition. For families, it means ensuring that children and young people are well-supported in that journey, taking full account of complex identities and intersections with additional needs such as autism and deafness.

Online experiences and interactions can affect developmental wellbeing:[6]

- **To develop well in a digital world, you can benefit from**: opportunities for learning new skills and developing a sense of wonder; opportunities to develop thinking, collaboration, organisation and problem-solving skills; opportunities to bring together content to offer to others; access to new information and online learning including gaining qualifications; exposure to alternative opinions and world-views and examples of mature rational discussion; secure understanding of how data are used; and the digital skills, confidence and competence for everyday tasks and roles in daily life (including work, homework, household administration and financial management). For some, technology can even provide an income stream, for example through the safe monetisation of digital platforms[7].

- **You will need to manage the risks from:** exposure to disinformation; fake news; fallacies and conspiracy theories; living in an echo-chamber; wasting or missing opportunities to learn; seeing examples of unhelpful and irrational thinking; cybersecurity challenges such as managing personal data online; challenges to financial wellbeing such as exposure to the varied and subtle ways that online games take money from players, sometimes in tiny but repeated payments.

2. Emotional wellbeing

Emotional wellbeing does not mean avoidance of all difficulties or negative emotions. However, over time, people learn to manage their lives and emotions by developing constructive strategies to survive and flourish in adversity[8] – some people call this 'resilience'. We acknowledge that some individual children or young people and their families must struggle to manage lives of disproportionate difficulties and chronic disadvantage, and this includes the ways they develop and manage their identities and sense of self. Well-adjusted emotional and other responses must be complemented by local, national and global efforts to improve lives rather than simply expecting families to cope.

Online experiences and interactions can affect our emotional wellbeing:[9]

- **To be well in a digital world, you can benefit from:** opportunities for creativity and self-expression, for example online curation of links to hobbies; opportunities to be authentic, for self-validation and building self-worth; information about methods of **self-regulation** such as timed meditation practice apps; channels that let us articulate our emotions and validate our experiences, for example special interest groups on social media; exposure to positive role models; harmless strategies for distraction and management of emotional pain; opportunities to engage in joyful and enjoyable activities such as developing or operating in gameworlds.

- **You will need to manage the risks from: addiction;** low self-worth; increased emotional distress; destructive behaviours or beliefs such as self-harm or radicalisation; shaming and isolation; 'doom-scrolling' (continual scrolling through negative news); unrealistic comparisons against impossible standards; exposure to harmful content such as extreme pornography; exposure to **'persuasive design'** and a desire for constant, instant self-gratification.

3. Physical wellbeing

Physical wellbeing means being healthy, growing, and **thriving**. Everyone needs to be able to take exercise to feel well and happy. Those with chronic health conditions and disabilities face additional physical challenges. Some children, young people, and entire families experience challenges to physical wellbeing imposed by their environment, such as poor housing or lack of open green spaces, and difficulty in obtaining healthy food. As we know, people with multiple intersecting challenges are at greatest risk. Within these real constraints most families have some scope to develop more or less healthy lifestyles.

Online experiences and interactions can affect physical wellbeing:[10]

- **To be well in a digital world, you can benefit from:** opportunities to maintain a healthy balance between sedentary and active behaviours; to develop new physical skills; opportunities to participate in mobile digital activities; access to **supportive or assistive technologies** for those with chronic disabilities, for example reading pens or visual search engines, or 'adaptive switches' designed to help people independently activate switch-enabled devices such as smartphones; information about healthy lifestyle choices; shared or learned activities for wellbeing (sports, exercise, relaxation).

- **You will need to manage the risks from:** losing opportunities of doing healthy and joyful activity in favour of sedentary or **shut-in lifestyles**, sometimes called **'displacement';**[11] sleep disruption; exposure to problematic temptations impacting on physical health and wellbeing; exposure to potentially damaging content promoting unhealthy behaviours towards food or exercise or negative impact on nutrition; impact on self-ideation and body confidence.

4. Social wellbeing

We are members of multiple **communities** and wider systems. These include people we know and interact with on a regular basis, as well as people that we do not know personally, up to and including mass society within our nation and world. Children and young people must be able to participate safely and effectively in adult society and interact with everyone, from family to people who are not personal friends, to negotiate adult life. Their families need to feel confident that they can help everyone in the unit to experience this safe and effective participation. An individual child or young person helps the people with whom they have a personal relationship – particularly in their family and close friendship groups – and is helped by them. We see evidence of honest communication and mutual respect. This dimension relates to interaction with known and unknown others in the physical and digital worlds and focuses on the important skills and knowledges children and young people may need to navigate these complex groups successfully.[12]

How online participation can affect social wellbeing:[13, 14]

- **To be well in a digital world, you can benefit from:** relationships with significant others who bring care and support, opportunities to both keep apart, and integrate online and offline relationships and the knowledge of when to do this; opportunities for shared experiences and building of new positive relationships;

maintaining existing relationships; healthy and open communications; opportunities to help and support others; mentoring and being a mentor; access to community of 'people like me' (for example through digital activism or peer support groups); ability to move between communities; healthy interaction with unknown people or in public forums; positive reinforcement from community participation; maintenance of a non-destructive and age-appropriate online presence; opportunities to be an active citizen.

- **You will need to manage the risks of:** experiencing and exhibiting bullying behaviour, grooming and other forms of exploitation; forming and/or being unable to escape from destructive relationships; becoming cut off from family and friends; withdrawal and alienation; lack of communication or loneliness; unhealthy comparison with others; fear of missing out; participation in communities that are intrinsically harmful, abusive or anti-social participation styles; a digital footprint with negative consequences for the future; isolation from social interaction in digitally-mediated and physical life; exposure to racism and other forms of discrimination; development of antisocial behaviours and alienation from broader society (such as radicalisation).

Conclusion

Internet Matters commissioned this report on the topic of digital wellbeing for children and families to inform their future strategy, and to ensure that interventions at policy, practice, and family levels resonate and lead to productive outcomes for everyone.

What the process revealed was a shift in the wider landscape away from 'digital wellbeing', and towards 'wellbeing in a digital world'. This subtle change represents challenges and opportunities for those wishing to effect attitudinal and behavioural change. The former implies digitally-mediated wellbeing as distinct, and therefore more easily targeted through intervention. The latter implies an acknowledgement of the multi-systemic context in which children and young people live, and in which complexity must be accounted for in any unit of analysis. Future phases of research will need to strike a balance between the pragmatism needed to develop and deliver interventions – particularly for seldom-heard groups – and that complexity.

A family perspective – additional research by Internet Matters

This report was developed and validated through a literature review and through consultation with stakeholders representing the education sector, technology industry, policy, the academy, third sector, media sector, and local authorities. Internet Matters then took the model to parents and teens in a set of focus groups to understand its accessibility, how well the four dimensions resonated and how they understood their wellbeing to be impacted by their digital lives.

Through these conversations, it emerged there was some uncertainty around the term 'wellbeing', particularly for children where it was less well-used. However, there was a broad understanding of the concepts involved and participants were universally able to recognise some potential impact of the digital world on an individual's and a family's wellbeing.

This phase of the research also presented an early understanding of the differences seen within families depending on parenting style and attitude to technology. Those with stricter rules on digital access for their children focussed on regulating their children's screentime, whereas parents with a more lenient approach to technology use tended to speak about having open conversations and positively engaging in their children's digital worlds to a greater degree.

For older teens, they described their online life as being effectively inseparable from their non-digital life. They were particularly aware of the opportunities it provides to be an active citizen and engage with the world in a way that only digital media can offer.

Overall, these groups provided reasonable confidence that the essence of these four dimensions is valid from the perspective of those we spoke to with no significant omissions.

Future work

The next stage of this process is to develop the model further to create a measurement framework that can then be tested with families around the country. This will be done in a two-stage process of in-depth interviews with UK families to allow for a deep dive into each dimension and to test specific metrics that can help us understand how they are managing their own wellbeing in a digital world. Following this, a large quantitative study will be conducted at a level that is nationally representative in order to produce an index score.

These insights will further support the ambition to deliver tailored resources and evidence-based solutions to help families maximise the opportunities of being online while minimising the risks. Typologies and segmentations will be considered to allow for targeted content and support materials to be produced by Internet Matters that are accessible, relevant and relatable for different family audiences and can deliver measurable and meaningful change.

Glossary

Agency

'Agency' means you have control over your life. You can take action to achieve your goals, with reasonable hope that your actions will be effective. Lack of agency makes us feel helpless. Increasing agency gives us motivation and energy.

Cognitive capability

Cognition can refer to any mental process, but we use it most often to refer to reasoning, decision making and reflecting. Our cognitive capability is often referred to as 'intelligence'. This is not a single skill but a web of interacting abilities and characteristics.

Communities

Groups of people form communities. Typically, a 'community' is distinguished from a 'society' which encompasses everyone within a large geographical area. A community of people will interact with each other - for example face to face or online. Interaction within a community is partially regulated by social norms. People may belong to several communities.

Developmental wellbeing

'Development' means progress and growth. All children must develop their abilities, through formal schooling and other types of learning, and development continues in adulthood. In this paper, when we talk about developmental wellbeing, we are referring particularly to the development of learning, cognition, knowledge and understanding.

Digital technologies

Here 'digital technologies' include any connected devices that allow internet access including all types of computers and extending to tablets, phones, games consoles, smart TVs, voice assistants and other devices.

Displacement

When you are prevented from completing an activity your energy may be 'displaced' to an alternative activity. For example if you are prevented from being active outdoors, your displaced energy may be redirected to playing a computer game.

Diversity

'Diversity' is a general term that means variety. When used as a positive term 'diversity' asserts that all types of people have a valuable place in society. Diversity can include all the ways that people vary and differ from each other. That includes differences of lifestyle, ethnicity, gender, religion, sexuality, capability, and ways of thinking and being. People in minority groups may face challenges relating to diversity. Their needs may be overlooked, and they may be undervalued.

Emotional wellbeing

'Emotion' means the internal feelings that arise in us as we experience our lives. Some emotions are pleasant, and some are painful. Emotional wellbeing does not mean avoidance of painful feelings. It means learning to manage our feelings so that we are not completely overwhelmed by either good or bad experiences.

Families

A 'family' is a group of people who are committed to supporting each other long term. It often includes parents, carers and their dependent children. Different cultures think about families in different ways. In the modern world people are exploring new ways of forming families. Some families fall short of the ideal of support and commitment. Because we are a culturally diverse society, we must make sure that, when we think of families, we remember that families differ a great deal.

Intersectional

'Intersectionality' means the challenge of belonging to multiple diverse groups. We know that people in minority groups or undervalued groups may experience challenges. Some people belong to more than one such group: they will therefore experience multiple challenges. The challenges may interact, and this can multiply the impact on an individual.

Persuasive design

Much of what we encounter online is trying to persuade us of something. For example, to change our political opinions, or to buy a product. Websites, games, videos and other online content are all designed to be as persuasive as possible. For example, it can be hard to stop playing a game, or easy to spend money in a game, and this can be because of persuasive design.

Physical wellbeing

The 'physical' world is the material world in which we live. Our physical wellbeing means the health and functioning of our physical bodies. We all have different physical aptitudes and challenges. There are decisions we can make to improve our physical wellbeing, despite the limitations of our circumstances.

Self-regulation

When we are controlled by rules set by others that is 'regulation'. When we control ourselves that is 'self-regulation'. Self-regulation means we keep a check on our own feelings, beliefs and behaviour. We make changes to address any areas where we see room for improvement. Good self-regulation increases wellbeing and gives a person increased agency.

Shut-in lifestyles

A shut-in lifestyle describes a person who mainly stays in a single room or building, and rarely or never goes outside. These people may also have little face to face interaction with others.

Social wellbeing

The 'social' world is the human community in which we interact with others. Human beings rely on social interaction as one aspect of their wellbeing. Social wellbeing means that these interactions are positive, manageable, and constructive.

Supportive or assistive technologies

People who experience challenges, in particular physical challenges, may find that technology can mitigate or relieve issues that cause them difficulty. An example would be voice-activated software for people with reduced use of their hands from arthritis. There are many different types of technology which fall into this category

Thriving

For any living creature, such as a child, it is not enough just to stay alive. They must also have the chance to grow and develop in a healthy way. We call this 'thriving'. Even as an adult, when growth is over, we thrive if we stay healthy and continue to develop according to our age and abilities.

Vulnerable

'Vulnerability' means being at risk of harm. Some circumstances and conditions make individuals more vulnerable and they can experience multiple types of vulnerability. Vulnerability can be reduced by putting protective measures in place, and by helping people to avoid harm.

Appendix: Methods

Phase 1: Rapid review

Between December 2020 and February 2021 we carried out a rapid review of the existing literature using the following parameters:

- Published in English between 2015 – 2020

- Preliminary focus on literature emerging from the UK, Ireland, Australia, Canada and the USA, expanding as required in line with keyword search outcomes.

- Databases searched: SCOPUS, JSTOR, ERIC, PsycInfo and Sociological Connection

We used combinations of, and intersections for, the following search terms:

Digital wellbeing	Family/families
Family wellbeing	Emotion
Self	Mental health
Cognitive health	Digital poverty
Physical wellbeing	Childhood
Digital technologies	Definition wellbeing
Relationships	Identity
Resilience	Technology access
Memory	Social wellbeing

Key clusters of meaning and strength of association within and between clusters were revealed through thematic analysis, leading to the four dimensions represented in the model. A definition and supporting model document were drafted to support Phase 2.

Phase 2: Consultation

In February 2021 we took the draft definition to stakeholders for consultation. Consultations were held virtually and with individual organisations in 30 minute slots. We consulted with 31 stakeholders representing the education sector, technology industry, policy, the academy, third sector, media sector, and local authorities. Key themes emerged from the consultation, leading to further revision of the definition and accompanying report.

Phase 3: Focus groups with parents and teens

Following the consultation with leading individuals in the sector, we took the definition to families in April 2021. Four focus groups; two with parents, one of stricter attitudes towards family access to technology and digital devices, one more lenient; and two with teens, one group of 13-year-olds and the other 16-year-olds. The focus groups were one hour discussions around understanding of digital wellbeing, the role it had in their lives and then using the four dimensions as a framework for debate.

This validation of the definition helped us to refine the document to better understand where there was confusion in certain terms or phrases, where more detail or explanation was required and which dimensions resonated with the groups and their daily lives.

These focus groups were devised and delivered by our agency partner RedBlue.

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Dr Diane Thembekile Levine is Deputy Director of the Leicester Institute for Advanced Studies. Following a career as a primary school teacher and public servant, Di completed her PhD at the University of Warwick. Since then her research interests are focused on understanding and improving the digitally-mediated lives of children and young people living in challenging circumstances, particularly in the Majority World. She is co-author of Oxford University Press' best-selling textbooks on computing for 4-14 year olds.

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Acknowledgements

References

1. Katz, A; El Asam, A. https://www.internetmatters.org/about-us/refuge-and-risk-report/, [last accessed: 23/3/2021]

2. Goodman, F. R., Disabato, D. J., & Kashdan, T. B. (2020). Reflections on unspoken problems and potential solutions for the well-being juggernaut in positive psychology. The Journal of Positive Psychology, 0(0), 1–7

   Margolis, S., Schwitzgebel, E., Ozer, D. J., & Lyubomirsky, S. (2020). Empirical relationships among five types of well-being. In Measuring Well-being: Interdisciplinary Perspectives From the Social Sciences and the Humanities. Oxford University Press.

   Ryff, C. D., Boylan, J. M., & Kirsch, J. A. (2020). Disagreement about recommendations for measurement of well-being. Preventive Medicine, 139, 106049

   Vanderweele, T.J., Trudel-fitzgerald, C., Allin, P., Farrelly, C., Fletcher, G., Frederick, D.E., Hall, J., Helliwell, J.F., Kim, E.S., Lauinger, W.A., Lee, M.T., Lyubomirsky, S., Margolis, S., Mcneely, E., Messer, N., Tay, L., Viswanath, V., Wziak-biaowolska, D. & Kubzansky, L.D. (2020). 'Current recommendations on the selection of measures for well-being', Preventive Medicine, vol. 133, 106004.

3. Russell, R., Bowman, D., Banks, M. & de Silva, A. (2017). All being well? Financial wellbeing, inclusion and risk–seminar summary, http://library.bsl.org.au/jspui/bitstream/1/9374/1/Russell_etal_All_being_well_seminar_summary_2017.pdf [last accessed 23.3.2021]

   Ryff, C.D. and Keyes, C.L.M., 1995. The structure of psychological well-being revisited. Journal of personality and social psychology, 69(4), p.719

4. Diener, E., Kahneman, D. and Helliwell, J., 2010. International differences in well-being. Oxford University Press

5. United Nations Office of the High Commissioner, Committee on the Rights of the Child (2021), General Comment on children's rights in relation to the digital environment https://www.ohchr.org/EN/HRBodies/CRC/Pages/GCChildrensRightsRelationDigitalEnvironment.aspx [last accessed 22/3/2021]

6. Blum-Ross, A. & Livingstone, S. (2017) "Sharenting," parent blogging, and the boundaries of the digital self, Popular Communication, 15:2, 110-125

   Burr, C., Taddeo, M. & Floridi, L. The Ethics of Digital Well-Being: A Thematic Review. Science and Engineering Ethics 26, 2313–2343 (2020)

   Chevalier, P., Kompatsiari, K., Ciardo, F. & Wykowska, A. (2020). Examining joint attention with the use of humanoid robots-A new approach to study fundamental mechanisms of social cognition. Psychon Bull Rev 27, 217–236

   Dempsey, S., Lyons, S., & McCoy, S. (2020) Early mobile phone ownership: influencing the wellbeing of girls and boys in Ireland, Journal of Children and Media, 14:4, 492-509

   DeVito, M.A., Walker, A.M., Birnholtz, J., Ringland, K., Macapagal, K., Kraus, A., Munson, S., Liang, C., Saksono, H. (2019). Social technologies for digital wellbeing among marginalized communities. CSCW 2019 Companion - Conference Companion Publication of the 2019 Computer Supported Cooperative Work and Social Computing

   Giraldo-Luque, S.; Aldana Afanador, P.N.; Fernández-Rovira, C. (2020). "The Struggle for Human Attention: Between the Abuse of Social Media and Digital Wellbeing" Healthcare 8, no. 4: 497

   Kardefelt-Winther, D., 2017. How Does the Time Children Spend Using Digital Technology Impact Their Mental Well-being, Social Relationships and Physical Activity: An Evidence-Focused Literature Review. Florence, Italy: UNICEF Office of Research-Innocenti

   Lee, U., Lee, H., & Park, J. (2019). "Positive computing for digital wellbeing," at http://mentalhealth.media.mit.edu/wp-content/uploads/sites/15/2019/04/CMH2019_paper_41.pdf [last accessed 23/3/2031]

   Monge Roffarello, A., & De Russis, L. (2019). The race towards digital wellbeing: Issues and opportunities. In Proceedings of the 2019 CHI Conference on Human Factors in Computing System, 386, pp. 1-14

   Smahel, D., Machackova, H., Mascheroni, G., Dedkova, L., Staksrud, E., Ólafsson, K., Livingstone, S., and Hasebrink, U. EU Kids Online 2020: Survey results from 19 countries. http://eprints.lse.ac.uk/103294/ [last accessed 23/3/2021]

7. Jermsittiparsert, K., Pamornmast, C. & Sriyakul, T. (2020). Sustainable Development and Circular Economy: Functional vs. economic wellbeing in ASEAN. Journal of Security & Sustainability Issues, 10

8. Ungar, M. and Theron, L., 2020. Resilience and mental health: How multisystemic processes contribute to positive outcomes. The Lancet Psychiatry, 7(5), pp.441-448

9. Burr, C., Taddeo, M. & Floridi, L. The Ethics of Digital Well-Being: A Thematic Review. Science and Engineering Ethics 26, 2313–2343 (2020)

   Dempsey, S., Lyons, S., & McCoy, S. (2020) Early mobile phone ownership: influencing the wellbeing of girls and boys in Ireland, Journal of Children and Media, 14:4, 492-509

   Lee, U., Lee, H., & Park, J. (2019). "Positive computing for digital wellbeing," at http://mentalhealth.media.mit.edu/wp-content/uploads/sites/15/2019/04/CMH2019_paper_41.pdf [last accessed 23/3/2031]

   Montag, C., Elahi, J., (2020) Discussing digital technology overuse in children and adolescents during the COVID-19 pandemic and beyond: On the importance of considering Affective Neuroscience Theory. Addictive Behaviors Reports, volume 12, 100313

   Smahel, D., Machackova, H., Mascheroni, G., Dedkova, L., Staksrud, E., Ólafsson, K., Livingstone, S., and Hasebrink, U. EU Kids Online 2020: Survey results from 19 countries. http://eprints.lse.ac.uk/103294/ [last accessed 23/3/2021]

   Vermeulen, A., Vandebosch, H., & Heirman, W. (2018) Shall I call, text, post it online or just tell it face-to-face? How and why Flemish adolescents choose to share their emotions on- or offline. Journal of Children and Media. 12:1, 81-97

   Firth J., Torous, J., Stubbs, B., Firth, J.A., Steiner, G.Z., Smith, L., Alvarez-Jimenez, M., Gleeson, J., Vancampfort, D., Armitage, C.J., Sarris, J. (2019) The "online brain": how the Internet may be changing our cognition. World Psychiatry. Jun;18(2):119-129

   Gottschalk, F. (2019), "Impacts of technology use on children: Exploring literature on the brain, cognition and well-being", OECD Education Working Papers, No. 195, OECD Publishing, Paris

10. Burr, C., Taddeo, M. & Floridi, L. The Ethics of Digital Well-Being: A Thematic Review. Science and Engineering Ethics 26, 2313–2343 (2020)

    Kardefelt-Winther, D., (2017). How Does the Time Children Spend Using Digital Technology Impact Their Mental Well-being, Social Relationships and Physical Activity: An Evidence-Focused Literature Review. Florence, Italy: UNICEF Office of Research-Innocenti

Montag, C., Elahi, J., (2020) Discussing digital technology overuse in children and adolescents during the COVID-19 pandemic and beyond: On the importance of considering Affective Neuroscience Theory. Addictive Behaviors Reports, volume 12, 100313

Straker, L., Zabatiero, J., Danby, S., Thorpe, K, Edwards, S. (2018) Conflicting Guidelines on Young Children's Screen Time and Use of Digital Technology Create Policy and Practice Dilemmas. Journal of Pediatrics. Nov 202:300-303

Schmidmaier, M. (2019) A perspective on Digital Wellbeing. CHI '19: Workshop on Designing for Digital Wellbeing, Glasgow. https://digitalwellbeingworkshop.files.wordpress.com/2019/04/08-matthias_schmidmaier_chi19wrk_digitalwellbeing.pdf [last accessed: 23/3/2021]

11. Royal College of Paediatrics and Child Health (2020) The health impacts of screen time: A guide for clinicians and parents https://www.rcpch.ac.uk/resources/health-impacts-screen-time-guide-clinicians-parents, [last accessed: 23/3/2021]

12. O'Reilly, M., Dogra, N., Levine, D.T., Donoso, V. (in press). Digital media and child and adolescent mental health: A practical guide to understanding the evidence. London: Sage

13. Blum-Ross, A. & Livingstone, S. (2017) "Sharenting," parent blogging, and the boundaries of the digital self, Popular Communication, 15:2, 110-125

    Burr, C., Taddeo, M. & Floridi, L. The Ethics of Digital Well-Being: A Thematic Review. Science and Engineering Ethics 26, 2313–2343 (2020)

    Dempsey, S., Lyons, S., & McCoy, S. (2020) Early mobile phone ownership: influencing the wellbeing of girls and boys in Ireland, Journal of Children and Media, 14:4, 492-509

    DeVito, M.A., Walker, A.M., Birnholtz, J., Ringland, K., Macapagal, K., Kraus, A., Munson, S., Liang, C., Saksono, H. (2019). Social technologies for digital wellbeing among marginalized communities. CSCW 2019 Companion - Conference Companion Publication of the 2019 Computer Supported Cooperative Work and Social Computing

    Giraldo-Luque, S.; Aldana Afanador, P.N.; Fernández-Rovira, C. (2020). "The Struggle for Human Attention: Between the Abuse of Social Media and Digital Wellbeing" Healthcare 8, no. 4: 497

    Lee, U., Lee, H., & Park, J. (2019). "Positive computing for digital wellbeing," at http://mentalhealth.media.mit.edu/wp-content/uploads/sites/15/2019/04/CMH2019_paper_41.pdf [last accessed 23/3/2031]

Livingstone, S., Mascheroni, G., Staksrud, E. (2018) European research on children's internet use: Assessing the past and anticipating the future. new media & society 20(3) 1103– 1122

Monge Roffarello, A., & De Russis, L. (2019). The race towards digital wellbeing: Issues and opportunities. In Proceedings of the 2019 CHI Conference on Human Factors in Computing System, 386, pp. 1-14

Smahel, D., Machackova, H., Mascheroni, G., Dedkova, L., Staksrud, E., Ólafsson, K., Livingstone, S., and Hasebrink, U. EU Kids Online 2020: Survey results from 19 countries. http://eprints.lse.ac.uk/103294/ [last accessed 23/3/2021]

Vermeulen, A., Vandebosch, H., & Heirman, W. (2018) Shall I call, text, post it online or just tell it face-to-face? How and why Flemish adolescents choose to share their emotions on- or offline. Journal of Children and Media. 12:1, 81-97

Brito, R., Dias, P. (2020), ''Which apps are good for my children?'': How the parents of young children select apps. International Journal of Child-Computer Interaction. December 26, 100188

14. Burr, C., Taddeo, M. & Floridi, L. The Ethics of Digital Well-Being: A Thematic Review. Science and Engineering Ethics 26, 2313–2343 (2020)

Chevalier, P., Kompatsiari, K., Ciardo, F. & Wykowska, A. (2020). Examining joint attention with the use of humanoid robots-A new approach to study fundamental mechanisms of social cognition. Psychon Bull Rev 27, 217–236

DeVito, M.A., Walker, A.M., Birnholtz, J., Ringland, K., Macapagal, K., Kraus, A., Munson, S., Liang, C., Saksono, H. (2019). Social technologies for digital wellbeing among marginalized communities. CSCW 2019 Companion - Conference Companion Publication of the 2019 Computer Supported Cooperative Work and Social Computing

Giraldo-Luque, S.; Aldana Afanador, P.N.; Fernández-Rovira, C. (2020). "The Struggle for Human Attention: Between the Abuse of Social Media and Digital Wellbeing" Healthcare 8, no. 4: 497

Kardefelt-Winther, D., 2017. How Does the Time Children Spend Using Digital Technology Impact Their Mental Well-being, Social Relationships and Physical Activity?: An Evidence-Focused Literature Review. Florence, Italy: UNICEF Office of Research-Innocenti

Lee, U., Lee, H., & Park, J. (2019). "Positive computing for digital wellbeing," at http://mentalhealth.media.mit.edu/wp-content/uploads/sites/15/2019/04/CMH2019_paper_41.pdf [last accessed 23/3/2031]

Montag, C., Elahi, J., (2020) Discussing digital technology overuse in children and adolescents during the COVID-19 pandemic and beyond: On the importance of considering Affective Neuroscience Theory. Addictive Behaviors Reports, volume 12, 100313

Monge Roffarello, A., & De Russis, L. (2019). The race towards digital wellbeing: Issues and opportunities

In Proceedings of the 2019 CHI Conference on Human Factors in Computing System, 386, pp. 1-14

Smahel, D., Machackova, H., Mascheroni, G., Dedkova, L., Staksrud, E., Ólafsson, K., Livingstone, S., and Hasebrink, U. EU Kids Online 2020: Survey results from 19 countries. http://eprints.lse.ac.uk/103294/ [last accessed 23/3/2021]