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## **Children's perspectives of digital citizenship in India, Korea and Australia: Report of findings from children's digital citizenship and safety roundtables**

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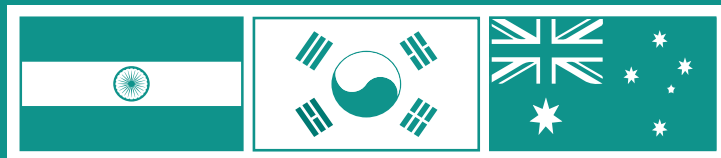
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# Children's Perspectives of Digital Citizenship in India, Korea and Australia: Report of Findings from Children's Digital Citizenship and Safety Roundtables.



**October 2022**

Australian Research Council Centre of Excellence for the Digital Child  
Edith Cowan University





## Foreword

This report of findings is the second outcome of a research partnership between the LEGO Group, the Australian Research Council (ARC) Centre of Excellence for the Digital Child and Edith Cowan University (ECU). This report provides details of the perspectives of children (ages 3 to 13) gathered in roundtables in India, Korea and Australia, and synthesises these research findings with current literature about children's digital citizenship.

### ARC Centre of Excellence for the Digital Child

The Australian Research Council Centre of Excellence for the Digital Child is the world's first research centre dedicated to creating positive digital childhoods for all Australian children. The Centre is funded by the Australian Government through the Australian Research Council, in addition to contributions from sector partners. The Centre's research innovates and intersects across fields of health, education and technology to offer a holistic view of young children and their digital experiences. Centre for the Digital Child researchers are a collective of nationally and internationally renowned scholars with expertise in a range of disciplines, including education, health, developmental science, psychology, sociology, digital technologies and media and communication. The Centre's partnerships with government agencies, technology developers, education sectors, policy makers and community groups help to incorporate real-world insights and closely link Centre research to a wide range of real-world applications.

### Edith Cowan University

Established in 1991 and located in Western Australia, ECU is ranked in the top 2.5% of universities in the world, according to the *Times Higher Education* World University Rankings. ECU's research profile builds on a well-established reputation for high quality teaching, having been the number one public university for teaching quality in Australia (out of 39 Australian universities) for the past 14 years. ECU's rising calibre as a teaching and research institution has also been recognised by its inclusion in the Times Higher Education (THE) Top 100 under 50 list, which distinguishes a new breed of younger universities on a fast track to achieving world class status. ECU's research leverages its unique geographical location, tying the natural environment to the built environment, and is also at the forefront of shaping our digital future, addressing the challenges of the digital revolution.

### The LEGO Group

The LEGO Group was founded in 1932, and is a privately-held, family owned company headquartered in Billund, Denmark. The company's vision is to be a global force for learning through play, and believes that play has the power to transform a child's life. To continue helping children reach their full potential through the development of important cognitive and physical skills, the LEGO Group is committed to innovating LEGO play experiences. A key area of innovations is inspired by the recognition of digital skills as an important 21st century skill for children to thrive in the future. Recent innovations by the company in this area includes the incorporation of digital elements within physical play, development of digital play experiences, and introduction of tools and resources to help build digitally smart children and families who are able to maximise the benefits and minimise risks in their digital experiences. This research project is supported by the LEGO Group's Asia Pacific regional headquarters in Singapore and is designed to enhance the LEGO Group's efforts at bringing the power of learning through play to many more children across the globe, including the Asia Pacific region.

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Associate Professor Lennie Barblett (ECU)

Associate Professor Karen Murcia (Curtin University)

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## Research Ethics

This literature review is part of a study approved by Edith Cowan University Human Research Ethics Committee (Approval # 2022-03255-STEVENSON).

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## Executive Summary

This report presents data and findings from Phase Two of the research project Digital Safety and Citizenship Roundtables. In this phase, which focuses on children's perspectives of digital safety and digital citizenship, three child-focused, play-based roundtables were held in Seoul (Korea), Delhi (India) and Perth (Australia) respectively in the months of June and July 2022, with 48 children in total contributing their perspectives. Qualitative data was collected from these child participants through 90-minute play-based roundtables featuring three sections: a short introductory drawing activity using prompt cards; a discussion regarding the children's understanding of digital citizenship; and a LEGO play activity in which participants were asked to reflect upon the discussion points and respond to this by building a LEGO creation. Ten aspects of digital citizenship were investigated in these children's roundtables: cyberbullying; screentime; digital empathy; digital footprint; digital identity; digital critical thinking; digital friends; digital play; digital safety; and digital privacy. Along with these, researchers also captured children's reflections on the definition of 'digital citizenship'. The researchers would like to thank these 48 children who generously and whole-heartedly shared their experiences of their digital lives with the researchers, and now with the wider world through this report.

## Report Highlights

- No children we spoke to demonstrated a clear understanding of the term 'digital citizenship', and any understanding of this term was limited to their prior understanding of the term 'citizenship'. This difficulty in comprehension was compounded by the lack of a unified cross-cultural definition for 'citizenship'.
- Children we spoke to across all three countries were aware that the internet posed certain risks to them. They also demonstrated an acceptance that negative experiences such as cyberbullying or risky encounters were an inevitable part of the online experience.
- Consistently across all three countries, there was a correlation between increasing age and an increased awareness and understanding of risks such as cyberbullying, as well as an increased sense of how to manage such instances.
- Girls we spoke to were more likely to engage with social media platforms for socialization than boys, who preferred gaming platforms. Thus, the majority of cyberbullying or risky encounters were experienced via these two online means.
- The tablet, smartphone and mobile gaming device were the top three nominated devices that children owned themselves. Younger children (3–5 and 6–10) were more likely to own a tablet, whilst older children (11–13) were more likely to be smartphone owners.
- The most nominated smart device usage across countries was the television, followed by smartphones, then tablets, PCs, laptops, mobile gaming consoles, and fixed gaming consoles. These results include parent-owned devices that children have permission to access. See Table 1 for full device list.
- Parental mediation was present in all countries and age groups, and most present in the 3–5 age group. 23 parents/guardians (or approximately 50% of participants) stated they had specific time limits for screentime, 37% of parents/guardians had rules regarding content, and 27% had rules regarding location of access (e.g., no devices in bedrooms).



- Australian children we spoke to were more likely than Indian and Korean children to approach their parents for advice or help with problems encountered online.
- When discussing cyberbullying, children across all three countries—specifically the older age groups—proposed that bullies lacked empathy, and that perpetrators should be educated to understand real world impacts of bullying others online.
- Whilst children we spoke to expressed a rudimentary understanding of digital footprint as it pertains to data harvesting by sites or apps they use, no children demonstrated an understanding of how their digital footprint or digital identity may help or hinder their social and/or professional reputation in current or future contexts.
- In age groups 6–10 and 11–13, Roblox was the most common game discussed across all three countries, followed by Minecraft. In general, older children discussed playing more on phones and computers, whilst younger children played more on iPads/tablets. No children in the 3–5 groups we spoke to were allowed unmediated access to the internet.

*Table 1: Child's device access from parent/guardian demographic summary*

<b>Child's Total Device Access</b>	
<b>Device type</b>	<b>Number</b>
Smart TV (Parent's own)	45
Smart TV (Child's Own)	8
Smartphone (Parent's own)	28
Smartphone (Child's Own)	14
Tablet (Parent's own)	23
Tablet (Child's Own)	14
Computer (Parent's own)	26
Computer (Child's Own)	3
Laptop (Parent's own)	16
Laptop (Child's Own)	6
Fixed Gaming Console (Parent's own)	7
Fixed Gaming Console (Child's Own)	6
Mobile Games Device (Parent's own)	6
Mobile Games Device (Child's Own)	11
DVD Player (Parent's own)	14
DVD Player (Child's Own)	2
eBook Reader (Parent's own)	5
eBook Reader (Child's Own)	3

## INTRODUCTION

This report presents data and findings from children's roundtables conducted in Phase Two of the research project *Digital Safety and Citizenship Roundtables*, which focuses on digital safety and digital citizenship through stakeholder conversations in three countries—India, South Korea, and Australia. This project is a research partnership between the Australian Research Council (ARC) Centre of Excellence for the Digital Child and Edith Cowan University (ECU), and is supported by the LEGO Group.

By directly seeking children's voices in conversations regarding their experiences of their digital citizenship—defined by the DQ Institute as “the ability to use digital technology and media in safe, responsible and ethical ways” (2019, p. 15)—this research seeks to address current gaps and augment developing literature regarding experiences of digital citizenship in younger age groups, specifically children between the ages of 3 and 13 years old. Aspects of digital citizenship in children's experiences were identified as the ten guiding areas of research interest: cyberbullying; screentime; digital empathy; digital footprint; digital identity; digital critical thinking; digital friends; digital play; digital safety; and digital privacy. Along with these, we also captured their thoughts around the definition of ‘digital citizenship’. These areas of children's digital engagement were identified by the research team utilizing the concept of digital citizenship embodied in LEGO's *Raise Digitally Smart Families* guides (LEGO, 2021a, 2021b, 2021c, 2021d, 2021e, 2021f) which is underpinned by the DQ Institute's *Common Framework for Digital Literacy, Skills and Readiness* (2019).

In Phase two, three child-focused, play-based roundtables were held in Seoul (Korea), Delhi (India) and Perth (Australia) respectively in the months of June and July 2022. (Phase One of the project was an extensive literature review of policy and educational contexts for children's digital citizenship in India, Korea, and Australia). In each country, these child roundtables consisted of the following groups:

- 1 pre-school (ages 3–5)
- 1 primary school (ages 6–10)
- 1 early high school (ages 11–13)

All children's roundtables were attended and supervised by Chief Investigator Dr Kylie Stevenson. In Korea, the roundtables were conducted in Korean language and facilitated by research assistant Dr Yeonghwi Ryu (Seoul). In India, the roundtables were conducted in Hindi language and facilitated by research assistant Shruti Das (Delhi) from the Centre for Social Research (CSR). On site translation was provided to Dr Stevenson in Korea and India. Dr Stevenson was the facilitator of the English language roundtables in Perth, supported by research assistant Dr Kelly Jaunzems. All transcripts were recorded and translated (where applicable) for use in data analysis.

All children's names in this review are pseudonyms (though initials of these pseudonyms have generally been used for brevity) and any identifying personal details (except age and gender) have also been deidentified. (See table 2 below for a list of children's pseudonyms and corresponding initials).

*Table 2: Participant Key (Pseudonyms)*

INDIA		
3–5 years	6–10 years	11–13 years
Name (Age, Gender) Initial in text	Name (Age, Gender) Initial in text	Name (Age, Gender) Initial in text
Daksha (5, M) — D	Deepesh (9, M) —D	Gitali (12, F) — G
Nabha (5, M) — N	Khushmita (7, F) — K	Rishi (10, M) — R
Neeva (4, F) — Nee	Taanu (7, F) — T	Maanika (13, F) — M
Saarya (5, F) — S	Umesh (10, M) — U	Piyali (13, F) — P
Lakya (3, F) — L	Yedhu (9, M) — Y	Nirav (13, M)— N
Interviewer = RA		
KOREA		
3–5 years	6–10 years	11–13 years
Name (Age, Gender) Initial in text	Name (Age, Gender) Initial in text	Name (Age, Gender) Initial in text
Jae-sang (4, M) — JS	Yo-jin (6, F) — Yj	Ye-rim (10, F) — YR
Sun Hee (5, F) — SH	Nam-gi (6, M) — Ng	Sung-won (11, M) — SW
Dasom (5, F) — Da	Bon-hwa (7, F) — BH	Su-mi (11, F) — SM
Hyo-joo (5, F) — HJ	Heejin (7, F) — Hj	Joo-won (11, M) — JW
Min-jun (5, M) — Mi	Chan-woo (9, M) — Ch	Han-na (12, F) — HN
Interviewer = RA		
AUSTRALIA		
3–5 years	6–10 years	11–13 years
Name (Age, Gender) Initial in text	Name (Age, Gender) Initial in text	Name (Age, Gender) Initial in text
Zoe (3, F) — Z	Abhita (6, F) — A	James (10, M) — J
Grace (6, F) — G	Leo (8, M) — Le	Will (11, M) — W
Henry (4, M) — H	Mia (10, F) — M	Sophia (11, F) — S
Amelia (4, F) — A	Lucas (10, M) — Lu	Inesh (11, M) — I
Ivy (4, F) — I	Lily (9, F) — L	
Noah (4, M) — N	Jack (10, M) — J	
Caleb (4, M) — C		
Thomas (4, M) — T		
Interviewer = RA		

## Methodology

Qualitative data were collected from 48 child participants through 90-minute play-based roundtables featuring three sections: a short introductory drawing activity using prompt cards (see Figure 1 for prompt cards); a discussion regarding children's understanding (if any) of digital citizenship and the range of competencies within; and a LEGO play activity in which participants were asked to respond to the discussion points and reflect this in their building activity. Each roundtable featured two short break sessions where refreshments were provided, and children were encouraged to move about the room in a relaxed fashion.



Figure 1: Prompt cards

By including play and drawing activities in the roundtables, and not just a focus on discussion, the researchers aimed to use a range of data capture methods that suited children's literacy levels, established a less formal atmosphere and build rapport with the children taking part. About such play-based methods, Ioana Literat argues "unlike in interviews or focus group sessions where an instantaneous response is expected, the research participants are given time to reflect on their responses, which encourages active conceptualization and contemplation" (2013, p. 88). Additional time for reflection, thought and creativity gave the participants an opportunity to craft a more complete depiction, with the added advantage of more easily navigating literacy, language, and cultural boundaries.

The variation and combination of three activities was also important to the holistic view of the information gathered in the roundtables, as Tay-Lim and Lim argue:

The quality of the dialogical engagement is as important as the drawing itself, and both visual images and the verbal exchanges are central to the children's meaning making process. In the co-construction process, both adult and child are (ideally) equal players and the resulting dialogical process plays a major role in the constitution of the phenomena (2013, p. 65).

Photographs of drawings and LEGO creations were taken and collated with full transcripts of the roundtables. A short demographic summary was also collected from parents/guardians of the participant children which reflected the child's individual and family device ownership or access along with any family rules that may have existed around children's engagement in online activities. (For example, rules around screentime or accessing content).

Once transcripts and drawings were collected, translated and de-identified by research assistants Drs Emma Jayakumar and Harrison See, a thematic analysis of the qualitative data was performed using NVivo software. Thematic analysis and coding were led by Jayakumar and See who applied guiding definitions of each 'code' or area of digital citizenship being discussed, informed primarily by LEGO *Digitally Smart Guides* (LEGO, 2021a, 2021b, 2021c, 2021d, 2021e, 2021f), and the comprehensive digital citizenship competency areas outlined in DQ's *Global Standards Report* (2019). Harrison See also undertook coding tasks relating to the interpretation of children's drawings and LEGO building creations, utilizing primarily children's own descriptions of their drawings within the transcripts of recordings.

## Research Context

The Korean, Indian and Australian children's roundtables were undertaken at the 'Yuseong Education Center' (Figures 2–5), 'Centre for Social Research' (Figures 6–9) and 'Edith Cowan University' (Figures 10–13), respectively. Each of these nine play-based roundtables ran for approximately 60 minutes (not including time for paperwork), with parents or guardians present at the 3–5 and 6–10 age groups. After each roundtable, children received a certificate and a box of LEGO bricks for participating.

It is important to acknowledge the limitation of the small sample size of participants in these roundtables (approximately 15 children in each country; 48 children in total), and that, therefore, findings are less focused on making definitive generalisable conclusions and more about capturing snapshots and insights of these children's lived experiences in relation to digital citizenship. These insights also indicate possible

directions for more extensive future research. Given the opportunity to conduct such future research, we would recommend a larger number of participants across a greater number of locations, as well as investing more time with each group, possibly utilising return visits to examine how understandings of digital citizenship change over time. The relatively small sample size of this research notwithstanding, these initial roundtables did yield rigorous and insightful engagement and discussion with the aforementioned child stakeholders.

The following chapters outline the children's responses to discussions of digital citizenship in the roundtables across India, Korea, and Australia. This includes a general summary of roundtable discussions and commonalities, supported by a range of complementary literature specific to young people's experiences of digital citizenship correlating with our own results.



**Korea** (July, 2022): Yuseong Education Center, Incheon, Seoul, South Korea.

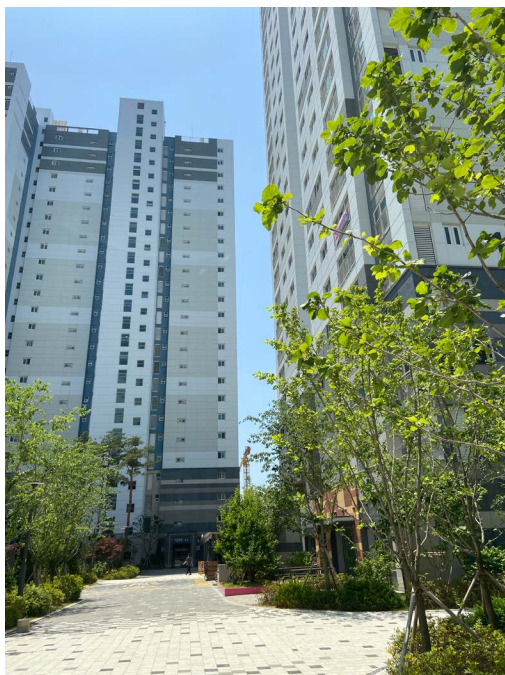


Figure 2: Yuseong district 'new town' [suburb]



Figure 3: Yuseong Education Center exterior view.



Figure 4: 11–13 age group (faces deidentified), Yuseong Education Center.



Figure 5: 6–10 age group (faces deidentified), Yuseong Education Center.



**India** (July, 2022): Centre for Social Research (CSR), Vasant Kunj, New Delhi, India.



Figure 6: Exterior view of CSR from Nelson Mandela Rd. Figure 7: CSR Roundtable room.



Figure 8: India Roundtable 6–10 age group (faces deidentified), CSR.



Figure 9: India Roundtable 11–13 age group (faces deidentified), CSR.



**Australia** (June/July, 2022): Edith Cowan University (ECU) Mount Lawley Campus, Perth, Western Australia.



Figure 10: Building 18 exterior view, ECU.



Figure 11: Building 18 interior view, Australia Roundtable 6–10 age group (faces de-identified), ECU.



Figure 12: Australia Roundtable 6–10 age group (faces de-identified), ECU.

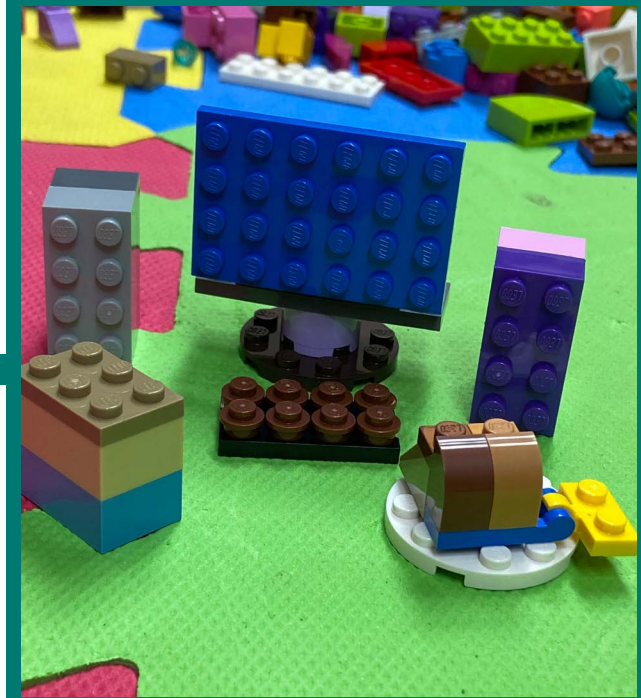


Figure 13: Australia Roundtable 3–5 age group (faces de-identified), ECU.

## UNDERSTANDING DIGITAL CITIZENSHIP



INDIA (3–5): Saarya draws an Indian “girl who’s celebrating Diwali at her home”.



INDIA (11–13): Nirav explains that “this is a PS5. This is a gaming setup - mouse, mouse pad, two speakers, computer, keyboard and CPU”

Digital citizenship as a concept has no singular, universally understood definition in global academic contexts, nor in broader literature. For example, there are recent different definitions of the term digital citizenship by the DQ Institute (DQ Institute, 2019), the Harvard-based Youth and Media Team (Cortesi et al., 2020), ARC Centre of Excellence for the Digital Child academic Michael Dezuanni (2022), the EU Digital Citizenship Education Expert group (Richardson & Milovidov, 2019) and UNESCO (2016). Laure Lu Chen and colleagues (Chen et al., 2021) tracked the overall trends in digital citizenship publications of the last 10–15 years (including a definition of the term), stating that amongst the 114 peer-reviewed articles identified for in-depth review, only 65 defined digital citizenship explicitly. 25 of these 65 adopted a definition provided by educators Mike Ribble and Gerald Bailey as early as 2007 within the Digital Citizenship in Schools series, a North American educational resource series released in 2007 and revised again in 2011 and 2015 (Ribble, 2015). This definition is brief, with Ribble and Bailey defining digital citizenship as “norms of appropriate, responsible behaviour with regard to technology use” (as cited in Chen et al., 2021, p. 10). A further 15 of the 65 utilised a 2007 definition provided in Digital citizenship:

The internet, society, and participation (Mossberger et al., 2007) which defines digital citizenship as the “ability to participate in society online” and digital citizens as “those who use the Internet regularly and effectively” (Mossberger et al., 2007, p. 1). Chen et al. elaborates that seven of the 65 authors used both definitions, whilst a further 18 used the theories expounded within these definitions to “establish their own theoretical frameworks” (Chen et al., 2021, p. 5). Chen’s valuable analysis shows how broad the definition of digital citizenship was as far back as 2007, whilst highlighting the lack of consensus on a singular definition. No children we spoke to demonstrated a clear understanding of the term ‘digital citizenship’, and any understanding of this term was limited to their prior understanding of the term ‘citizenship’. This difficulty in comprehension was compounded by the lack of a unified cross-cultural definition for ‘citizenship’.

## INDIA

Generally, children in the 11–13 group strongly associated the term ‘citizen’ (*Naagrik* in Hindi) with an adult’s residency status, right to vote, their government-appointed identification cards and/or access to social services. Initially these children expressed that, by this definition, they could not be citizens themselves because they were not old enough. However, further discussion revealed that being a citizen also came with an expectation to follow rules and respect others in the community; when asked if they could be citizens by this community-based definition in this less-official context, several children said “yes”. Such a nuanced discussion of citizenship is illustrated in the following exchange in the India (11-13) roundtable:

- RA: So, you said citizens are people older than us. Explain older than us
- G: Older means, according to me, you’ve [got] to be 14 years or older to become a citizen
- RA: Okay! Why?
- G: Because we’re just kids, and you can’t call us proper citizens
- G: Citizens are someone properly following rules, and playing the role of a proper person, a nice person; and according to me it cannot be applied on kids.
- RA: Okay! So you are saying kids aren’t following rules and can’t be considered citizens?
- G: Not like that
- RA: Kids can’t play the role of a proper person?
- G: No, like kids are kids
- G: I feel like people who are 18 years old are proper citizens
- RA: So at 14?
- G: 14 is also, but fully at 18



- RA: So 14 is half citizen?
- G: Yes
- RA: And 18 is full?
- G: Yes! Because at 18 you become an adult, and you start voting and stuff
- RA: So citizenship. Actually, tell me who according to you is a citizen (Naagrik)?
- P: People who live in our community
- RA: And? What do they do in the community?
- Children: \*blank\*
- RA: Do you feel you are a citizen?
- P: Yes
- RA: R, you say?
- R: Yes, even I'm a citizen
- RA: So if you're a citizen, what are its advantages? If someone asks you to prove if you're a citizen of India, how would you prove it?
- N: Through identity cards which government gives us
- P: Like Aadhar Card
- N: Aadhar Card, Pan Card
- RA: So you're saying anyone who has an Aadhar Card is a citizen?
- Children: Yes
- RA: So, if I don't have an Aadhar Card, am I not a citizen?
- G: You are, but you can't prove it

When prompted what citizenship might mean in a digital context, a child offered that it simply meant "being a digital platform user" (N, 11–13).

In the 3–5 age group, children were not familiar with the Hindi term *Naagri* or any translated terms for 'digital' or 'citizenship' from English:

- RA: Okay! So, do any of you know what 'Digital Citizenship' means?
- Children: No
- RA: Okay, do you know what 'Digital' means?
- Children: No
- Nee: It means foot/legs
- RA: Okay! None of you have heard the word 'Citizenship' before?
- Children: No
- RA: Have you heard the word 'Citizen' before?
- Children: No
- RA: Do you know the word Naagrik? (Citizen in Hindi)
- Children: No

When 'citizen' was elaborated on by the RA in the context of an adult's right to vote, the children (3–5) expressed 'citizen' meant an ability "to choose".

## KOREA

Compared to Australia and India, Korean children expressed the least understanding of the term 'citizenship' and offered very little elaboration when prompted about what 'digital citizenship' might mean. However, as suggested in the 11–13 group's discussion seen below, 'citizenship' does not translate from English into Korean with the same nuance or usage. Regardless, when prompted, children in all age groups did acknowledge that being considerate of others online is important but did not specifically associate this with the term 'citizenship'. The term 'citizenship', even in the older group (11–13) in Korea, was not generally understood:

- RA: How can we change this name so it's more friendly to you? It's not a word we normally use, digital citizenship. We don't use 'citizenship' often.
- JW: Sociality.
- RA: Sociality? Digital sociality? Wow, that's great. This ability is important in living a digital society, that's what we can say. Digital sociality makes this concept clearer than citizenship.

Another child (**SW**, 11–13) expressed that digital citizenship could be simply understood as time spent using a digital device. In addition, the notion of being a citizen was associated with behaving like a "grown-up" (11–13), adding (when prompted) that this can be thought of as an important ability to develop when using digital devices.

## AUSTRALIA

In general, the term 'citizen' was understood by the older Australian groups; discussions of 'digital citizenship' were more nuanced in the 11–13 group than the 6–10 group, but almost non-existent in the 3–5 group. Overall, the children's (6–10/11–13) understanding of the meaning of digital citizenship can be summarised as follows: to maintain a respectful awareness of others within the digital community by participating through positive contributions.

In the 11–13 group, digital citizenship was generally associated with respecting others when participating in online communities. Children also raised the notion that digital citizenship did not have to be synonymous with positive behaviour:

- RA: Digital citizenship?
- I: 'Cause being a citizen just means helping with community, it does not mean being nice because you've got people who are super-mean but they're still citizens in our country, they're still citizens for the city. So, I don't think that's the best way to title it.

- RA: Can you think of another word you could use that goes with that definition?
- I: Digital positive citizenship 'cause you've got negative citizenship and positive.

This conversation prompted alternative terms such as: digital positive citizenship (I, 11–13); digital responsibility (J, 11–13); digital respect (S, 11–13). At times, the term digital citizenship was also associated with identity (11–13):

- RA: What do you think it means, Sophia?
- S: Like who you are online and who you are offline like how different it is and what you do online and who you are.
- RA: Who are you online in digital citizenship?
- S: Me?
- RA: Yeah, so if digital citizenship is who you are and what you are online, how are you being online as a digital citizen?
- S: You should be respectful and caring and knowing other people's needs and respecting them and treat them how you would like to be treated.

Children raised the notion that digital citizenship meant following the same rules online as those in the real world; however, a child (11–13) also suggested that these two spaces (online and real world) cannot always be compared due to their inherent differences:

- RA: How would that be different to someone who's not nice to you when it's in person versus being online in a game?
- W: A person online in a game can always contact you in a game but in real life you can't always get contacted by them.

Most children in the Australian 6–10 group had heard the term 'citizen' but could not define it, especially in a digital context; however, when prompted, they associated it with notions of safety, appropriate behaviour and following rules, as well as a responsibility towards others online (digital empathy). This understanding was based around how they felt a person should act in the real world, then translating this understanding into the digital world:

- RA: So, what's appropriate? Tell me what would be appropriate. Jack?
- A: What Leo said, safe.
- RA: So, appropriate would equal safe? What are some of the ways that you can keep safe?
- J: Rules.
- RA: Jack said rules. What sort of rules, do we need?

- J: No, you must obey the law and the law would be like no stealing.
- Le: No hacking.
- J: The rules that we already have.
- M: Yeah, like cyberbullying.
- RA: So, like Leo said, the rules in the real world but in the—
- J & Le: Digital world.

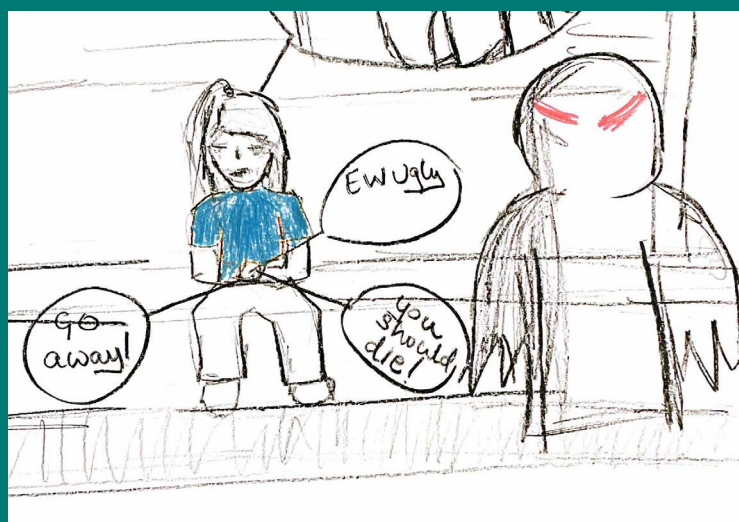
Children in this age group (6–10) also suggested alternative terms to digital citizenship: “appreciative” (J, 6–10); “digital safety” (M, 6–10); and “digital rules” (6–10). Another child (6–10) made an interesting comment that digital citizenship could extend beyond that of their country:

- RA: So just tell us what you’ve got there in your hands at the moment? Is that another forest?
- Le: I tried to make it so that digital citizenship can be everywhere. It doesn’t always have to be in the country you’re in, it can be other places.
- RA: So, is this like a different country with different flowers and plants?
- Le: Yeah.

## SUMMARY

In general, the children’s understanding of ‘digital citizenship’ was limited to their prior understanding of the term ‘citizenship’. Culturally, there is no precise corresponding word for the English term ‘citizen’ in Hindi or Korean. In Korea, even the oldest group (11–13) were not familiar with the Korean translation of ‘citizen’, which is closer in its meaning to the English term ‘sociality’. Regardless, when prompted by the research assistant (RA), a basic understanding of what it meant to be a ‘good citizen’ in terms of ethical and law-abiding behaviour was universal in the older groups (11–13) across all three countries. It is perhaps unsurprising that children’s understanding of the term digital citizenship is not broader, due to the relative sophistication of the term ‘citizen’ and when considering less developed literacy comprehension levels of children, particularly in the youngest 3–5 groups, even without the complex cultural translation issues. The lack of children’s understanding of this term—as well as the partial incommensurability of translating ‘citizen’ and/or ‘citizenship’ across languages—are phenomena reflected in the aforementioned literature.

## CYBERBULLYING



INDIA (11–13): Gitali explains that "I drew this to show that a girl posted her pictures. People started saying you're ugly, go away; [it's] cyberbullying".



AUSTRALIA (11–13): Will explains that "[it's] this person [who] tried to stalk me and I just decided to leave the game and then they somehow managed to find me all over again".

The Child Online Safety Index (COSI) reports that owning a smartphone increases children's risks of cyberbullying, reputational risk, risky contact, exposure to sexual or violent content, and a risk of gaming disorders by 20%; adding that this risk level is increased by 40% for those highly active on social media and participating in online gaming (DQ Institute, 2020). This correlation between the risk of cyberbullying and access to a smartphone was reflected in our small pool of participants; however, instances of cyberbullying were not exclusive to smartphones. Further, participants reflected similar gender-based results of recent studies regarding children's encounters with cyberbullying in both Korea (UNESCO, 2019) and Australia (eSafety Commissioner, 2018); namely, that girls were more likely to encounter cyberbullying through social media and chat app participation, and boys more likely to encounter cyberbullying or abusive behavior through their participation in online gaming platforms where chat features were enabled.

Across all age groups and countries, instances of cyberbullying were generally discussed as one of two overarching scenarios: 1) occurring online between children—mostly in the context of school peers known in the real world—via social media and messaging apps; 2) occurring between children and those encountered solely online—via online games (in the chat function) or social media platforms. The first scenario was discussed as an extension of typical real world bullying, though also blurred into discussions about personal online conflicts between peers or friends. In



the second scenario, games nominated by children where they encountered bullying or hacking attempts included Roblox (the most prominently mentioned), Minecraft, and Garena Free Fire.

## INDIA

Examples of cyberbullying in the India roundtables included a robust discussion in the 6–10 age group exploring friendship dynamics at length (like petulant or grumpy behavior to them in the real world because of gaming events) and aggressive behavior toward each other whilst gaming. In the 11–13 age group, one child in India even admitted to being the perpetrator of bullying online, for which he had been reprimanded by adults. Another discussed being approached by an anonymous person in a gaming chat thread whilst he was playing an online game on his phone, so when the game started “hanging” he exited the platform fearing his phone was being hacked. Indian children in the 6–10 and 11–13 group we spoke to were more likely to *engage* with a bully by responding defensively through chat features but expressed a greater reluctance to tell their parents or guardians about instances fearing they would get into trouble. One child in the India 3–5 group recalled an instance where a child “spoke badly to him” when they were playing a game on a smartphone. The child did tell their parents and “broke my friendship” with the other child. The older group of Indian children (11–13) described being taught at school about the prevalence of cyberbullying:

RA: Have you ever heard that things like bullying happen?

P: Yes, we had a session in school where we didn't know people as we connected with them online. Through that session, we got to know that there are many people who have been bullied in school, homes, public places

In the drawing activity, a girl in India (11–13) responded to the idea of cyberbullying and drew a scene as described below:

G: It's quite a dark drawing

RA: I can see that. What is she doing?

G: She's trying to cut herself [...]

RA: So, G chose the card where two people are quite sad, so what did you make?

G: I drew this to show that a girl posted her pictures [and] people started saying you're ugly, go away; cyberbullying. She's at a bus stop (if you can't tell) so she has been thinking to do something bad.

[Note: the RA clarified that this was the girl's imagined situation to illustrate cyberbullying, not a real world situation that had happened to the girl herself.]

It is reasonable to surmise that gender-based results regarding trends in cyberbullying would be similar in India to those reflected in Korean and Australian studies, because the recent Global Kids Online initiative India Kids Online (Pathak-Shelat et al., 2022) mirrors gender-based technology usage patterns: girls surveyed (age range between 9 and 18) reported increased socialization experiences via social media such as *Snapchat* and *Instagram*, whilst boys in the same survey indicated multiplayer gaming platforms as their principal means of socialization. In a complementary India Child Protection Fund (ICPF) report into child sexual abuse material in India, 24% of Indian children reported they had been a victim of cyberbullying, whilst a greater number (57%) admitted to bullying others on social media (ICPF, 2020). As Indian girls are reported to have less access to digital devices and heavier mediation of their free internet browsing time (Pathak-Shelat et al., 2022), it is also reasonable to suppose that their access would be restricted to a shared device in the home as opposed to a gaming platform (which requires access to a fixed gaming device or computer), and these shared devices in India are overwhelmingly smartphones (Pathak-Shelat et al., 2022). Our own small pool of data correlates with these levels of device access by Indian children, with children in the India roundtables more likely to have a single device in the home (a smartphone or mobile phone) that was shared.

## KOREA

Similar to the Indian children we spoke to who engaged with bullies by responding defensively through chat features, two Korean children aged 6–10 described helping a peer stand up to bullies online, one by reporting the bully, and the other by personally reprimanding the bully via the chat function:

- SW: I was playing a game with my friend, and some weirdo entered the chat and started swearing at my friend. So I told him to leave but he didn't, so I kicked him out to help my friend.
- RA: Kicked him out? How? By voting [reporting]?
- SW: No, on Minecraft.

Two 11-year-old males in the Korean group recounted stories of accepting a friend to play within a game who then demanded “items” from them; when their demands were ignored, they began pestering them with bad language. Korean children in the 11–13 age group told us they preferred real world friendships to online friendships, as online ‘friends’ were “good on the outside, but [you] don't know what's going on inside” meaning they were wary of trusting those they had never met in person. The

significance of self-taught management of situations such as this when accessing technology, and advice from peers, was noted in the two older Korea age groups. The largely self-taught and peer-based nature of technology access and skill development in Korea is also reflected in the Digital Kids Asia Pacific (DKAP) report (UNESCO, 2019). Korean children we spoke to seemed to prefer to engage, ignore or self-manage situations (like reporting or blocking personally) rather than approach a trusted family member for help or advice. This correlates with the DKAP survey results of Korean children's responses to instances of cyberbullying, where only 24% of children nominated an approach to a parent or caregiver to help them with a cyberbullying issue, with 66% per cent saying they would block and report the person themselves, 47% of children saying they would approach police before parents, and before teachers (15%) (UNESCO, 2019, p. 40). No children in the 3–5 group mentioned an instance of cyberbullying, but did mention playing games on a phone, watching TV shows on a phone, or watching YouTube on a tablet with a friend. It was less clear whether this was supervised by their parents, or whether the device they used was their own, although one child did have access to their own smartphone. Only one parent/guardian specified a time limit (1 hour each on Korean language and English language animation viewing only). This was the only self-nominated parental mediation in terms of explicit rules around device usage.

Interestingly, Korean children we spoke to referred to cyberbullying as 'cyber violence' (the terminology they were taught in school) and it was often discussed as instances of inappropriate or aggressive language during online gaming:

- RA: That's exactly the word! Cyber violence. Have you seen cyber violence around you? Or heard of it?
- Children: Yeah.
- RA: What kind of stuff?
- JW: Cursing in a game.
- RA: Yeah, people fight and curse when playing games.
- JW: Right

Multiple children mentioned that the chat function in games was a source of inappropriate or aggressive language, for example in the Korea 6–10 age group:

- Ch: So I don't use the chats often.
- RA: Is that the problem too, so many bad words in the chats?
- Ch: Yeah.

## AUSTRALIA

When children from Australia in the 6–10 age group were prompted about where they learned to navigate cyberbullying, they specifically acknowledged parents. This correlates with research from the University of Western Sydney's Young and Resilient Research Centre (Moody et al., 2021) who note Australian children's tendency to seek a trusted adult in their family circle before others when encountering problems like cyberbullying. Reflecting a similar gender split in terms of where cyberbullying was encountered, one Australian boy we spoke to in the 11–13 group discussed a pattern of bullying behavior toward him on a gaming platform by an anonymous person he suspected was a friend in his real world social circle, and another Australian girl in the 11–13 group discussed an ongoing issue with a friend from school which extended into hurtful text messages she received at school and after hours. Australian children aged 6–10 nominated several protective behaviors like blocking people, taking screenshots of messages, and approaching parents and teachers for help with cyberbullying issues, as well as comprehensive knowledge of protecting their personal information by using a password and a pseudonym when playing a game, and never giving out their location (such as where they go to school or their geographical or IP address).

- RA: So, you use your mum or your parents' advice. Great. Lucas, what do you do?
- Lu: Well, if you use a game [Roblox] we used to have – my school, we used to have teachers advise us about going online and telling us about cyberbullying.
- RA: Did they teach you how to know what a cyberbully was and what to do?
- Lu: Yes, a cyberbully is when they swear at you or something online.
- RA: So, a cyberbully is someone who swears at you when you're online?
- Lu: Also, something like [they] say something really bad and offended you.
- RA: Okay so they can say bad and offensive things. Okay. Did they teach you what to do? What do you do?
- Lu: I heard on Roblox you can report them.
- RA: Right, so there's a way to report them in a game.
- Lu: Yes, and just either leave – do something else-
- RA: Okay so you can walk away.

Children in the 11–13 group understood their increased time online also increased their chances of being exposed to abusive behavior or risky content, or to being “stalked” but also displayed a good understanding of protective behavior like reporting, blocking, or creating a stronger password or changing their password to reduce the risk of being “hacked”.

One Australian boy we spoke to described his experience of friends and cyberbullying in school:

- I: I was with a couple of friends. Oh well, so one of my friends in class said the wrong – he said something wrong, and he was getting bugged by these kids and then something else went wrong, I don't really know and then he started crying and another friend of his was also involved so they both started crying. Then I was there saying 'leave them alone', but they posted it on the internet and shared it and then they shared it about 50 bagillion times.
- RA: What did they share it on?
- I: I don't know what they shared it on 'cause I don't have any Instagram or something like that so they just showed me online, they went hey, look at your dorky friends doing this. It was like Instagram or Facebook or Twitter or something like that.
- RA: When they were showing you, were they showing you on their phones or something?
- I: Yeah, phones.
- RA: Was that at school or was that when you were playing?
- I: It first started up in school, but you're not allowed phones in school, so they posted it outside of school.
- RA: So, they showed it to you when you were at school.
- I: Yeah.

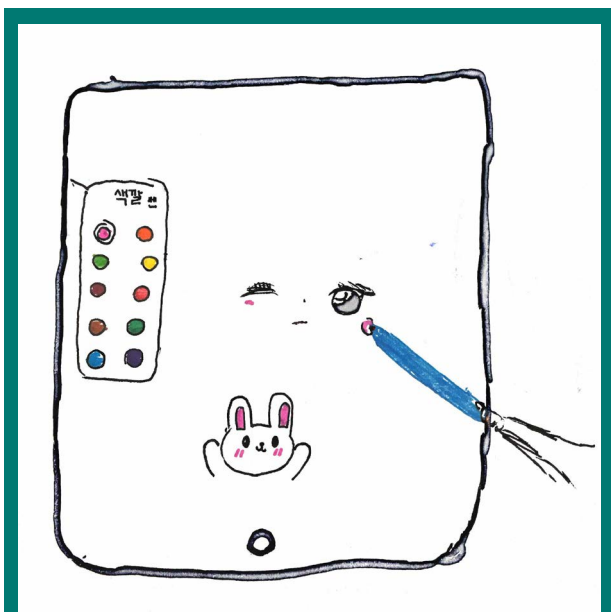
## SUMMARY

Across all three countries, older participants (11–13-year-olds) possessed a significantly more nuanced understanding of cyberbullying behavior than younger participants. The older children displayed comprehension that cyberbullying could also include the sharing of content that was intended to be private and extend to the solicitation of private material from friends as well as strangers (like personal details and explicit images). 6–10-year-olds had some vivid accounts but they were more centered around school peer group disagreements. The younger children (the 3–5-year group) displayed a basic level of understanding of the expectation to behave kindly toward others whilst using technology, but the majority of 3–5-year-olds we spoke to did not have unsupervised access to internet browsing time, or the opportunity to interact socially with others in online contexts. Parental mediation was significant in this category, as were reduced incidences of personal device ownership, or unmediated access to a parent's device. Across all three countries, the children we spoke to suggested that cyberbullying encounters were an inevitable part of the online experience. In Australia and India, discussions were centered around social media and messaging, while Korean and Indian children were also vocal about online

gaming experiences. Consistently across all three countries, however, there was a correlation between increasing age and an increased awareness and understanding of cyberbullying, as well as an increased sense of how to approach such instances. Further, as the age cohort of groups increased, so did the frequency of children volunteering personal experiences—or the experiences of peers—of cyberbullying. In general, when instances of cyberbullying were discussed, children presented a spectrum of sophistication of coping mechanisms across the three countries, with children in Australia presenting the most sophistication, and India the least.

Children who discussed solutions from across all countries commented that, depending on the severity, they would consider involving friends. In India and Australia, they also mentioned involving adults in positions of authority (parents, teachers, or police) when additional concerns of security or privacy emerged. When discussing cyberbullying, children across all three countries—specifically the older age groups—proposed that bullies lacked empathy, and that perpetrators should be educated to understand real world impacts of bullying others online. These discussions implied that if cyberbullies were confronted with the real world impacts of their actions, they might reconsider. Even in the youngest age groups, roundtable discussions suggested that children understood that digital experiences had some consequences in the real world.

## SCREENTIME



KOREA (11–13): Su-Mi explains how she spends her screentime drawing; “I draw with a pen, then save the images, and sometimes show my friends”.



AUSTRALIA (6–10): Mia explains that “I’ve made a device that means there’s like a lock on it”.

Children's digital media expert Professor Sonia Livingstone has long argued for “consideration [of] any evidence for the educational, social or civic benefits of screen use” (2019) along with consideration of health impacts. Yet, children's ‘screentime’ continues to be predominantly understood in the general populace as something to be monitored, and in many cases limited. The DQ Institute's (2019) framework includes an association between monitoring screentime and a “balanced use of technology” (p. 20). However, Livingstone suggests that we need to go beyond the concept of screentime because “the focus on time measurement precludes attention to the quality of a child's engagement with the screen; it does not, in fact, help parents either in skilling their child for a digital future or building their resilience to technologically-mediated harms” (Livingstone, 2021, p. 99). Whilst some latest research argues that spending time online can boost children's wellbeing (Milosevic et al., 2022, p.1), the mental and physical impacts on children associated with excessive screentime are currently identified in other research in both India (Gupta, et. al, 2022) and Australia (Nathan, et. al, 2021). Research also acknowledges the unavoidable situation of increased screentime as a result of COVID-19 (Coles et al., 2022), while excessive screentime as addiction has been actively recognised by the Korean government since the early 2000s (Kim et al., 2014).



When discussed, the concept of 'screentime' was generally understood across all three countries as the amount of time spent on any digital device. However, this understanding was mostly associated with time spent on tablets and phones, followed by computers, with TV mentioned the least. Interestingly, the demographic summary we collected showed that although the smartphone was the most used device to access the internet, a smart television was the second most commonly listed device in terms of ownership in the home (including in India). This is perhaps due to a misunderstanding of the definition of the term 'screentime', which children may have only interpreted as time spent accessing internet based online content such as games, browsing activities such as scrolling social media and online content, or devices themselves (computers, tablets and phone screens) and not time spent in front of a television screen watching free to air or streaming platforms (like Netflix, Disney+ or Prime) or videos on free platforms like YouTube.

Within the demographic summaries completed by parents/guardians in all three countries, screentime was the most mentioned subject of parental mediation, with 23 parents/guardians (or approximately 50%) stating they had specific time limits for screentime. The next rule was regarding the mediation of content viewed by children with 37% of parents/guardians doing this (for example, allowing only an educational program, or a limit of one movie or three episodes of a particular show), and lastly the location (27%) of access (for example, "no screens in bedrooms" or "[must be] in a common family area"). In Australia, many children noted that their parents had explicit parental controls/filters on devices.

## INDIA

Fathers tended to be nominated as the gatekeepers of children's digital access by the Indian children we spoke to. This is perhaps unsurprising as mobile ownership and broadband subscriptions are overwhelmingly held by men in India (TRAI, 2022). Increased instances of shared device access in India (sometimes one device per family) means children would generally be negotiating access to a device owned most likely by the older male of the family; in Indian contexts, gender mediation reflects a more watchful eye on what female children are accessing and contributing as content producers online, than their male peers (Bhatia et al., 2021; Bhatia & Pathak-Shelat, 2019). The Indian children we spoke to mentioned that tension existed between siblings competing for access to limited household devices and was mentioned as a source of conflict between parents and older children, whereby parents did not wish it to interfere with children's study commitments. The following example from the 11-13 group illustrates this point about parents' roles in mediating their digital experiences:



- RA: Okay! So what are you scared of? Parents will scold, but what is it in particular where you know they will scold?
- R: Phone
- P: Less marks in exams
- RA: R, what about the phone?
- R: If I use the phone for a long time, then my brother complains to my Dad
- P: And for playing games on phone [...]
- RA: For how many hours can you use the phone at a stretch or in a day?
- N: One and a half hour
- M & P: \*shocked\* that's it?
- P: I can use it for the whole day. Till the time mum doesn't scold
- N: On one website
- RA: In a day?
- N: Then, 5-6 hours
- R: 1 hour
- G: 24 hours
- M: Same, 24 hours
- P: Till my mum scolds me
- R: 2 hours
- P: That's it?
- RA: R, then why do you get scolded?
- R: That's when the time extends from 2 to 4 hours

Screentime was not discussed at all in the India 3–5 or 6–10 age groups, which may be due to a lack of access to devices at younger ages or negotiated/shared device usage limiting screentime.

## KOREA

Mothers were predominantly referenced in Korea as gatekeepers of children's screentime with one child in Korea (6–10) mentioning they played on smart phones in secret when possible, whilst another child in the 11–13 group joked that if his mother didn't control his usage, he would be on the internet for "7 hours" every day.

- RA: How much time do you spend a day in front of a computer?
- SW: Just computer?
- RA: Computer and phone both.
- SW: About an hour or two?
- RA: Who decides the time for you?
- SW: I do.
- RA: Oh, so your parents don't set the time for you. You do it yourself, Sung-Won?

- SW: They do set the time for me, but I just stop.  
 RA: (Chuckle) Then if you can choose, Sung-Won, how many hours would you spend?  
 SW: One hour  
 RA: Why?  
 SW: Less than that is too short.  
 RA: But don't you want to spend more time?  
 SW: My mum would scold me.  
 RA: So if your parents don't scold you.  
 SW: If they don't, 7 hours.

Another girl in the same 11–13-year group told us that she had negotiated with her mother for gaming time on weekends only, if she didn't play at all during the week:

- YR: Um... I play only on weekends, so I don't play games much with friends.  
 RA: I see. Why only on weekends?  
 YR: My mum tells me I can play games on weekends, but not on weekdays because I have homework and studies to do. But I play a lot on weekends.  
 RA: Oh, so you negotiated with your mum. Don't you have any complaints about that, Ye-Rim?  
 YR: No, not really.

There was a detailed discussion around time limits for screentime in the 6–10 group where all children indicated rules around screentime:

- RA: Nam-gi, when do you play games, then?  
 Ng: When playing Pokémon. How long do you play Pokémon a day?  
 Ch: 5 hours?  
 RA: 5 hours?  
 Ch: I don't play.  
 Ng: Endless.  
 RA: Guys, I'm curious. You can play games endlessly?  
 Ch: No, I play for an hour, and take a break for an hour.  
 RA: How do you set the rules?  
 Yj: I can play an hour, too.  
 Ng: I take a break endlessly and play endlessly.  
 RA: BH-yi, how about you?  
 BH: I only play on Saturdays and Sundays.  
 Ch: There are rules.  
 RA: Yo-jin, do you have a game, too?  
 Yj: I don't play games.  
 Hj: I can play on Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday. But there are rules.

- RA: What's that?
- Hj: I have to study.
- Ch: Of course, you have to.
- Yj: I have to do what I have to. That's the only rule for me.
- Ng: No rules for me.
- Ch: Because you're in kindergarten.
- RA: Chan-woo, you didn't have rules in kindergarten?
- Ch: I did some workbook stuff. I still do that, a little.
- RA: But guys, who set those rules?
- Yj: Mummy
- Ch: Mummy set them.
- RA: Raise your hand if your mum set them. {Most children raise their hands.} BH-yi, who set the rules for you?
- BH: Mummy and Daddy told me to play games only on Saturdays and Sundays, because I play too much.
- RA: Then guys, if I told you to set your own rules, what would you do?
- Ng: I don't know.
- Hj: I'll say I'll play only on Saturdays and Sundays. But Mum tells me to study. So I study only on Saturdays and Sundays, in the evening.
- Ch: During breaktime. I dance, play with toys, and dance all I want during breaktime, so it's fun.
- RA: It's fun even without playing online games, right?
- Hj: I'll say I'll play only on Saturdays and Sundays.
- RA: How about now [weekend]?
- Hj: There are no rules now.

The idea of screentime having impacts on physical health was also mentioned by children in the 3–5 Korea group we spoke to, who discussed playing with smartphones:

- HJ: Smartphone!!
- RA: I play with my smartphone. Who here has played with a smartphone?
- Da: I did yesterday.
- RA: Yesterday. Min-jun and Jae-Sang, have you played with a smartphone?
- JS: In secret?
- Mi: Teacher [referring to the RA], I... Come on! I played with smartphone like... more than 100 times.
- RA: More than 100 times?
- HJ: Teacher, I.. uh....
- Mi: You can't remember!
- HJ: I played with a cell phone in secret.
- Da: Teacher, if we use the phone longer than we should, our eyes get really red.

Children in the 11–13 group commented that they had been taught about “overdependence prevention” (excessive screentime) as part of digital education classes at school. This correlates with findings of the DKAP report on Korean children’s screentime activities, where up to a quarter of students surveyed spent more than 5 hours a day on screens, with a further half of this number in excess of 7 hours (UNESCO, 2019). However, more positive aspects of screentime also emerged clearly in Korea, with screentime discussed as a real world, shared social experience; for example, sharing a screen between friends at school (Korea 11–13), or between a mother and child (Korea 3–5). The notion of screentime as a form of relaxation and solace also emerged (Korea 6–10). The 2019 DKAP report showed that, whilst frequency of use did correlate with higher levels of digital literacy, participation and agency, it also increased children’s risks of being exposed to harmful content. DKAP goes on to recommend a balanced approach to increased screentime and pointed to detailed data collected from students completing the OECD Programme for International Student Assessment (PISA) that makes connections between young people’s excessive screentime (in excess of 6 hours per day) and decreased life satisfaction (OECD, 2019, pp. 164–165).

## AUSTRALIA

Australian children in the 11–13 group and 6–10 group categories displayed an understanding of the definition of screentime, without elaborating greatly on their own experiences of potentially excessive use. One child in the 3–5 category noted that she was not allowed to be on her tablet after 5.30pm, whilst another child in the same group told us he needed permission from “an adult” before accessing his iPad.

Ne: What’s one of our rules? Is that something? So what’s a rule that we’ve got?

R: Can I tell you something Caleb just said?

RA: Yeah, can we hold off for Grace?

R: Sure.

Ne: No iPad after 5:30. [Grace’s parent responded on her behalf]

I: Okay, right so Grace’s got a rule where it’s no iPad after 5:30.

[....]

RA: Caleb, you had something to tell us. Do you want to tell us?

C: You have to tell an adult if you wanna play with a iPad

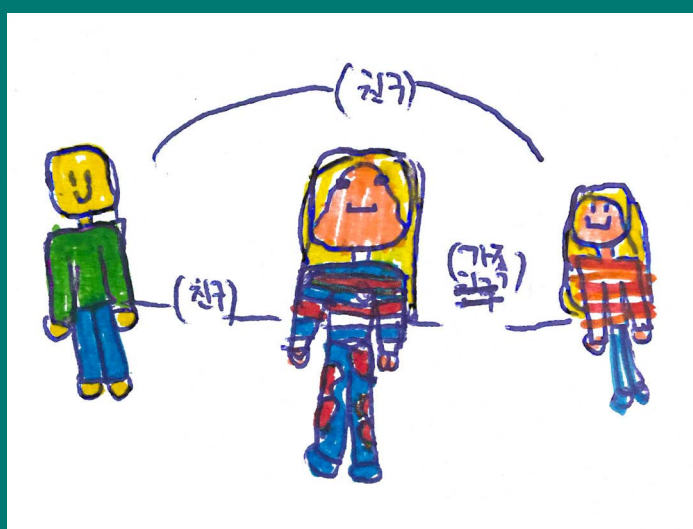
Parental mediation and time limits were frequently mentioned in Australian roundtables, and both parents or guardians were specified when it came to assigning or negotiating screentime. The majority of Australian parents/guardians that we collected demographic summaries from had rules around the amount of time spent on screen, many of whom specified they had relaxed these rules (particularly around time limits) as their children got older, or when they were given their own phone. In Australian cases, this was generally around the time a child went to high school (11–12 years of age). These levels of parental mediation of screentime indicate that it is an issue of concern for the majority of Australian parents/guardians. Recent data released by the Gonski Institute's *Growing Up Digital (Phase 1)* (GUD) study reveals concerns from 1,876 Australian educators about their students' increased psychological, social, and behavioural challenges over the last 3–5 years caused by what they see as the "growing distraction in the learning environment" of digital technology. The report further articulated these challenges as a decline in students' overall readiness to learn, a decrease in ability to focus on educational tasks, and the increase in students arriving tired to school, as well as an increase in the late completion of homework (Graham & Sahlberg, 2020, p. 2). GUD cites a Melbourne Royal Children's Hospital report (Rhodes, 2017) that claims 26% of children surveyed had sleep problems related to excessive screen use, and the majority of children were exceeding Department of Health guidelines that recommend no more than 2 hours of screentime per day. The GUD report did also stipulate that teachers conceded that digital technology had also enhanced children's learning in school settings, but indicated their concerns about how children's use of gaming devices, smartphones and other technology in after-hours settings impacted negatively on their school participation and performance (Graham & Sahlberg, 2020, pp. 26–27).

## SUMMARY

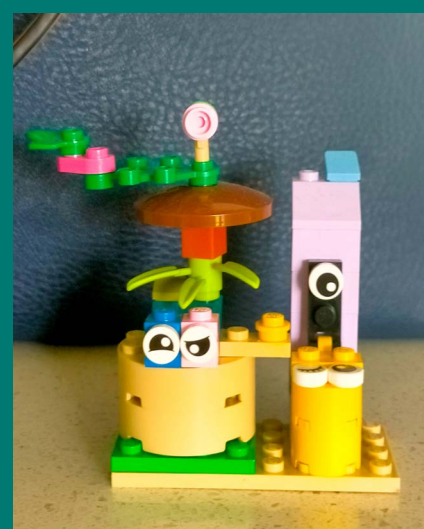
Across all three countries, screentime was discussed more frequently, and in greater nuance, in the 11–13 and 6–10 groups. In general, and when discussed, the children's access to screentime was determined by parents; anywhere from 1–5 hours a day, with longer screentime generally allowed in Korea and Australia than in India. In the younger Australian groups, and to a lesser extent the Korean groups, parents governed access almost completely by controlling device access and/or setting rules; however, this was made less clear in Indian instances. (The family rules section of the demographic summary was left blank as these were completed by a guardian). In older groups we spoke to, the dynamic with parents became more of a negotiation of screentime around study commitments. Of further interest, there was a consistent trend amongst the children we spoke to for increased access if allowed. This want

for more access was a source of tension between children and parents across all three countries; however, this tension was more prevalent in Korea and India, and particularly concerned screentime's impact on study commitments. Further, it was the notion of screentime—in relation to the other codes—that parents were most invested in (and able to) intervene concerning children's online experience. It is surmised that this increased intervention is because screentime is an entirely physical variable able to be mediated in the real world.

## DIGITAL EMPATHY



KOREA (11–13): Ye-Rim draws the connections between people online.



AUSTRALIA (11–13): Sophia explains that “this is my bully detector for online... If you aren't a bully, it will turn the green bit but if you are a bully, it will turn to the pink and then it will kick you out.”

Notably, in the literature, it is within the call for greater digital citizenship education that the notion of empathy emerges in the context of a more holistic view of online engagement, and of developing and encouraging positive citizenship attributes in online contexts. Digital empathy as a concept in literature and research emerged primarily in psychological literature at the turn of the 21st century in conjunction with the online disinhibition effect, defined by John Suler as an individual's tendency to “self-disclose or act out more frequently or intensely [online] than they would in person” (Suler, 2004, p. 321). As Christopher Terry and Jeff Cain elaborate:

The online disinhibition effect applies to all individuals regardless of ethical and moral character. Even those of high moral judgment and character can subconsciously devolve into a more pernicious state when they psychologically disconnect their words from their actual being. In essence, the subconscious psychological factors associated with the online disinhibition effect negatively impact the likelihood that empathy will be expressed in digital environments. (Terry & Cain, 2016 para 9)

Digital empathy education advocacy is prevalent in literature searches within adult or practitioner medical and psychological contexts discussing the online disinhibition effect (including about comment posts on online articles, on social media and cyberbullying in general) (Joinson, 1998; Joinson, 2001; Suler, 2004; Terry & Cain,

2016); but not as a singular concept within child online participation research. The exceptions are articles advocating for digital citizenship education, which invariably include an empathy, kindness or 'values' component (Richardson & Milovidov, 2019; Richardson & Samara, 2021). Of particular relevance to this study are research reports that review digital citizenship frameworks, many of which advocate for model citizenship behaviour (including empathic behaviours), most notably the DQ Institute's Global Standards Report (2019), the Harvard-based Youth and Media Team's Digital Citizenship + (Plus) (Cortesi et al., 2020), and the Digital Kids Asia-Pacific report (UNESCO, 2019).

## INDIA

Along the same lines, a girl in the Indian 11–13 group made some insightful comments about the importance of both educating the bully by “putting them in others' shoes” and encouraging victims of bullying to speak up against the behaviour.

RA: So according to you, what should be done about it?

P: It's important to make the bully understand that what they're doing is wrong. The one who's getting bullied isn't at fault, but they should complain if they are getting bullied. But sometimes, people who get bullied ignore it, which is fine, but not to an extent that harms them. At first you can ignore it, but if it doesn't stop, they shouldn't just keep on ignoring it.

RA: So you're saying the bully should be made to understand?

P: Yes. Through ideas or showing them something, it's important to make bullies understand. It can also be explained to them that this is wrong by putting them in others' shoes. Explaining it to them through real life experiences might help

## KOREA

One child (6–10) in Korea discussed an instance of supporting a real world friend during instances of cyberbullying by helping that friend realise that they were not showing empathy towards another. The notion of empathy in Korea was also discussed most often in the context of online gaming. Specifically, a child (11–13) discussed how they witnessed, while gaming online, how other players shared in-game resources to help new players. Children also expressed that thinking of others online was linked to notions of responsibility and leadership during multiplayer online gaming (6–10). As a counterpoint, another child (6–10) recalled an instance of a friend showing a lack of empathy towards them in the form of poor sporting behaviour; while another (6–10) admitted that they never thought very much about others during gameplay



since people online can't be trusted. This was not in a malicious way, but rather they chose to value their safety and privacy over considerations of anonymous others. The generally insightful conversations about digital empathy in all Korean age groups is reflected in data about Korean children surveyed in the DKAP report, whereby they had the highest results for knowledge and application of 'netiquette': "ethical and courteous behaviour that informs their choices when interacting and engaging in different digital environments with different individuals and audiences" (UNESCO, 2019, p. 42).

## AUSTRALIA

Specifically in the older Australian (11–13) group, the value of educating kids from a young age about empathy online was mentioned, suggesting that some users might simply not know that their actions cause harm or hurt to others online. This was discussed when mentioning that their teachers had talked to them in school about online risks; the children (11–13) added that they were taught by teachers to be cautious, but also considerate to others online. One Australian child (11–13) we spoke to used the following metaphor for the importance for kindness online:

- I: It's like LEGO 'cause you got the main little map and you got a tower, you take the bottom – no, you pile up stones into a tower – I don't have any stones – and then what happens if you take the bottom one out?
- RA: So everything falls down.
- I: That's what happens if you're not positive.
- RA: That's a really good point

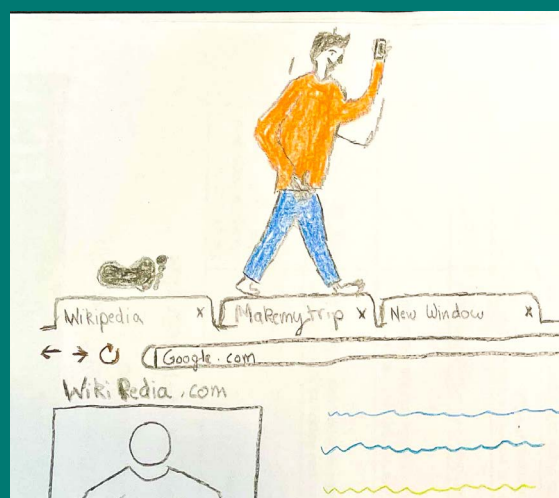
## SUMMARY

Across all three countries, the notion of empathy was generally discussed in relation to cyberbullying. It was generally the older age groups who had experienced or witnessed cyberbullying who had more to say. In addition, the term empathy was not universally understood and often required defining in relation to better known and/or more accessible synonyms such as "kindness" or "respect"; this was particularly the case with younger age groups. Once prompted, an understanding was expressed even in one of the younger age groups (Australia 6–10) that the internet innately has the potential for good as well as bad experiences. A lack of kindness online [digital empathy] was depicted as an "everyday occurrence" in one of the children's drawings, while stipulating their decision to perpetuate the good (AUS, 11–13). This potential for

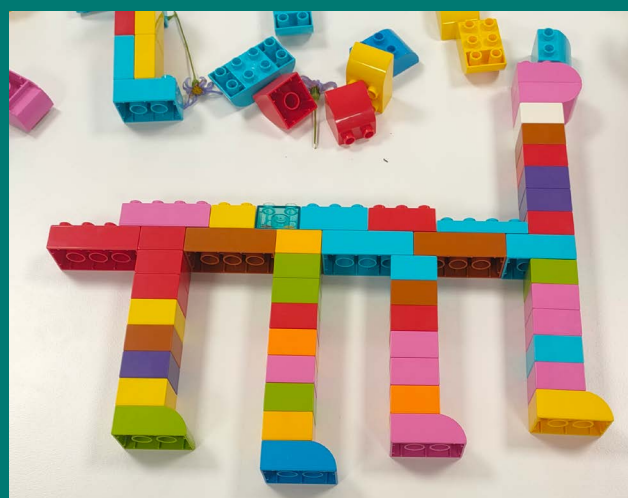
both good and bad experiences was recognised in the older groups (11–13) across all three countries but elaborated on with the notion that kindness towards others should be a priori knowledge to all users. Children in both India (11–13) and Australia (11–13) specifically asserted that an expectation of kindness in real life should be automatically carried over to digital spaces. Also in both India (11–13) and Australia (11–13), children expressed strong feelings that cyberbullies lacked empathy and should be made to understand the impacts of their actions online. Children suggested teaching digital kindness would propagate further kindness.

It is surmised from these roundtables that the notion of 'empathy'—or rather one of the more child-friendly synonyms such as 'kindness'—is well understood and valued by children in real world contexts. In some cases, however, discussions revealed a disconnect when translating this real world concept into digital spaces, likely due to the inherent anonymity afforded to users by online platforms. Therefore, developing digital empathy as a skill would aim to better translate children's already established attitudes towards others in the real world into digital spaces, while still maintaining an awareness of online dangers. This suggests that inculcating 'digital empathy' into children's digital education would deter cyberbullying, something that is reflected broadly in the literature.

## DIGITAL FOOTPRINT



INDIA (11–13): Nirav explains how his drawing shows “a person going from one website to the next, making footprints wherever they are going”.



AUSTRALIA (3–5): Noah explains that “I’m going to do a Brontosaurus ... I’m doing a dinosaur with a very long neck”.

A child's digital footprint is explained to children by the eSafety Commission in Australia in simple terms: “The internet remembers more about you than you might expect. It leaves a trail of data, known as your digital footprint” (2022). The DQ Institute (2019) posits that an individual's ‘digital footprint’ has “real-life consequences” (p. 16) and must be understood and responsibly managed by internet users. Recent legal advances in Europe have proposed the “right to be forgotten” in digital contexts for children (Bunn, 2019, p.37). However, the term ‘digital footprint’ was not widely understood by the children across all three countries. When prompted, children in the older age groups had a general awareness that their online activity was tracked and recorded but they could not elaborate on the exact mechanisms that did this. Conversations about digital footprint and digital identity frequently overlapped. Regardless, a basic and prior understanding that these were related and were connected to an individual's actions online did exist amongst the children.

### INDIA

The Indian children had generally not heard of the term ‘digital footprint’ but, once prompted, the notion was generally understood in the older groups as “When you go from one website to the other, so your footprint leaves a mark on all of it” (N/11–13). When asked if our digital footprints can be removed, this same child answered:

N: We can, if we keep our privacy intact. Like our digital privacy. If we don't open websites without knowing about it, without knowing if the website is keeping the details that you've put safely or not. In this case we are marking our footprint- there may be people who would use it in other ways. They can mark your footprints, and take anything from you, and can also cyberbully you.

The child added that such people can use this information to "track us" (N/11–13).

The younger age group (6–10) needed to have the term explained, and they then understood the concept in general, but did not express that this was something they had experience of:

RA: So, this is called Digital Footprint. When we come online to study, play games, etc., our footprint is created online. So, someone has searched about these companies, that's why there are companies inside the foot. Did you understand, even a little bit?

Children: Yes, a little bit.

When the youngest age group (3–5) were asked to respond to the prompt cards, surprisingly to the RAs, they drew flowers. However, Chief Investigator Kylie Stevenson, present at the Indian roundtable, explained that all the children (3–5) drew flowers as it was aspirational, being the subject of the older children's current school art project, and unrelated to their views on digital citizenship. When asked directly about 'digital footprints', it was still not clear they understood. The conversation quickly led to their experiences with using thumbprints to access devices:

RA: Okay, so now tell me- we've all seen footprints, right? So, what's the online footprint?

D: Online?

RA: So, on the phones, laptops, etc. What does footprint mean?

S: It comes online

RA: How does it come online?

S: When we scroll the phone, and something pops up, and we click it - and then we can book.

Nee: We can draw on the laptop as well

N: We can also use our thumb print to open the phone

RA: What happens when we use our thumbprint on the phone?

N & S: It opens the lock

## KOREA

The term 'digital footprint' was also not widely understood by most of the Korean children, but once explained to the older children (11–13), they generally displayed an understanding that internet usage was tracked and recorded. Like in the other countries, a deeper understanding amongst the children about the actual mechanisms was lacking; similar to Australia, the term 'carbon footprint' was mentioned in Korea. Further, when prompted, the children (11–13) were able to identify websites they use that might track their usage:

- RA: Right, see these many apps and the shape of a footprint. You've heard of carbon footprint, right? But this is a digital footprint. Look down here.
- JW: There's YouTube.
- RA: Yes, there is. What else?
- Children: Google
- HN: Facebook
- RA: Yes, there's Facebook
- JW: Twitter?
- RA: Oh, right. Is there anything you use here?
- Children: YouTube
- JW: Google
- RA: Sung-Won, is there anything you use?
- SW: Google.

Children in the youngest group (3–5) had not heard the term 'digital footprint', and had little-to-no understanding that their actions were being recorded and/or tracked:

- Mi: Footprints.
- RA: That's right, you leave footprints! So, if you use the Internet, you leave our footprints on the Internet, too.
- Children: Huh?
- RA: How are our footprints left on the Internet?
- Children: Don't know.
- RA: Min-jun, what do you think?
- Mi: Printer? Connect with a printer, or...
- RA: Oh, you mean I print out what I do and see the footprints? That's a good idea. Guys, but this means... You watched YouTube, right? And search things on Naver. These could all be kept as records.



## AUSTRALIA

Some Australian children in the older age groups (11–13) had heard the term 'digital footprint' but could not define or elaborate until prompted further, whilst many of these children (11–13) exhibited an understanding that anything you watch on an internet browser is recorded. One child described this as “being tracked on anything, like any apps, on games, on anything .... your digital footprint would be the impact of your digital identity—which is your digital information—had on whatever website you've been on or at” (J/11–13). Similarly, a child in the younger age group (M/6–10) said, “... digital footprint I'm pretty sure is what you leave like data, I'm pretty sure, in the system of the technology and it's like leaving a footprint”. When prompted, an Australian child (I/11–13) also offered a useful comparison between 'digital footprint' and 'carbon footprint':

- I: But digital footprint is like your carbon footprint, what the impact you leave on the planet by what you use. If I drive to school, that's part of my carbon footprint. If I use YouTube, that's part of my digital footprint [or] if I go on Instagram, if I go on TikTok, Twitter, Kids' Instagram...

Whilst children we spoke to expressed a rudimentary understanding of digital footprint as it pertains to data harvesting by sites or apps they use, no children demonstrated an understanding of how digital footprint or identity may help or hinder their social and or professional reputation in current or future contexts. The NSW Department of Education Best Footprint Forward project (Buchanan et al., 2018) reported increasing instances of the use of an individuals' accumulated data, specifically social media profile data for use in Australian selection and recruitment processes. They argued for the need for the cultivation of 'curation' skills for young people and children that “involve judgment about what is kept private and what is suitable for a public persona” (2018, p. 51). Youth and children today have an even greater accumulation of online personal data, much of which was not contributed by them but by their parents or guardians sharing about their children on social media (Green et al., 2019; Holloway et al., 2013); for example, through the posting of antenatal ultrasound scans, newborn photographs and school results on social media profiles.

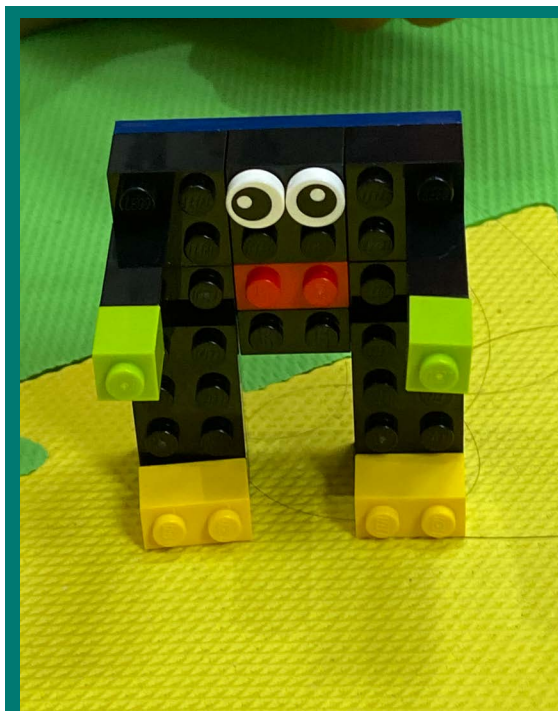
## SUMMARY

Whilst older children (6–10 and 11–13) in all countries expressed a rudimentary understanding of digital footprint as it pertains to data harvesting by sites or apps they use, none of these children demonstrated an understanding of how their digital footprint or digital identity may help or hinder their social and or professional reputation in current or future contexts. The youngest children (3–5) had no understanding of the concept of digital footprint.

## DIGITAL IDENTITY



KOREA (3–5): Sun-Hee imagines “a bear fish” using a smartphone with friends.



INDIA (11–13): Gitali explains that “I know it’s cute and not even scary. This monster has been inspired by the game Roblox”.

Digital Identity is defined in both the DQ framework (2019) and LEGO’s Raise Digitally Smart families (2021d) in terms of positive online behaviours. DQ state digital identity is the “ability to build a wholesome online and offline identity” (2019, p.14) and LEGO define it in relation to children being “global digital citizens...interacting with different people” whereby adults “should help kids understand it’s important to be someone positive, with integrity and values” (2021d, p.2). More expansively, the UN (2021) notes that children’s digital identity is related to a child’s right to “participation in cultural life online [that] contributes to creativity, identity, social cohesiveness and cultural diversity” and that children need to be provided with “the opportunity to use their free time to experiment with information and communications technologies, express themselves and participate in cultural life online” (p.18). These definitions have implications for the mediation and control of children’s online activities and the digital skills and freedom a child needs to build a positive and culturally rich digital identity.

In India, notably, Bhatia and Pathak-Shelat’s rich ethnographic studies (Bhatia et al., 2021; Bhatia & Pathak-Shelat, 2019; Pathak-Shelat & Bhatia, 2019) paint a picture of much stricter control of young Indian girls’ online use than of boy’s, suggesting

significant impact on girls' digital identity, and cultural repercussions for behaviour online deemed risqué or not in keeping with gendered expectations of chaste behaviour. Whilst these studies indicate this parental mediation is a significant cultural reflection, it was not touched upon by the Indian children we spoke to. However, access was certainly controlled by both parents (including parents using location monitoring to track their children through their devices) (Pathak-Shelat et al., 2022, p. 30). Similarly, media researcher Catherine Page Jeffery (2021) suggests that Australian parents are actively concerned with their children's online identity, particularly potential future repercussions of inappropriate (and immature) forms of online expression. In Korea, it is the 'Personal Information Protection Commission' (PIPC) that has expressed concerns with children's online expression and information. In response, the PIPC recently announced the 'Children and Youth Personal Information Protection Act', where "children in Korea will be able to request deletion of personal information online in 2023, whether posted by themselves or a third party" (Min-Wook, 2022, para. 3). Amongst our children's roundtable participants, digital identity was generally discussed as something to be protected, and even limited, in relation to privacy and security risks but it was not necessarily discussed in relation to building a positive and culturally rich digital identity. When prompted in the older groups (11–13) across all three countries, the children also understood that an individual's digital identity may not necessarily reflect their real world identity.

## INDIA

Indian children we spoke to did not have a strong understanding of digital identity but made attempts to make links to identification cards. When prompted, the notion of not trusting strangers online by protecting your identity was still understood. The older children (India, 11–13) had a much deeper and more nuanced understanding, expressing that an individual's digital identity and real world identity are different things, and that one context may not reflect the nature of interests of the other context. These children also acknowledged that an individual's digital identity can be faked. When asked if they thought that our digital footprint revealed things about our digital identity, one child said "yes", but added that our digital footprints could be deceptive, as such our digital identity and real identity can be different:

RA: But if I'm a person who (for example) doesn't like K-pop, but I keep searching about Korean actors, would it say something about my identity?

- N: For the digital space, it would be like you like K-pop star, but the people don't really know for sure if you really like them or not  
 RA: Okay! So my digital identity and real identity can be different?  
 N: Yes

One child (India, 11–13) mentioned an experience of someone creating a fake account of one of their friends, and that they were very conscious of not trusting peoples' online identities.

## KOREA

Specific to online gaming, Korean (11–13) children acknowledged they do trust online identities in some sense, playing with people they do not know in real life (or friends of their real life friends), but also acknowledge their caution about trusting these identities fully. Further, children acknowledged that the way individuals act in real life can be different to how they act (and present themselves) in games. This was discussed by the children (11–13) as a positive opportunity for self-expression—an opportunity to express themselves in ways that were not possible offline:

- RA: So, do you think who you are when playing Minecraft or Roblox is the same as or different than who you are right here?  
 Children: Different. I think different. Very different  
 RA: Oh, interesting. How different?  
 YR: My hair color and my clothes.  
 RA: OK, how are your clothes different?  
 YR: I just put on anything normally, but I pay more attention to choosing and buying clothes for my Roblox avatar.  
 RA: Why do you pay more attention to that?  
 Children: Because it costs  
 RA: It costs? Well, then why just put on anything in real life?  
 YR: Oh, because I just put on what my mum buys for me.  
 RA: Good, so you pay more attention online because you do whatever you want. Sung-Won, anything else you want to share?  
 SW: When I play Minecraft, I choose each piece more carefully, although I just wear whatever Mum picks out for me in real life.



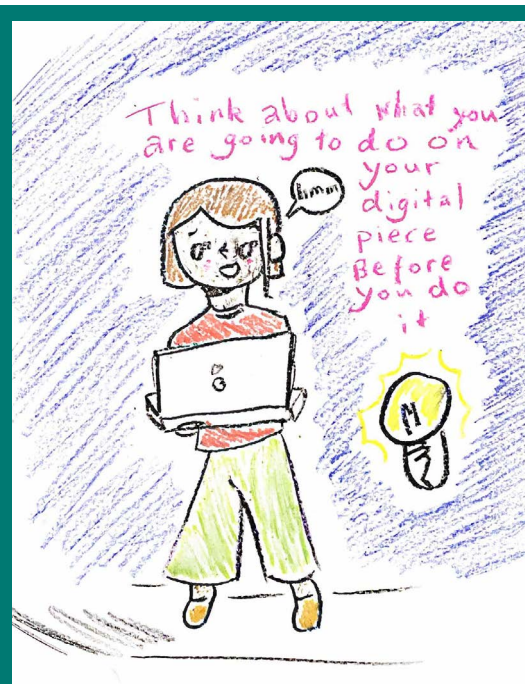
## AUSTRALIA

In Australia, the children expressed the notion of 'digital identity' simply as "who you are online" and associated this with an individual's social media profile(s). It was acknowledged by Australian children that an individual's offline and online identities were not necessarily the same, while also expressing that digital identity is something to be kept secure; for example, one child expressed that "your digital identity could be stolen or people could start finding your other information or accounts on different things and be bullies on everywhere" (J/11–13). However, there was not much further sentiment discussed concerning 'digital identity' specifically.

## SUMMARY

In both India (11–13) and Korea (11–13), children we spoke to discussed keeping digital identities private from their parents, with one child in India worried about how their parents might respond to their online actions. This was specifically in the context of keeping private interests or things accessed online, rather than dangerous or unethical behaviour. In India, older children (11–13) explained that the use of passwords was important as devices were shared and used as access points for multiple digital identities due to multiple family members sharing the same device. Similar to India (11–13), older Korean (11–13) children mentioned that they would not like parents to see what they looked at on their phone— "it's a disaster". A point of commonality across all three countries was that children understood that an individual's online identity may not reflect an individual's offline identity. This understanding increased in nuance in the older age groups and generally correlated to a greater distrust towards people encountered online. What did differ between countries, however, was how young children expressed concerns about trusting online identities, and to what extent. In general, Indian children expressed the most concern—and at an earlier age—with Korean children expressing the least.

## DIGITAL CRITICAL THINKING



AUSTRALIA (6–10): Lily explains that “I drew mine like a poster telling you that you should always think about what you’re doing online”.



KOREA (11–13): Han-Na explains that “I mostly play Minecraft, and this is the character, and there’s a diamond underground ... here ... It’s difficult to find a diamond in the wild, but I found it.”

Much of the literature reviewed regarding children’s digital critical thinking references critical thinking as “distinguishing what’s risky and what’s not when online” (LEGO, 2021a, p. 1), particularly in reference to safety and security (for example, true or false information, risky content, trusting the ‘person’ sharing the information), and this was certainly demonstrated to at least a basic extent by children in all three countries. The Digital Kids Asia Pacific (DKAP) report does measure ‘Digital Creativity and Innovation’, including Korean students’ ability to “apply skills and use tools to create, adopt, or curate digital content” (UNESCO, 2019, p. 46), which involves a relative ability to critically assess and find creative solutions to problems encountered when using digital technologies. The report also used survey questions to Korean students regarding their reactions to being exposed to unwanted or disturbing images or media. In response, almost 30% of students said they would use a program that would prevent it from happening again, which indicates more competent users displaying more nuanced critical thinking skills than just closing the page, scrolling away or blocking the site. The comments by the Korean children we spoke to do correlate with these results, even though the Korean students of the DKAP report were aged 15 and above.

In Indian contexts, recent research (Bhatia et al., 2021; Bhatia & Pathak-Shelat, 2019; Sarwatay & Raman, 2021) has uncovered much evidence of older children, particularly girls, finding creative solutions to issues of gendered mediation (access restricted on gender). However, these were generally from the experiences of older children (13–16 years of age), and it is difficult to assess whether these instances of nuanced critical thinking and resilience were behaviours that developed when the teenagers were younger, or whether they were products of adolescence. In other Indian contexts, recent results from the Indian Kids Online pilot report highlight the digital divide and access issues in India:

Though a lot of reports suggest that children are performing better at technologies, there is also a digital gap in terms of teaching children about primary digital citizenship, which is a set of life skills, management of information and data, how it is used online, safety and reacting to cyberbullies, and so on. (Pathak-Shelat et al., 2022, p. 17)

This indicates that the more advanced levels of critical thinking behaviour—a product of increased education and awareness—may still be lacking in some areas of India, and this may be of particular relevance for the children from resource-poor communities that we spoke to.

## INDIA

Similarly, Indian children (6–10) demonstrated digital critical thinking when they expressed awareness of protecting private information and files when online. Indian children (11–13) specifically mentioned an awareness of fraudulent calls, messages and/or scams having been cautioned by their teachers:

RA: Have you ever received fraud calls?

P: No, but it has happened with our relatives. From them, we get to know when they receive calls of getting shortlisted and winning cars

RA: Getting shortlisted for KBC? \*\*

P: YES, for KBC as well. So, they used to disseminate all their information. But we haven't fallen into this trap because our teachers tell and caution us about all these things

[\*\* KBC stands for *Kaun Banega Crorepati*, the official Hindi adaptation of the gameshow, 'Who wants to be a millionaire']

Further, this group generally appreciated how the anonymity of the internet facilitated trolling, which meant not taking all messages or comments on social media too seriously. In addition, in the context of online games, a child (11–13) expressed an awareness of avoiding cheating and hacking used by others as a means to win.

## KOREA

In the Korea (11–13) group, also in the context of online gaming, children spoke about discovering alternative strategies to win, taking advantage of unintended bugs and tricks to have more fun in games. These alternative strategies were distinguished from instances of other players cheating, which caused frustration during gameplay. When prompted, the children were excited by the idea of learning more about how to avoid/prevent cheaters online in school, mentioning that they only learned about overdependence and cyber violence prevention in school:

- SW: There's cheating  
 HN: There's a way to cheat  
 RA: Then maybe it would help to learn something about that at school. You know, how to prevent these cheaters?  
 Children: Wow!  
 HN: Sounds a little fun.

In addition, older Korean children (11–13) expressed an awareness that microtransactions do not necessarily exist to enhance the experience for players but can be used by game companies to make more money.

## AUSTRALIA

In Australia, many of the critical thinking outcomes were prompted by questions surrounding digital privacy and safety. In the context of these conversations, the children we spoke to displayed an understanding of the mechanisms of the platforms they were accessing and many applied protective behaviours, which implies a certain level of critical thinking. As an example, two children from the 11–13 group had the following exchange with researchers when asked about safety online:

- F: What about being safe? How do you keep safe online?  
 J: You stay safe, it means to be not on something that there can be a lot of people on, [but choose] safe server versions of it as you like. Say if you were in a game that uses servers so that it can be multiplayer—if you find something wrong on there, you should leave because when that happens, something bad has more chance of happening.  
 12: What sort of bad things do you think might happen?  
 J: Your digital identity could be stolen, or people could start finding your other information or accounts on different things and be bullies on everywhere  
 12: Is there a way that you can stop people from finding your information or stealing your identity other than just leaving the servers?

- J: If you try and stay away from those people when you're in it, if you do that, they might not realise you're actually there which gives it less chance that they would get into [your private information] –
- I: Oh, actually, in Minecraft you can actually create a second account and they won't know it's you 'cause you'll change your avatar. If you create a second account, they'll go 'where'd they go? Is it them? No, that's just someone else' even though that's your second account.
- J: That's your second account and they'll just know it's your second account from part of the stuff you do.

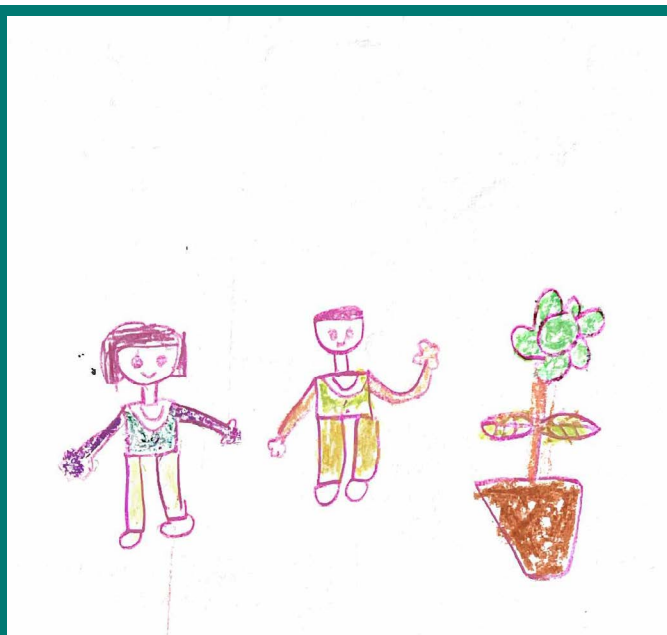
Australian children we spoke to were also cognizant of the available solutions that games provided when other players acted inappropriately; however, they were also dubious about the effectiveness of these avenues and had witnessed banned players either not get banned or finding alternative means to re-join gameplay. In the context of this discussion, Australian children (11–13) expressed an awareness that the more information they provide to online platforms meant the more personal information that can be ascertained by others—including others' ability to make connections to real world identities and/or other accounts children may have set up online.

## SUMMARY

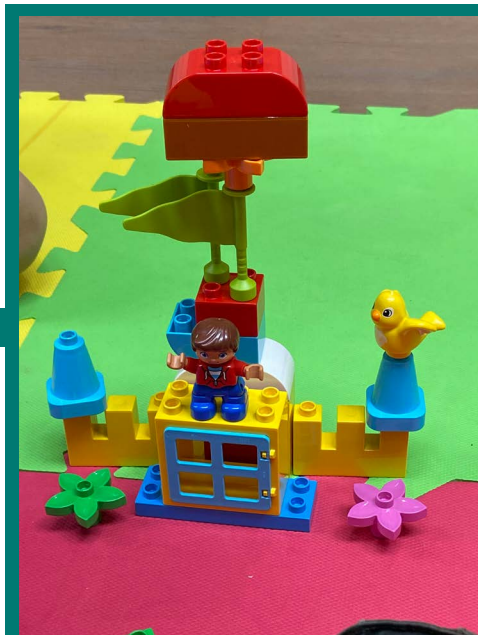
In general, and across all three countries, the term 'digital critical thinking' was not clearly understood as a skill or concept by most children; however, we identified the application of critical thinking skills in use during conversations, though in varied contexts. Generally, across all three countries the older children had more to say about considered choices made in online engagements as they discussed their experiences. Both Australian (6–10 and 11–13) and Indian (6–10 and 11–13) children generally discussed instances of applying digital critical thinking concerning security and privacy dangers. Australian children (6–10) said that they do think about when and when not to share information, commenting that if the website is trusted and well used by the public then it is ok to share information.



## DIGITAL FRIENDS



INDIA (3–5): Darksha describes his drawing, saying that “I’ve made a girl and boy with a flower”.



INDIA (3–5): Nabha explains that “Here are two cameras, and I’ve added flowers for decoration. Here is my window, and you can enter from here ... there’s a bird which can fly ... My castle!”.

Worldwide, one of the main uses of mobile devices by children is to connect with friends and community; further, this type of connection can have positive effects on mental health and wellbeing (Stoilova, et. al, 2021). A survey of 2000 young people aged 8-17 years old conducted by UK Safer Internet Centre identified that children felt “they would feel isolated if they couldn’t talk to friends via technology” (p.2). Therefore, with much of children’s relationship building and management now taking place online, it is important to investigate the benefits of digital friendship together with the risks. Framed by the DQ Institute (2019) as ‘relationship management’—or “the ability to skillfully manage one’s online relationships through cooperation, conflict management, and persuasion” (p. 39)—the notion of digital friendship was discussed by children across all three countries. In general, children regularly interacted with real world friends through online gaming or social media platforms. These interactions ranged from positive experiences of online communication, comradery and play to arguments, disagreements and the ending of friendships via online means. In addition, children also discussed instances of making new friends online through these platforms; however, children consistently expressed caution in such instances.



## INDIA

Most of the children from India (11–13) talked about playing games with friends online. Some of the divergent experiences were as follows:

N preferred to play alone online, but with friends outdoors:

- RA: N plays online games?  
 N: Sometimes  
 RA: Which ones?  
 N: Any arcade or racing games  
 RA: With friends?  
 N: No, alone. Friends ruin the game  
 RA: What do you like better? Playing with friends on the ground\*\* or online?  
 N: Obviously playing on the ground because with friends that's more fun

[\*\* on the ground meaning outdoors in the real world]

Whereas P & R prefer playing offline with friends, G liked both, preferencing digital play but real world social conversation:

- RA: Okay! I asked this to M if she likes to play offline or online with friends. She said she likes to play offline with friends. What do you all like?  
 P: I like playing with my friends on the ground  
 R: Playing offline  
 G: Depends. If it's about proper playing, then I'll prefer playing online. If it's hanging out and talking with friends, then offline  
 RA: What do you play online, G?  
 G: There are many games like Roblox. I feel like Roblox is the only game where I feel good

One younger child in India (D, 3–5) articulated a significant incident relating to digital friendship, mentioning they had a friendship end online when their friend sent a message—“I don't like you”—to their phone while both were playing an online game together.

## KOREA

Across all three age groups, children in Korea discussed interacting with friends significantly more in the context of online games when compared to Australia or India. In addition, all age groups in Korea mentioned sharing a device with friends in real life while playing online games or watching content, specifically on smart phones or tablets.

The majority of Korean children in the older age group (11–13) mentioned they had made new friends online; however, caution was expressed if these new friends were not already known indirectly or directly; for example, a friend of a friend or family member:

- JW: I also have a friend I met online, and I play games with him all the time.  
 RA: But guys, I don't really know. What is it like to make a new friend like that?  
 JW: It's nice.  
 SW: Good.  
 JW: Good on the outside, but don't know what's going on inside  
 RA: Oh, so you don't know that friend deep inside, but it's just nice to play games with them?  
 SW: Yeah, it's fun.  
 RA: So, you can make many new friends. And they don't even have to live so close like this?  
 SW: Right.

One child (11–13) also mentioned ending an online friendship:

- RA: Joo-Won also mentioned something about a friendship ending in a poor relationship. What happened?  
 JW: That friend kept telling me to give him paid items.

Several children (11–13) commented that they were closer to their real world friends (specifically at school) than anyone they met online; however, one child (SW, 11–13) said that they “became best friends with someone online” while playing games. The younger children in Korea (3–5 and 6–10) did also mention playing games with friends online, but no instances of meeting or making new friends online.

A child in Korea (**Ch**, 6–10) commented that online games are even “more fun when you play with a friend”; adding that even if the other players are not known in real life, it is still more fun in general to play with others online than alone. While another (**BH**, 6–10), discussed an instance of tensions between friends caused by gaming:

- BH: There was something upsetting.  
 RA: What happened?  
 BH: I was playing with a friend, who wanted me to keep going whenever I lose, and left the game whenever I won.  
 RA: I see. He should have congratulated you when you won, but he just left

Notably, two children (**Hj** and **Yj**, 6–10) mentioned they were not interested in playing games with friends.

The vibrancy of gaming culture in Korea was evident in our conversations with children, as well as in broader literature and media in Korea (Herald, 2021; Taylor, 2021). This has long been a point of contention for government and advocacy groups in Korea, concerned about the number of gaming hours by very young people; for example, the ‘Cinderella law’ which prohibited gaming activities for children under the age of sixteen between 12am and 6am was only just abolished in 2021. Our discussions with children reflect the results from the DKAP report that noted the strong peer group culture attached to online gaming and interactions amongst Korean children. The DKAP research showed they were far more likely to be self-taught about internet and computer usage, or to approach peers for help when engaging in activities online, than their Fijian, Bangladeshi and Vietnamese counterparts also studied in the DKAP research (UNESCO, 2019, pp. 29–30).

## AUSTRALIA

In relation to digital friends, two children in Australia (11–13) mentioned a contrast between behaviour experienced online and in real life. **W**'s experience was positive:

- W: But when I was at my school, there was this girl that sits next to me, and she said that I was a really annoying kid and then all of a sudden, we became friends and now we became friends in games.

In contrast, S's experience (11–13) with a friend was negative:

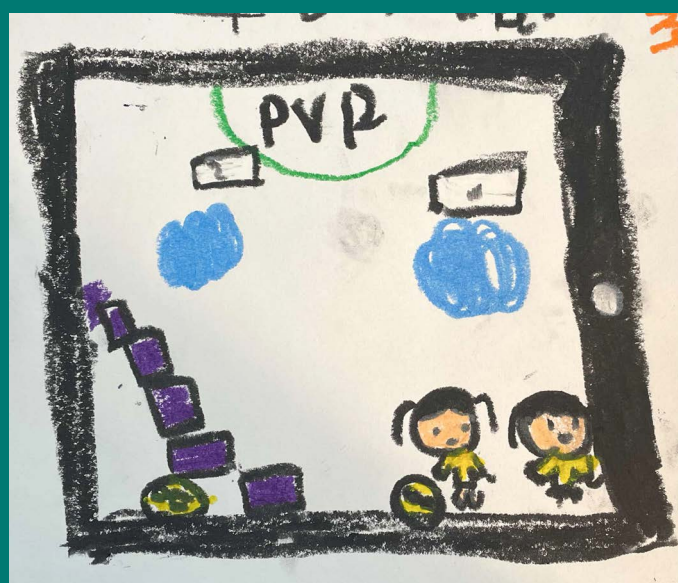
- S: One day, we had like a tiny little argument about like where we should go for recess and lunch and then she sent a text saying that I don't want to be friends with someone who's toxic so I don't think we should be friends anymore and apparently, I started an argument with my other friend who was also told about it.
- RA: You said apparently. You don't think you did start the argument.
- S: No 'cause I was trying to be her friend still and she kept saying that we were toxic and she wished she would never have been our friend.
- RA: Was that all happening online?
- S: Yeah, online.

The aforementioned Australian Gonski Institute *Growing Up Digital* (GUD) Phase 1 technical report corresponds with discussions we had with children in our Australian groups regarding online interactions with their friends from school, in particular, the GUD Phase 1 report of a sharp increase in instances of cyberbullying and harassment in friendship groups (Graham & Sahlberg, 2020, p. 2). Phase 2 of the GUD focused on parents' concerns, which reflected their positive feelings towards the benefits of technology and time spent online for children's education, as well as the benefits of being able to stay in touch with friends and family, particularly during the COVID-19 pandemic (Graham & Sahlberg, 2021, p. 2). Parents still expressed concern, however, regarding digital distractions, or the displacement of their children's opportunity to participate in other activities, such as being physically active, being creative, or spending time with friends and family (Graham & Sahlberg, 2021, p. 2). Phase 3 of the GUD, focusing on children's voices, is yet to be released by the Gonski Institute.

## SUMMARY

Although similar experiences of digital friendship were discussed across most age groups, it was discussed with more nuance in the older groups (11–13). In particular, the youngest age groups in Australia (3–5 and 6–10) had comparatively little to say. Korean (11–13) children preferred real world friendships to online friendships, and in all countries, real world friendships were sometimes interwoven with instances of cyberbullying or friendship breakdown. Children spoke positively about making friends, managing conflict with friends, having fun with friends, and supporting friends to develop skills in their daily experiences of the digital world. Of particular note is that even the youngest children (3–5) expressed negative or challenging digitally mediated experiences with friends, highlighting the need for digital citizenship skills development, especially about empathy, across all age groups.

## DIGITAL PLAY



KOREA (6–10): Bon-Hwa explains how children play the game “Infinite Stairs”.



AUSTRALIA (3–5): Ivy uses LEGO to make a slide. [RA]; “an amazing slide which looks like it’s a slide you’d find in a playground with a beautiful flower and flag on the top.”

In their comprehensive literature review, *A Panorama of Play* (Cowan, 2020), the Digital Futures Commission (DFC) and contributing lead researcher Sonia Livingstone advocate for the importance of children’s agency “in a world not generally of their own making or much under their control” (as cited in Cowan, 2020, p. 3). In the chapter ‘Risky Play’, Cowan points to play as being a key element in “children learning to appreciate, assess and take calculated risks” (2020, p. 13). As Livingstone elaborates in the additional DFC Research Agenda document,

Today there are many unanswered questions about digital play, with society tending towards anxiety, restrictions, and risk aversion when it comes to children’s digital play. At times, safety and privacy concerns overrule children’s freedom to learn and grow through exploring, experimenting and making mistakes. (2020, p. 5)

Livingstone further suggests that parental mediation requires not a removal of risk—and this is echoed in the DFC’s research—but instead “support of proportional responses to situations that might pose serious harm” (Cowan, 2020, p. 14). Most children we spoke to expressed a good level of understanding of risk when engaging in online spaces, with reasonable protective behaviours and knowledge of security settings.

They discussed making friends, managing conflict, having fun, and developing skills as a result of their play online. In several publications, the MIT Media Lab and the LEGO Foundation (Gray & Thomsen, 2021; Zosh et al., 2017) echo these sentiments regarding children's need for agency, advocating for learning through digital play:

Digital content created through students' playful learning activities can provide the basis for both formative and summative assessment. It can help students to reflect on their own capabilities, and to guide future self-directed learning, as well as informing iterations of a specific project. (Gray & Thomsen, 2021, p. 45)

Many children we spoke to reflected on their use of digital devices in school that assisted them with social interactions as well as literacy and numeracy, particularly during COVID closures, which has accelerated the use of devices in learning settings. Although some of the social and gaming interactions led to conflict or risky scenarios, overall, these were well managed by children and their surrounding support systems, such as friends and parents.

## INDIA

Of the three countries, online gaming was discussed the least by Indian children and they discussed parents taking an active displeasure (including negative repercussions) in too much play time on digital devices. Similar to Australia and Korea, older Indian children played more online multiplayer games, which also came with their increased awareness of the added risks of online play. Gender preferences were once again reflected in our discussions with children, and correlate with similar results reported in the Indian Kids Online survey (Pathak-Shelat et al., 2022); namely, boys' preference for gaming versus girls' preference for social media platforms. Considering aforementioned research, it's also reasonable to surmise that girls' online interactions are more heavily mediated than boys in India, leading to reduced incidences of girls accessing online multiplayer platforms to play.

One girl (11–13) mentioned that they play online games rarely, if at all:

- RA: So, you don't play online games at all?  
 M: I do but rarely  
 RA: When you do, what do you play?  
 M: I actually don't play online games, I use WhatsApp

Similar to **M**, another girl (**P**) preferred to have playful fun via social media platforms:

- P: My sister is on Facebook and Instagram



- RA: Okay! Where's your sister?  
 P: On these social media platforms  
 RA: What do your sister and you do on social media?  
 P: I like dancing, so I upload dancing videos

Various Indian boys and girls mentioned the games they play (with the devices used noted by **RA**):

- **N** (Boy 11–13) plays arcade or racing games online on a phone, including 'BGMI' (Battlegrounds Mobile India) and Freefire.
- **P** (Girl 11–13) talked about playing games on a phone
- **R** (Boy 11–13) talked about playing games on a phone—specifically Ludo with friends—as well as watching videos, but later added that he plays offline games more.
- **G + M** (Girls 11–13) use phones to chat, **M** (plays games on a phone rarely and when so offline, whilst **G** also plays Roblox.

All Indian children in the 6–10 group described playing games on phones. These games included the following (with **RA** noting gender and device):

- **U** (Boy 6–10) plays Fortnite and Minecraft (device not specified)
- **Y** (Boy 6–10) discussed playing Roblox on a phone
- **K** (Girl 6–10) talked about using a computer to make a drawing, but not as a regular activity; **K** also talked about playing Temple Run and Candy Crush (game for iPhone and iPad, most likely she would have used an iPhone).

**D** (Boy 6–10) used to play Free Fire on a phone (offline game) but now plays online games:

- D: Earlier I used to play Free Fire and, because I used to play that a lot, my mother deleted the game. So now I play multiplayer games.  
 RA: So, you play multiplayer games with friends or strangers?  
 D: I call my friends online, and then we play racing games

No Indian children in the 3–5 group discussed playing games offline or online with digital devices.

## KOREA

There was significantly more discussion around gaming in Korea when compared to Australia and India. Furthermore, most of the pictures the Korean children drew during the roundtable drawing activity were associated with gaming and play. Most children (even in the younger groups) discussed gaming on phones and computers more than tablets. All the Korean children in the 11–13 group discussed playing Roblox, whilst one boy also mentioned Minecraft. Further, the game LOL (League of Legends) was also discussed as the most popular game in Korea, but no child explicitly mentioned playing it themselves. One girl (**SM**) also discussed using drawing apps, elaborating that she mostly draws on her tablet with a stylus, as opposed to using her tablet for gaming. Although **SM** does not post her drawings on social media, she occasionally sends them to her friends via Kakao talk; she also drew a drawing app in the drawing exercise/activity. **SM** also talked about having fun online shopping on her phone, which she had been doing since the 4<sup>th</sup> grade.

Children discussed the awareness of microtransactions, and how some games play on a person's urge to find good items (item syndrome):

- RA: What's item syndrome?  
 YR: Looking for only good items  
 RA: Doesn't it cost to buy items?  
 SW: Some of them don't cost.  
 YR: Some can be bought with money earned in the game.  
 JW: But then it costs to do that.  
 YR: We can collect them without actually using money, but...  
 RA: It takes too long and it's too hard?

All Korean children in the 6–10 group we spoke to talked about playing digital games. Examples included several children discussing the game Infinite Stair, whilst one girl (**BH**) drew this game in the drawing activity. One boy (**Ng**) played Pokémon, Roblox, Minecraft, a “haunted house AI game” and Among Us on a phone, whilst another boy (**Ch**) added later that they don't like games that cost money to play. **Ch** also drew Among Us (which he described as a “mafia game”). One girl (**Yj**) said she hated games and preferred to play outside but enjoyed reading cartoons and taking pictures of her friends on a device at school; another girl (**Ch**) added that she posts photos on popular social media app Kakao Talk.

All Korean children aged 3–5 we spoke to talked about playing digital games. Examples included one boy (**Mi**) playing Minecraft, Mario Party (on his Nintendo console), sports games (which he also watches on streaming platform eSports) and there was discussion (between the **RA**, **Mi** and his father) of a scary character named Huggy Wuggy from a game called Poppy Playtime. (Researchers note that Poppy Playtime is a survival horror video game with a recommended age limit of 8+.) Most children played games on smartphones, whilst one girl (**SH**) mentioned watching YouTube and streaming content

## AUSTRALIA

In general, more of the Australian older children (11–13) played games on smart phones and computers, while younger children (3–5) tended to play on iPads/tablets; however, two of the younger children (**T**, 3–5 & **L**, 6–10) both mentioned playing on Nintendo consoles, specifically Mario Kart and The Legend of Zelda: Skyward Sword. Older children tended to play more complex multiplayer games on computers and/or phones, and this also corresponded with an increased awareness of the potential privacy, security and cyberbullying risks associated with online gaming.

Roblox was played online by numerous Australian 11–13-year-old children we spoke to; however, the ease of accessibility and limited requirements to make an account was a concern for many of the children, which **I** (11–13) echoed:

**I:** That's the thing about Roblox, it's free to anyone, you can just sign up free online and then it's [a problem]

Both **I** (11–13) and **J** (11–13) also discussed playing the online game Minecraft, but without specifying the same level of concern. **S** (11–13) did not specify any game in particular but expressed concerns about online gaming:

**S:** Because it feels scary like if there's a certain person online that I don't know like that's why when people invite me to servers with online friends where I play a game online, I don't feel very safe because people are online. Also, I heard about people getting your IP address from online.

Multiple children from the Australian 6–10 age group also played Roblox; however, they discussed the use of parental safeguards, as well as in-game settings they implemented themselves to make the experience safer:

- RA: Do you guys, when you play Roblox, do you feel pretty safe playing?
- M: Most of the time 'cause our parents put on all these different special locks and you can't play certain games if they're too old for you.
- RA: You had your thumbs down there, Leo; so, tell me why you had a thumbs down?
- Le: Roblox usually has a chat thing on the side. You can blur it out but sometimes you can't always –they may say stuff that can be inappropriate.
- RA: Has that ever happened to you? [Le shakes his head] Not really? No but do you see it happening to other people?
- Le: Yeah. I think it happened once.

The youngest children (3–5) mentioned the various games they played, with help from their parents present. Examples included one girl (**G**) and her brother (**T**) playing Hello Kitty Nail Salon and Fireman Sam on the iPad respectively (which they both drew in the drawing exercise), one boy (**C**) drawing a counting carrot game on an iPad (played in class as an educational counting game) and one boy playing Mario on his Nintendo Switch.

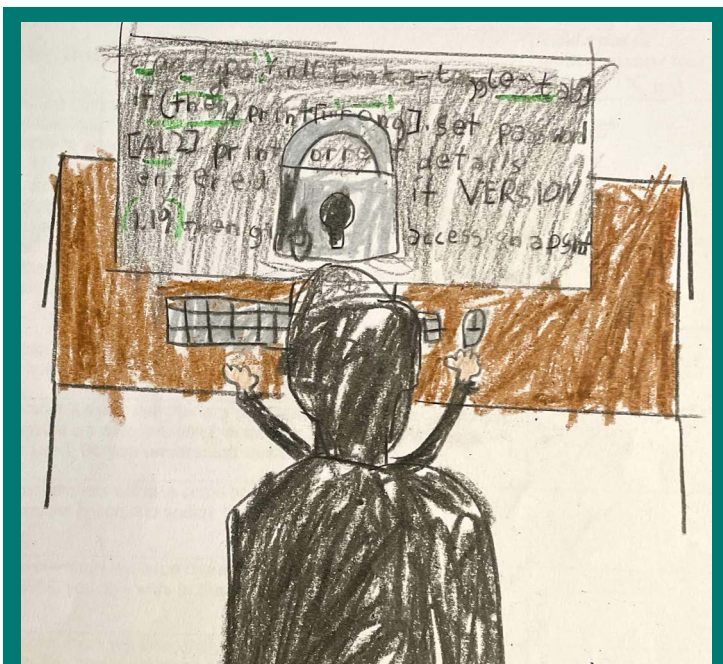
## SUMMARY

In general, across all three countries, 'digital play' was strongly associated with playing games on digital devices; however, other creative digital activities like drawing apps, social media platforms, surfing the internet and streaming content were also discussed. When digital games were discussed, there was a general trend across all three countries for older children to play online multiplayer games, while the younger children tended to play more offline. It is reasonable to surmise that this is due to greater parental mediation of younger children's online play habits. However, older children's online multiplayer habits also corresponded with an increased awareness of the extra risks associated with such platforms. Roblox was the most common game discussed across all three countries, followed by Minecraft. Across all three countries, the opportunity for digital play was negotiated with parents. In general, older children discussed playing more on phones and computers, whilst younger children played more on iPads/tablets.

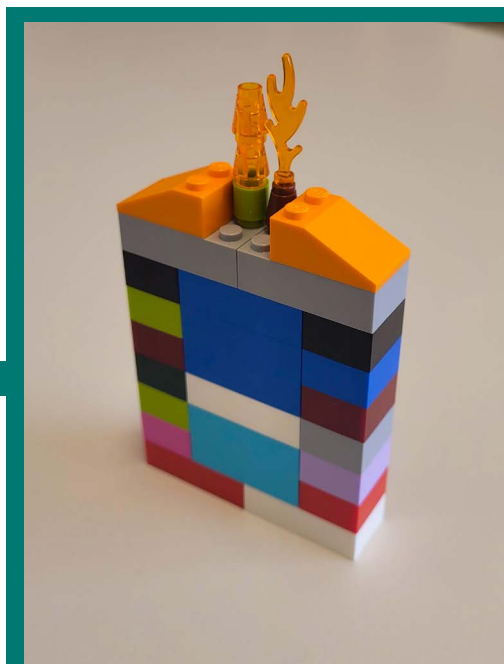
Observable across all three countries was the correlation between increasing age and increasingly immersive digital play: for example, engaging in online multiplayer videogames. What was of interest, however, is that children in India appeared to engage in immersive digital play at the latest age, with Korean children beginning the earliest. It is surmised that this discrepancy is due to a relative lack of access to digital devices in India, in combination with Korea's prevalent gaming culture and overall

superior internet connections. Regardless of this discrepancy, most children across all three countries maintained a comparable awareness of online risks associated with the specific types of digital play they were engaged in. However, there did exist a general correlation between increased digital play and some of the creative skills and knowledge associated with digital literacy.

## DIGITAL SAFETY



INDIA (6–10): Umesh explains that “this is like a hacker who is trying to hack into someone’s account. But the person who’s computer is being hacked has actually put codes in place and it’s locked, so the hacker couldn’t hack it.”



AUSTRALIA (11–13): Inesh makes a LEGO representation of “a firewall to keep you safe online”.

According to the DQ Institute’s Child Online Safety Index (COSI) (2020, p. 1), Australian children are the safest online, second to Spain, with Korean children ranked 5th and then Indian children ranked 9th across a total of 30 countries. The COSI mean score was developed from a comprehensive list of determinants including six main ‘pillars’ of children’s digital exposure: cyber risks; disciplined digital use; digital competency; guidance and education; social infrastructure; and connectivity (DQ Institute, 2020, p. 5). Korean, Indian and Australian children all performed well across most pillars scoring in the above average or average range, most significantly each ranked safer than larger countries such as the USA, the UK and China.

There was only one instance of a fall into the ‘below average’ category for Korea in the ‘guidance and education’ area (DQ Institute, 2020, p. 6). This guidance and education area was determined by the level of parental guidance and by the level of online safety education, with Korea seen in the COSI Report to be below average compared to the other 30 contributing countries. Korea scored outstandingly in the connectivity area of access and speed of internet connection, but it’s possible that



the low parental guidance ranking reflects a greater focus by government on ways to curtail addictive screentime behaviours (Ministries, 2018, 2020; Security, 2010), as opposed to the provision of more holistic guidance regarding internet safety. Korea performed highly in areas of cyber risk, disciplined digital use and digital competency, pointing to the successful implementation of government led initiatives in these areas. Factors such as owning a smartphone and being highly active on social media and gaming increase children's risk of being exposed to cyberbullying, sexual content, reputational risk, violent content, risky contact and gaming disorder by 20–40% (DQ Institute, 2020, p. 3) exponentially. Thus, with device ownership, gaming culture and connectivity at its peak in Korea, it is less surprising the cyber risk score is increased. Lower device ownership, shared device ownership and a lower level of internet access and connectivity in India also contributes to a lowered chance of negative encounters and safety breaches in India. However, India was still ranked very highly (2nd out of 30 countries) in guidance and education, but the COSI acknowledges the sampling in this country was biased towards private school participation in the survey.

## INDIA

The older Indian children we spoke to (11–13 and 6–10) expressed an awareness of digital safety, as well as a general understanding of data theft and hacking, with numerous children in both age groups mentioning personal experiences of these. Although most children (11–13 and 6–10) did express the importance of digitally safe practices (locking phones and not sharing information), the 11–13 age group expressed a deeper and more nuanced understanding of the potential risks, particularly around locking devices, an awareness of being tracked online, fraudulent calls, not trusting strangers, and protecting passwords. Indian children (11–13) mentioned that this was often instilled in them by their parents, adding that they would seek help from parents if they felt unsafe. However, they were also worried about consequences from parents if making a mistake. This age group (11–13) also talked about learning about digital safety in school.

Children in the Indian 6–10 age group were particularly aware of hackers:

- U: All our personal details in the computer like files, etc. If it gets hacked, hackers can sell that information in the online market
- RA: Y, what did you make?
- Y: I made a lock for the computer so that no one can hack
- RA: Okay. And you made this because you take precautions or because something like this has happened with you or your friends?

- Y: No, it hasn't happened with me, but it has happened with one of my friends. Someone locked her account, and then she couldn't unlock it
- U: It has happened with my friends as well

Although the youngest age group (3–5) mentioned locking phones in between uses, they had little-to-no understanding otherwise of how to be safe online:

- RA: How many of you know what's safety (Suraksha)
- S: \*raises her hand\* I know
- S: We should walk carefully to avoid getting hurt
- D: We should be vigilant of cars, as they can hurt us if we aren't aware enough
- RA: What's online safety? On phones, laptops, etc.
- S: If the electricity goes out, we can close it and not use it
- D: We can switch off our phones
- RA: So, for you safety means?
- Children: On road safety
- Children: And also switching off our phones

## KOREA

Korean children we spoke to discussed digital safety the least, and they also had the least awareness of digital safety apart from what they had learned at school about the risks of 'cyber violence' and 'overdependence prevention'. Two children in the 11–13 group did mention they had friends who got hacked:

- RA: Have you guys experienced personal data leaks?
- SW: A friend of mine has.
- RA: What happened?
- SW: His KakaoTalk was hacked.
- HN: My friend got hacked in a game.

Korean children in the (6–10) age group we spoke to did not widely discuss or express a deep understanding of digital safety apart from a general awareness that their data could be stolen. Similarly, the youngest age group (3–5) had little-to-no understanding of digital safety apart from mentioning that they locked cell phones in-between uses.

## AUSTRALIA

The children from both the older age groups (11–13 and 6–10) expressed an understanding of safety. However, it was the older of these two groups (11–13) that showed a deeper understanding of potential risks, and they elaborated further with potential strategies to make online activities safer. The youngest age group (3–5) had little to no understanding of digitally safe practices; children (3–5) did mention they knew to ask adults for permission before using devices, but this was not expressed in the context of digital safety. When prompted, the youngest children (3–5) understood the idea of safety in a general sense as very important in the real world, but this did not translate into any concrete understanding of online risks or dangers.

Older Australian children (11–13 and 6–10) expressed an understanding that safer online practices helped protect their personal information and avoid cyberbullying or hacking. Both age groups (11–13 and 6–10) mentioned that they had been taught about digital safety at school. Children in the 11–13 group elaborated by recalling that they were taught to: secure their log-in details; keep devices locked; not reveal personal information; or not to trust strangers online. Further, this oldest cohort (11–13) had been taught to identify unsafe websites by analysing the websites' URLs. Multiple children in this age group (11–13) also expressed an understanding of IP addresses, and how they can be used to locate a user's real world location. Some children in the younger age group (6–10) understood to identify unsafe websites through the 'lock icon' shown by internet browsers:

- Lu: Well, I forgot to tell you this but if you search up a website or something, there's this padlock in the middle – it's near the search – where you type, if it's open it's not safe and when it's locked it's safe.
- RA: Oh, okay so you can look at the search name of the website-
- Lu: But it can still get hacked but you can check it.
- M: It's a bit more safer if it's [locked]
- RA: So, there are safe sites to go on and you know that from the lock symbol and there are unsafe sites and you know that from the unlock symbol. But you can still go on the unsafe ones, but you just have to check and be careful, is that what you're saying?
- Lu: Yeah

Multiple children in the Australian 6–10 group also talked about their parent's involvement in their digital safety, from asking for advice and seeking help to the use of parental restrictions:

- Le: I usually use my mum's advice to make sure that whenever you go in the internet or online that you make sure that [you avoid] any inappropriate videos or pictures or any bad chatting sort of stuff [...]
- RA: Has that ever happened to you? Not really? No, but do you see it happening to other people?
- Le: Yeah. I think it happened once.
- M: Yeah, but the good thing for us 'cause our parents put on the thing so we can't see the chat or anything in there
- RA: That's a good thing?
- M: Yeah, so then if there's anything inappropriate we don't see it [...]
- M: Just to add onto Lucas's and what he said like you can also take a screenshot of what was happening and then turn your device off and then you can go tell an adult about what happened 'cause you have a picture, you have proof about what happened.
- RA: Okay, that's a good idea so, Mia, you take the evidence to an adult who has some power to take some action?
- M: Yeah. [...]
- L: I make sure nobody's hacking me or doing stuff to offend me
- RA: So, you make sure no-one's hacking you or doing anything to offend you. If that happened, what would you do to stop it? Who would you go to?
- L: My dad.

Although one child in the Australian 6–10 age group mentioned they'd seen another user harassed online, most felt relatively safe online. Multiple children in the older age group (11–13), however, expressed that they never felt completely safe online, and one child in particular expressed that some risk was inevitable when using online platforms:

- S: I feel like you can teach people how to be safer online, but you can't teach people how to be completely safe. Like, you can teach people not to share personal information, not to talk to strangers, not to message people you don't know. You can teach children that from a young age, but you can't teach them how to be completely safe online.

Apart from not trusting other online users, children (11-13) also expressed not trusting platforms themselves. **W** discussed how he avoided providing information to these platforms:

- W: It says it gives me this to put an email address in it and there's a thing that you can do with it which you can skip it and it sometimes gives you it again just in case if you wanted to do it or not. So, I never actually use email addresses or anything, I just create the username and password, that's all.
- RA: So, you've got some ways of keeping yourself safe online.
- W: Yeah.

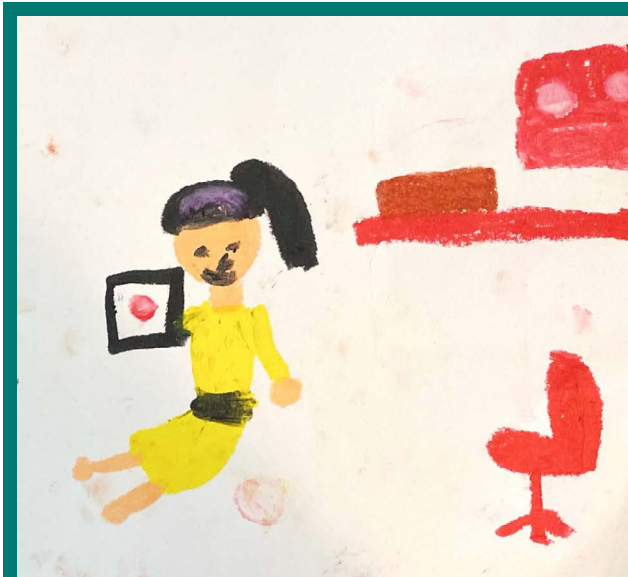
Other children talked about how they stay safe when gaming, either by playing on less populated servers, or by creating multiple accounts, as mentioned in the 'Digital Critical Thinking' section of this report. Multiple children in the 11–13 age group had unsafe encounters online. **W** described his particularly challenging experience:

- W: I've chosen this [prompt card] 'cause once I was playing a game a while ago, this person tried to stalk me and I just decided to leave the game and then they somehow managed to find me all over again without doing anything but just joining the same servers as me somehow when he doesn't know what servers I actually join.
- RA: What game were you playing?
- W: Roblox.
- RA: Do you normally play Roblox with your friends?
- W: Yeah.
- RA: So, who was this person?
- W: I don't know 'cause they would never tell me their name.
- RA: How do you know that they were stalking you?
- W: What they were saying to me, trying to make me tell them where I live, everything that I know.
- RA: How did you know not to tell them that?
- W: 'Cause I experienced it by on different games.
- RA: Who taught you that you aren't allowed to share things with people online?
- W: My teacher.

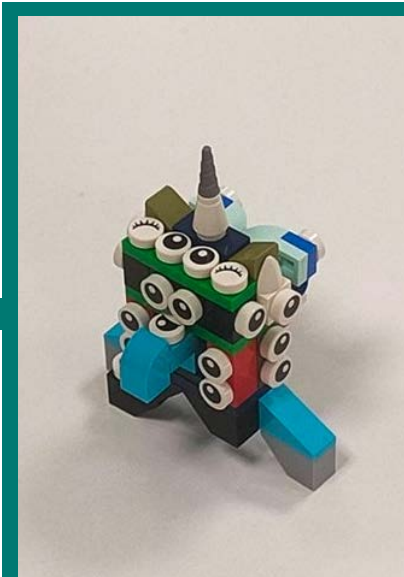
## SUMMARY

Consistently across all three countries, there was an increased awareness of digitally safe practices in the two older groups (11–13 and 6–10), while there was consistently a lack of understanding of digital safety across all three countries' 3–5 age groups. When comparing the oldest children from all three countries: Korean children had the least awareness of digital safety; Indian children had the most awareness of, and firsthand experience with, unsafe online encounters; and Australian children had the most nuanced understanding about how to mitigate online risks. Australian (11–13 and 6–10) children and Indian (11–13) children learned digitally safe practices from teachers and parents, as did Korean children (11–13) though to a much lesser degree.

## DIGITAL PRIVACY



KOREA (6–10): Yo-Jin talks about her drawing of a girl in her bedroom “reading cartoons [online] when Mommy’s asleep”.



AUSTRALIA (6–10): Jack explains that “it’s basically a eye monster thing ... So it’s supposed to symbol what you have to face when you do something wrong that you know you’re not supposed to do”.

In 2021, the UN Convention on the Rights of the Child released the notable General comment No. 25 on children’s rights in relation to the digital environment (UNCRC, 2021) in which they identify that “privacy is vital to children’s agency, dignity and safety and for the exercise of their rights”(p.11) and that education programmes, such as digital citizenship education, “should include information on how children can benefit from digital products and services and develop their digital literacy and skills, [but also] how to protect children’s privacy”(p.6). Previous research had also identified the importance of children’s digital privacy and its multidimensional nature encompassing physical, communication, informational and decisional privacy (UNICEF, 2018; Livingstone, Stoilova, & Nandagiri, 2019). This has led to growing attention in recent years being paid to children’s rights to digital privacy and ways that digital industry and government stakeholders can take greater responsibility for this. For example, The RITEC (Responsible Innovation in Technology for Children) project co-founded by UNICEF and the LEGO Group and its related report: Responsible innovation in technology for children: Digital technology, play and child well-being (UNICEF, 2022); and the 5Rights Child Online Safety Toolkit (5Rights, 2022) which enshrines children’s digital privacy as a key right.



In the discussion in the children's roundtables, 'Digital safety' and 'Digital privacy' were very closely aligned, in that breaches in privacy were generally discussed as a subset within greater concerns of digital safety, and/or to a much lesser extent, discussed in relation to cyberbullying, digital identity and digital footprint. In general, across all three countries, 'Digital privacy' was discerned from the more encompassing discussion of 'Digital safety' when children focussed specifically on the security of a user's personal information and online activity. Children mentioned how breaches in digital privacy had led to unwanted contact and/or attention and, at worst, to online harassment and/or stalking. Although children in all three countries had a comparable understanding of general online security, Indian children expressed the most concern about maintaining their privacy, with Korean children expressing the least, comparatively.

## INDIA

Although the younger Indian age group (6–10) had a slightly less nuanced understanding of how privacy can be preserved online, both other age groups (6–10 and 11–13) expressed a similar level of caution about online security. Of the three countries, children in India were the most verbal about not trusting others online. Children 11–13 specifically discussed not trusting others online with personal information like a password, even amongst friends and family:

RA: So we don't have to share this with strangers. But if your best friend asks for you password then?

Children: No, we can't share it with them also

RA: You won't even give it to her?

Children: No

RA: But if she has some work on your Instagram, and she wants it for some time, then?

Children: No

G: We can do it

P: She can tell us the work

G: We can't trust anyone these days! Even your friends are fake

RA: So for this you aren't trusting even your friends?

Children: No

G: I actually don't trust my friends for anything

RA: Okay! And if parents ask for it?

G: Still no

RA: If your mum asks for your password?

R: I can give

M & P: We won't

- RA: You won't give your mother the password?
- M & P: No
- RA: Who else will not give the password to their parents?
- N: I will give
- RA: So, R & N can give their passwords to their parents. The rest? Don't worry we won't go and tell your parents
- P & R: We can sometimes give it to parents, but not to siblings
- RA: Okay! Very specifically, you can't give it to your siblings
- N: No, siblings, can't trust them
- P & R: Can be given to parents
- RA: But you can give it to your parents?
- Children: Yes
- N: They won't harm you

## KOREA

When prompted, it was understood in both the older Korean age groups (6–10 and 11–13) that devices should be locked when not used, that personal information (specifically passwords and real world names) should be protected online, and that, in general, limiting what is shared online is a safer approach. However, these conversations were limited compared to Australia and India. Further, and unlike the other two countries, most conversation on practical approaches to privacy (across all three Korean age groups) was centred around keeping devices locked. With the exception of one child discussing their friend's hacking experience on KakaoTalk, already referenced in the 'Digital Safety' section, none of the Korean children really elaborated on how they maintained privacy online, and several discussed a fear of repercussions from parents regarding screentime and their parents' wish for them to prioritise study over digital play or socialising.

## AUSTRALIA

How to preserve privacy in practice was better understood in the older Australian age group (11–13). A less nuanced understanding of privacy in younger groups we spoke to was evident in some children's responses, for example, in the 6–10 age group:

RA: Okay, great. If I said privacy online, what does that mean? Lily?

L: Keeping all the stuff that you do on the screen all to yourself.

[and]

EP: I usually [do] not just give out my information or my address, like, if it's just a website but if it's a trusted website that lots of people use and it's trusted then I give out that information.

Children in the older age group (11–13) mentioned instances of privacy breaches when they were gaming online or using social media platforms. As mentioned in the 'Digital Privacy' section, **W** (11–13) described how he was tracked online while playing Roblox, and he chose to draw a picture and make a LEGO figure that reflected this significant experience in addition to sharing the experience in discussion. **W** added that, to reclaim his privacy and stop this stranger from finding him, he changed accounts. Though this was only considered a temporary solution for him, it did provide him with some interim sense of privacy:

W: No, it's 'cause I mainly change my account 'cause every time I change my account, I don't see this person for a very, very long time.

Several Australian children (11–13) expressed that part of playing games online meant dealing with unwanted contact due to the accessibility between players these platforms facilitate. In these instances, preserving online anonymity was offered by multiple children as their approach to privacy. These children also recalled instances of being tracked simply when browsing:

RA: So what do you think you need for privacy online? What do you need to be more private online?

S: A really, really tricky password and a thing that makes you safe, I don't know 'cause sometimes there are these apps that can protect you from trackers. Like on Safari, the servers on Safari, it protects you from trackers and also, I always get these spam messages on my phone from Google saying that they're trying to track me but they've saved it.

W: My brother had that problem but on eBay and I've also had a lot of times through eBay and now I'm getting some random messages and I'm just ignoring

and it's the same exact things that my brother's getting sent. So, something is sending a message with my brother and me and we both have pretty much got the same account but not at the same time 'cause we both play the same games a lot together.

This group (11–13) also expressed a general understanding of how a user of an online platform could have their privacy breached, leading to the discovery of someone's geographical location.

RA: What do they do with your IP address, do you know?

S: They find your house.

RA: They find your house? Okay.

J: (Whispered) Using your IP address, they can work out to locate you as part of your personal information.

RA: Can you say that in a nice loud voice, James? 'Cause that's a really good point and it's really helpful for us.

J: Using your IP address, people can locate where you are and part of your personal information.

## SUMMARY

Unlike the Australian children we spoke to who would call on parental help in the face of threats to digital safety, the Indian and Korean children had similar attitudes about not involving their parents in instances because they feared retribution for engaging in potentially risky behaviour around their privacy online. This correlates with DKAP (UNESCO, 2019) findings regarding Korean children's reticence to discuss incidences where they avoided involving parents in online problems they encountered, with Korean children preferring to rely on self-taught strategies, peer groups, and even the police before involving their parents regarding problems such as breaches of privacy. Similar findings have recently been reported in the India Kids Online study, with Indian children surveyed being predominantly self-taught, supported by peers and uncomfortable discussing specific issues with parents (Pathak-Shelat et al., 2022, pp. 8–9). Interestingly, the India Kids Online report also stated that children they surveyed “felt digital participation necessitated some privacy compromise, particularly for an enhanced and personalized experience” (Pathak-Shelat et al., 2022, p. 9), with many children accepting online terms and conditions either out of habit, or through trusting a website. Language barriers contributed to this problem also, with many children accepting the terms and conditions without fully comprehending them. Apart from instances where children simply lack digital literacy, it is surmised that a lack of comprehension concerning terms and conditions is also due to the non-child-

friendly way such information is often expressed, even when pertaining to products and services marketed towards children. Further, Australian children we spoke to were comparatively much faster to acknowledge the role of parental mediation in their online lives, as well as a willingness to approach parents for help before peers or teachers.

## CONCLUSION

Findings and messages gleaned from this research's relatively small pool of child participants points to the need for greater levels of consistency in cross-cultural (and culturally specific) digital citizenship education. This includes a focus not just on mitigating online dangers, but in navigating increasingly sophisticated levels of interpersonal online relationship dynamics which children are currently called upon to navigate independently, often on a daily basis. Education and awareness that advocates for safe and ethical online behaviour toward others is integral to children's digital citizenship development. Such an educative approach can provide children with skills for ongoing protection from threats such as cyberbullying and grooming/child exploitation, as well as granting children greater agency to benefit from the positive aspects of digital citizenship like making friends and maintaining relationships, playing safely, managing conflict, and socialising with other digital citizens.

The DQ Institute advocates for global standards in language, understanding, structure and taxonomy as guiding principles in formulating the development of an individual's ongoing Digital Intelligence (DQ), defined as “a comprehensive set of digital competencies rooted in universal moral values for individuals to use, control and create technology to advance humanity” (2019, p. 5). This research project's focus on the nominated ten broad competency areas of cyberbullying, screentime, digital safety, digital privacy, digital empathy, digital critical thinking, digital safety, digital identity, digital play, and digital friends takes a similar holistic approach. Phase Two of the research project *Digital Safety and Citizenship Roundtables* amplifies the voice of children allowing researchers to draw detailed and nuanced pictures of younger (age 3–13) children's digital lives. Thus, the research contributes the children's authentic voices, captured in drawing, discussion and LEGO play, to research about digital citizenship, illuminating our understanding of the everyday lives of digital children in India, Korea and Australia.



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