



Justice for Children in the era of Data-Intensive Technologies

Working Paper

This Working Paper outlines the challenges in the context of the application of digital and data-intensive technologies in the administration of justice for children, with a specific focus on upholding children's human rights and the achievement of SDG 16.

Digital justice technologies swiftly emerged as part of a global response to COVID-19 and are rapidly advancing in both scope and frequency of use, especially in the context of increasingly constrained government resources. As a result, the application of digital technologies and innovations in adult justice processes is garnering global attention. However, there remains a substantial gap in understanding and addressing how the digitisation of justice processes impacts children, their rights, and the achievement of the 2030 Agenda for Sustainable Development.

This Working Paper outlines the application of digital and data-intensive technologies in the administration of justice for children, with a specific focus on their positive and/or negative potential in respect of children's human rights and the achievement of SDG16.2: *'put an end to abuse, exploitation, trafficking, and all forms of violence and torture against children'* and SDG16.3: *'promote the rule of law on national and international levels, ensuring equitable access to justice for all.'*

Data-Intensive Technologies

Data-intensive technologies are those which, often through machine-learning based tools, process or analyse large quantities of data (or big data).¹ Data-intensive technologies and big data are a major focus of digital innovations used by States and their public authorities - particularly justice, welfare, and policing - who have cited benefits in improving efficiency, identifying fraud and error, and cutting costs.² However, challenges remain.

Children's personal data and privacy

Children's privacy is central for the fulfilment of their agency, dignity, and safety. In the era of data-intensive technologies, threats to children's privacy come from the collection and processing of their personal data. Automatic data processing, data profiling, behavioural targeting, biometric identification, and mass surveillance are rapidly increasing and threaten arbitrary and unlawful interferences with children's right to privacy.

Predictive analysis and risk assessment

Large databases used by States, public authorities, and the private sector, and risk assessment-based labelling of those in databases, can exacerbate discrimination against marginalised communities of children and wrongfully automate necessary systems of prevention and protection.

- **Policing:** In the United Kingdom, police use of large databases of suspected gang members has raised significant rights concerns. The Metropolitan Police Service Gangs Violence Matrix database was 78% black, 90% male, 80% between the ages of 12 and 24, 75% who had been victims of violence themselves, and 35% who never committed any serious offences. The database has been accused of digitally profiling already marginalised young people, with a disproportionate and discriminatory impact on black boys and young men. In addition, data sharing between the police and other public authorities - including housing associations, schools, and the criminal justice system - seriously risks further discrimination, exclusion, and re-victimisation of young black men, based on algorithmic decision-making.³
- **Child welfare:** Predictive risk models have used administrative data and machine learning algorithms to identify children who are at high risk of abuse, or high priority for preventive services. Countries such as Denmark⁴, New Zealand⁵, United Kingdom⁶, and United States⁷ have incorporated artificial intelligence into their child welfare systems. However, overwhelming caseloads, high stress, and insufficient time and information means confirmation, or risk-prediction, bias has slipped into critical human decision-making and poses real challenges for upholding the rights of children who are the least visible, most marginalised, and most at risk of violence.⁸

- **Child justice risk assessments:** Child and youth justice services have also started to implement algorithm-based risk assessments, categorising children by perceived likelihood of offending, reoffending, and/or need for preventative services. Research suggests justice system risk assessments have the same issues and concerns as those for adults – discrimination, accuracy and fairness issues, confirmation bias – but may hold greater consequences for children given the importance of early intervention and preventive services for children’s development, dignity, safety, and agency.⁹

Peaceful Protest

There has been a global trend of peaceful protests in response to shrinking civil space, systemic injustice and compounding economic, social, and environmental crises.¹⁰ The use of new and existing digital technologies on children during peaceful protests raises concerns about the criminalisation of peaceful association, use of force on children, privacy infringements and surveillance.

- **Freedom of peaceful assembly and association:** Peaceful protest is increasingly exercised through online platforms. Children especially have utilised digital spaces as platforms for protest, and for planning and sharing information about upcoming demonstrations.¹¹ There has been a steady increase in States intercepting communications between protestors, censoring information, and removing accounts, which threatens children’s rights to privacy, information, education, and to be heard.¹² Most seriously, during election campaigns and times of conflict and protest, there have been State-mandated internet shutdowns in countries such as Myanmar, India, and Cameroon.¹³ Together, State interferences in digital protest activities threatens children’s rights to freedom of association and peaceful assembly.
- **Violence against children:** Children exercising their rights to peaceful protest have been met by trends of physical violence by policing authorities – including the disproportionate use of tear gas and pepper spray, and technologically advanced devices such as high-frequency ultrasound, flash balls and Taser guns.¹⁴
- **Right to privacy:** Peaceful protestors have also been subject to disproportionate and discriminatory surveillance and digital profiling – including through biometric identification systems and communications interceptions- which may amount to unlawful interferences with children’s right to privacy, and can have adverse consequences as they grow up.¹⁵

Digital Violence against Children

The digital environment has led to new ways to perpetrate violence against children, including online child sexual abuse and exploitation, gender-based violence and child trafficking. These are supported by technologies to facilitate activities including live video streaming, ‘deep fakes,’ non-consensual sharing of text or images, and dark web sites.¹⁶ The digital environment also provides new avenues for armed, violent, extremist and/or terrorist groups to recruit and exploit children as participants, victims, and/or witnesses of extreme violence.¹⁷

Recommendations for Children’s Access to Justice

Applying technology in digital justice spaces must improve children’s access to justice. All stakeholders must carefully consider the impact of new and existing digital technologies when delivering justice for children, to ensure technology is harnessed for good and supports the positive realization of children’s human rights, and the 2030 Agenda for Sustainable Development. Alongside the recommendations outlined in the [Justice for Children Policy Brief on Digital Justice for Children](#), access to justice for children in the digital age must also build on the breadth of relevant legal obligations, frameworks and guidelines already in existence – not limited to the full breadth of international human rights law, SDG16

(particularly SDG16.2 and SDG16.3), the CRC's General Comment No.25 on children's rights in relation to the digital environment, and other relevant national and regional frameworks such as international data protection and privacy law, and the incoming European Union Artificial Intelligence Act.

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¹ Abdalla, H.B., *A brief survey on big data: technologies, terminologies and data-intensive applications*, (2022) *J Big Data* 9, 107 <https://doi.org/10.1186/s40537-022-00659-3>. 4.

² Report of the Special Rapporteur on Extreme Poverty and Human Rights, *Digital Welfare States and Human Rights*, A/74/493, 11 October 2019.

³ Amnesty International. (2018), *Trapped in the Matrix: Secrecy, Stigma and Bias in the Met's Gangs Database*.

<https://www.amnesty.org.uk/london-trident-gangs-matrix-metropolitan-police>

⁴ McHangama, J. and Liu, H.Y. (2018), *The Welfare State is Committing Suicide by Artificial Intelligence*.

⁵ Gillingham, P. (2017), *Predictive risk modelling to prevent child maltreatment: insights and implications from Aotearoa/New Zealand*. *Journal of Public Child Welfare*, (11)(2).

⁶ Turner, A. (2019) *County becomes latest authority to trial predictive algorithms in children's social work*. *Community Care*.

⁷ Hurley, D. (2018) *Can an algorithm tell when kids are in danger?*, *New York Times*.

⁸ *Cit.* 13, p.1-2.

⁹ Berk, R. *Accuracy and fairness for juvenile justice risk assessments*. *J. Empir. Leg. Stud.* 2019, 16, 175-194.

¹⁰ Davidson J, Karadzov D, Collins H, Brown A. (2023), *Complexities of protecting children from violence during the COVID-19 pandemic: Providers' and policymakers' best practices, innovations and challenges in 12 countries*. *Child Abuse Negl.*

¹¹ CRC/C/GC/25, para 64-66.

¹² A/HRC/50/55, para 24.

¹³ A/HRC/50/55, para 24; The Special Rapporteur on the rights to freedom of peaceful assembly and of association stated that shutdowns are in clear violation of international law and cannot be justified in any circumstances (A/HRC/41/41, para. 52).

¹⁴ CRC/C/BRA/CO/2-4, para. 35; CRC/C/FRA/CO/4, para. 47.

¹⁵ CRC/C/GC/25, para 67-78.

¹⁶ CRC/C/GC/25, para 80.

¹⁷ CRC/C/GC/25, para 83.

