ONLINE SAFETY IN THE PACIFIC

A report on a Living Lab in Kiribati, Papua New Guinea and Solomon Islands

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Young and Resilient Research Centre
The Young and Resilient Research Centre is an Australian-based, international research centre that unites young people with researchers, practitioners, innovators and policy-makers to explore the role of technology in children's and young people's lives and how it can be used to improve individual and community resilience across generations.

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EXECUTIVE SUMMARY

With cable internet systems rolling out across the Pacific, access to affordable and fast digital connectivity in the region is set to rapidly expand, opening up unprecedented opportunities for children but also potentially exposing them to new risks of harm. Child online safety in the Pacific region thus stands at a critical juncture.

However, there is very little rigorous and reliable evidence to guide policy and decision making in relation to children's digital practices and online safety. To address this gap, from December 2019 to March 2020, the Young and Resilient Research Centre at Western Sydney University, ChildFund Australia and Plan International Australia conducted research to map the challenges and opportunities that technology presents for children in the Solomon Islands, Kiribati and Papua New Guinea. The project deployed a qualitative, participatory research methodology developed by the Young and Resilient Research Centre and previously deployed in over 70 countries. This report presents the findings of half-day creative workshops conducted separately with:

- 96 children aged 10-18;
- 58 parents and carers; and
- 50 representatives of government departments, local and international NGOs, schools, police, telecommunications companies, religious organisations and community leaders.

Workshop activities explored key themes relating to each group's perceptions and experiences of children's digital media use and online safety, with the overall aim of generating an evidence base for ChildFund Australia's and Plan International Australia's future child protection programming in the Pacific region. Activities included writing, discussion, polls, and arts-based tools. Participants were engaged individually, in small groups, and as a whole group.

Overall, despite different cultural practices and contexts at play in the three countries that participated in the study, across the sample, there were remarkable similarities in children's, parents'/carers' and other adult stakeholders' experiences of navigating online safety issues for and with children. These key findings are summarised below.[1]

ACCESS

Digital technology is increasingly key to everyday life in the Pacific region. Children and parents/carers encounter technology in a variety of places, including at school, at home, in shopping centres and at church. Children report using landline telephones, desktop computers, laptops, tablets, televisions, and cameras. However, nearly 50% of children report that they do not personally own or have regular and reliable access to a digital device, and some report that they cannot access the internet at home. Those children who use digital technology most commonly do so at home or at school, though access is deeply uneven across the sample.

Further, the vast majority of those that use digital technology on a regular basis say that a mobile or smartphone is their primary point of internet access. Reflecting their diverse levels of exposure to technology, children and parents/carers report widely divergent levels of digital literacy.

Cost is the key barrier to children's digital access: Many families cannot afford devices or data plans. Slow or poor-quality connectivity, unreliable electricity infrastructure, and limited digital literacy also impede

1. A summary of country-specific findings can be found in Appendix 1.

children's access to digital technology and the internet. Regular and reliable access thus remains a key challenge for children and their families in the three countries, and is a policy priority for the region.

OPPORTUNITIES

Children in the three countries are enthusiastic about the educational opportunities and greater access to information that technology provides, and see great benefit for their futures. Benefits that particularly excite children include communicating with peers and family members; improving their English skills; having access to news and current affairs in the region and overseas; and entertainment.

Stakeholders across the three countries report that technology strengthens social and family bonds; improves education and understanding of current affairs; provides entertainment; and supports recreation. Parents and carers value children's improved access to educational, health and safety resources. They also appreciate increased access to religious and cultural resources and entertainment (Solomon Islands), and connection with family and friends (Kiribati and Papua New Guinea).

RISKS OF HARM

Children in the three countries are broadly aware that they might encounter risks of harm using digital technology. They say social media presents the greatest risks to their safety and are most concerned about encountering sexual or violent content (including news coverage of violent events or photos of the deceased), harmful influences, cyberbullying and hacking. Reflecting dominant gender norms, children report that girls are more vulnerable to – and less able to manage – the risks associated with engaging online than boys. Overall, wherever children have limited opportunities for digital engagement, this negatively impacts their capacity to identify and manage these risks.[2]

Parents/carers and stakeholders rate children's exposure to inappropriate content online among the most dangerous and prevalent risks to children's online safety. Parents and carers also worry about how digital engagement might be eroding cultural values and practices. Indeed, in general, parents and carers report that the internet exposes children to negative external influences from which they feel ill-equipped to control or protect their children. Parents also have concerns about children's overuse of or the potential health risks associated with digital technology.

In addition to inappropriate content, stakeholders express concern about cyberbullying, addiction and distraction as key risks, as well as how technology use might negatively impact children's social skills, values, relationships and health.[3]

RESILIENCE AND SELF-PROTECTIVE SKILLS

Children who regularly use the internet[4] are generally confident they can protect themselves online. They know about a range of protective strategies include blocking inappropriate websites and harmful users; protecting their passwords; using firewalls; avoiding interactions with strangers; and refraining from sharing inappropriate content. Children actively avoid harmful situations by exercising self-control or following their parents' and carers' advice.

2. Given their very limited exposure to digital technology, children living in the settlement in Papua New Guinea had very little understanding of online risks. Even so, they had clearly received education about the negative effects of cyberbullying and cited it as a key risk, although they were not always sure what cyberbullying is or how it occurs. This highlights the need for online safety education to articulate with children's contexts and lived experiences.
3. Notably, in workshops, participants did not mention key online risks of harm associated with misinformation, absence of privacy protections and data mining/sharing.
4. Data about resilience and self-protective skills was not generated in Papua New Guinea as the children in the settlement had very limited exposure to digital technology and the internet and, as such, it was deemed inappropriate to explore their strategies for protecting themselves online.

However, although they feel confident about staying safe online, some children report that they do not always have the digital skills to protect themselves online. Paradoxically, while parents/carers and schools restrict children's technology use to safeguard them from harm, children say this prevents them developing the experience and skills to confidently self-protect online.

Children in the three countries are most likely to turn to a parent or carer – most often their mother – if faced with a dangerous situation online. Children across the region could identify few other adults or dedicated avenues of support that might help them navigate complicated issues related to digital technology.[5] There is clear scope to improve children's awareness of support mechanisms.

MEDIATION AND SUPPORT

Parents and carers generally believe that restricting their children's digital technology use best protects their children from online dangers, with 15% of parents and carers prohibiting their children from going online altogether. Corroborating these views, children who regularly use technology report that parents and carers commonly limit when, where and how long they can use it, and the activities and content they can engage with.

Parents and carers generally recognise they play an important role in keeping children safe online. However, they generally feel under-equipped to provide effective support and protection; thus they turn to prohibitive strategies. Parents and carers would benefit from targeted education about how to support their children's safe digital technology use. Children would benefit from knowing who else, beyond their parents and carers, they can ask for support in managing online risks.

RESPONSIBILITY

Across the three countries, parents and carers are seen as most responsible for keeping children safe online.[6] However, parents themselves feel ill-prepared to carry this level of responsibility. Some used the workshops to call for digital literacy education for parents so they may better guide their children online.

Schools and teachers are seen by adults as vital to securing children's online safety. Parents – in particular those in Solomon Islands – are calling for digital literacy and online safety to be embedded in the national education curriculum in the three countries.

All stakeholder groups call on governments to develop and implement policies, regulations and legislation that protects children online. They also believe cultural, religious and sporting organisations, and community leaders share responsibility for guiding children to make safe choices online. This underscores the need for a whole-of-community approach to enhance child online safety.

POLICY AND PRACTICE CONTEXT

Adult stakeholders from all three countries identify a range of initiatives underway in Solomon Islands, Kiribati and Papua New Guinea, as well as in the broader Pacific region, to address the risks and opportunities of children's digital technology use. These include commissions, development of relevant regulation and legislation, classification of online content, national youth policies, community policing and awareness programs in schools. Even so, stakeholders report that there is much scope to better harness collective expertise, minimise duplication and maximise resource allocation. They unanimously call for cross-sector, multi-stakeholder communication and collaboration to strengthen and extend existing initiatives and programs, and to develop new online safety interventions.

5. The exception here is children in Kiribati, who reported that they would turn to police for serious issues.
6. The exception here is children in Kiribati, who placed the greatest level of responsibility on police.

Overall, the study shows that access remains the key challenge for children and their families in the three Pacific nations. Limited access to technology has, to date, seriously impeded children's development of the necessary literacies and protective behaviours to underpin safe online engagement. So too, parents/carers and the other adults who influence children's lives are not yet adequately equipped to support children to minimise the risks of harm and to maximise the opportunities.

Given the critical developments in digital technology policy and infrastructure underway in the Pacific region, children's access to technology will likely increase rapidly, underscoring the importance of building online safety and digital literacy across communities in the 'Blue Continent'. In this context, recommendations to maximise the reach and efficacy of online safety policy and programming across the region can be found overleaf.

RECOMMENDATIONS

The following recommendations are drawn from the insights of children, parents and stakeholder groups in Kiribati, the Solomon Islands and Papua New Guinea. They provide guidance for future policy development, programming and other initiatives to support children's safe engagement with digital technology in the Pacific region.

The below recommendations have been developed under three key pillars.

- Protection;
- Provision; and
- Participation.

We considered key audiences in developing these recommendations including:

- Pacific Island Country governments;
- Donors;
- Business and industry;
- Development I/NGOs; and
- Girls, boys, young women, young men, families and communities.

1. Policy and regulation

Governments in Kiribati, the Solomon Islands and Papua New Guinea could consider the following:

1.1 Review existing legislation and identify legal protections that would strengthen children's online safety, including the prevention of serious online crimes.
1.2 Develop whole of government guidance on the measures required in order to respect, protect and fulfil children's rights in the context of digital media, and upskill key decision makers about child online protection.
1.3 Develop online content classifications and ratings to ensure that children access age appropriate content.
1.4 Allocate available resources nationally during budget processes to enhance children's online safety, including improved and safe technology access in schools and training for teachers in digital literacy and online safety.
1.5 Allocate available resources to train parents and carers in digital literacy and online safety.
1.6 Develop specific measures to empower women, girls and children with disabilities via digital technology, which link to broader social policy objectives (e.g. ending violence against women and girls; disability inclusion).
1.7 Require industry to adopt safety-by-design approaches, accompanied by effective reporting, triage and take down processes.
1.8 Allocate available resources during the budget cycle to enhance, coordinate, and monitor children's online safety and, where it is not already in place, consider allocating responsibility for child online safety to specific government portfolios.
1.9 Where human and financial resources are available, establish a dedicated commission to coordinate a whole of government approach and promote child online safety.
1.10 Conduct quality and targeted consultations with children and young people and involve them in decision making to create effective measures regarding digital technology and online safety. Where actions are taken, these should be clearly communicated to children, young people, and their parents.
1.11 Prioritize resourcing for stable connectivity, reliable electricity infrastructure, and affordable devices in budget allocations and in regional donor advocacy, particularly for communities outside urban areas.

2. Quality programs and services

Governments, donors and INGOs could consider prioritizing the following principles in their program design:

2.1 Be guided by the four principles of the Convention on the Rights of the Child:
- Non-discrimination;
- Devotion to the best interests of the child;
- The right to survival and development; and
- Respect for the views of the child.

2.2 Centre children's needs, rights and aspirations and empower them in decision making processes to secure their online safety.

2.3 Conduct periodic research to inform policy and programming. At a minimum, such research should document children's and families' access to and use of digital technology; their digital literacies; and their perceptions and experiences of online harm; as well as the key drivers of online harm. Ideally such data would be comparable across the Pacific region to facilitate regional collaboration in programming and advocacy.

2.4 Recognize how existing gender norms impact girls' and young women's experiences of the challenges and opportunities of digital engagement, and develop strategies to promote girls' and young women's full and safe digital participation.

2.5 Program for the most vulnerable children, acknowledging that those who are most vulnerable online are frequently the most vulnerable offline.

2.6 Address root causes (e.g. harmful gender-based attitudes) through online safety programming and align online safety interventions with broader initiatives to end violence against children.

2.7 Capitalize on the potential of digital technology to support the inclusion of girls, children with disabilities, and children in remote areas.

2.8 Program to promote children's capacities to minimise potential harms while maximising the opportunities of their digital engagement.

2.9 Design online safety initiatives to promote broad-based digital literacy, including knowledge of how the internet and digital technologies work, technical skills, social and emotional literacies, higher order evaluative and critical skills, and creative content production skills.

2.10 Recognize that online safety is a long-term project and invest in quality support services (e.g. child focused helplines and counselling services), child-centered behaviour change projects, and training for professionals responding to child online safety issues in the field.

2.11 Create opportunities for children to have greater access to digital technology (e.g. loan schemes, or public-private partnerships) so that no child is left behind in the digital age.

2.12 Promote children's awareness of the opportunities of the internet and digital technologies for their future work and career opportunities, life-long learning, health, entertainment and social relationships.
2.13 Acknowledge the common practice of digital device sharing and encourage intergenerational and whole of community approaches to online safety.
2.14 Acknowledge and invest in the critical role of schools in promoting online safety as part of a whole of community approach.
2.15 Adopt a holistic approach that balances the mitigation of extreme risks (e.g. sexual exploitation, trafficking) with everyday risks (issues that may be resolved with improved knowledge of privacy and security settings), and children's own concerns (e.g. news coverage is often experienced as a form of violence).
2.16 Design online safety initiatives that are strengths-based and responsive to the diverse context and capabilities of children, their parents and communities, and recognising that children's online and offline lives are intertwined.
2.17 Develop and share culturally and age-appropriate metaphors for explaining the internet and digital technology to children and their families.

3. Whole of community approach

Local councils, community leaders and community-based groups could consider the following initiatives:

3.1 Implement a whole of community approach to online safety for children that engages children, parents and caregivers, teachers, sporting organizations, community and religious leaders and governments.
3.2 Support parents, particularly those in low-income settings, to increase their digital literacy and strategies for actively mediating their children's digital technology use.
3.3 Recognize the centrality of community and religious leaders across countries in the Pacific Island.
3.4 Work with community leaders and influencers to transform existing beliefs about generational technical capacities training and knowledge exchanges.

CONTENTS

1. INTRODUCTION

With the upgrade of the submarine, fibre-optic cable system networking key islands in the Pacific, high-speed digital connectivity across the region is set to rapidly expand, opening up unprecedented opportunities for children, but also potentially exposing them to new risks of harm. Online safety for children – defined herein as those aged ten to eighteen years – in the region stands at a critical juncture.

However, there is a lack of rigorous research and evidence from the Pacific region about how and why children use digital technology; the prevalence of the digitally-mediated forms of harm that impact children; and children's, parents'/carers' and the wider communities' preparedness to deal with online risks of harm. This impacts the capacity for online safety policy and programming to effectively support children, their families and their broader communities, as they come online in greater numbers.

Cognisant of the need to mitigate potential risks of harm while nurturing the opportunities for children in the region, in early 2020, the Young and Resilient Research Centre at Western Sydney, in partnership with ChildFund Australia and Plan International Australia, undertook research to map the challenges and opportunities children's technology use presents in Kiribati, Papua New Guinea, and Solomon Islands.

If online safety initiatives are to be successful in preparing individuals and communities in the Pacific region to benefit from enhanced connectivity, it is critical that they are guided by research that appropriately reflects local contexts and target audiences' lived experiences and capabilities. To that end, the project deployed a participatory methodology, developed by the Young and Resilient Research Centre and previously used in over 70 countries, to conduct qualitative data-gathering workshops with three participant groups:

- 96 children aged 10-18 years;
- 58 parents and carers; and
- 50 adult representatives of government departments, local and international NGOs, schools, police, and telecommunications companies in Honiara, Port Moresby and Tarawa.

Country-based participatory workshops explored key themes relating to each group's perceptions and experiences of children's digital media use and online safety. Workshops with adult stakeholders also mapped current agencies, programs and frameworks operating in the online safety domain. The overall aim was to generate an evidence base to underpin ChildFund Australia's and Plan International Australia's future child protection programming in the region and, ultimately, to help ensure that Pacific children's experiences online are as safe and rewarding as possible.

This report presents key insights generated by the study. We firstly present the aims and methods in more detail. We then summarise the key findings from across the region, along with country-specific findings.[7] It is our hope that policy makers, NGOs, and professionals who work with children will draw on the rich understandings of children's and families' digital media practices gained through this qualitative research to support the development of new knowledge and interventions across the region.

7. A summary of country-specific findings can be found in Appendix 1.

2. BACKGROUND

It is estimated that one in three new users of the internet worldwide is under the age of 18 years (Livingstone, Byrne & Carr, 2016), and these figures are set to increase as more and more children come online, particularly in the global South. As such, the internet and digital technology are increasingly central to children's and young people's education and social development, providing them with new opportunities to achieve their goals. Yet, online technologies can expose children to harmful experiences that negatively impact their mental and physical health and safety. Internationally, efforts to understand and mitigate such risks are intensifying as access by children to the internet grows.

In the Pacific, it is well recognised that enhanced connectivity is vital to the future livelihood of nations in the region. Building digital infrastructure and related capabilities has been an explicit aim of governments in the Pacific for over a decade, and constitutes one of the five cornerstone priorities for sustainable development encapsulated in the 2050 Strategy for the Blue Pacific Continent (Tekiteki, n.d.). The Pacific Alliance recently launched a detailed road map for realising its Digital Agenda to promote the region's effective participation in the global digital economy. Cognisant of the financial, geographical and equity challenges of connecting an island region, this road map focuses on implementing the necessary telecommunications infrastructures, legal and regulatory frameworks and e-governance services to nurture digital participation (Plantera, 2019).

In the context of these developments, online safety has been recognised as an emerging area of vulnerability for children and young people in the Pacific region. While recent research with adolescents in Fiji, Kiribati, Vanuatu and Solomon Islands found that many children and young people in the region have access to an online device at home or at school (Third et al., 2017), evidence about the use and potential abuse of online technologies in the Pacific region is embryonic (Plan International, 2019).

Researching the effects of digital technologies in the Pacific region is particularly important because, to date, resources and capacities to tackle complex issues such as online sexual abuse and cyberbullying have been limited, while at the same time the region is experiencing an expansion of access and availability of new digital technologies. Further, in a region that already experiences exorbitant rates of violence against children (Plan International, 2019: 5), it is not clear whether emerging digital practices will further entrench these challenges, or whether they might also open up opportunities to tackle such violence against children (Ellsberg et al., 2019: 70), such as through the provision of online counselling and support.

Work has been underway to address online safety, cyber security and cybercrime in the region. This work has focused in particular on regional coordination, education and training, and policy and legislative mechanisms.

2.1. REGIONAL COORDINATION

Pacific nations' diverse experiences have led to an increasing recognition of the need for knowledge sharing and a systematic and coordinated regional response to online safety challenges. This move has been supported by the Cyber Safety Pasifika initiative – established in 2011 and significantly updated in 2017. This initiative has a training program designed to:

- enhance community education in the field of online safety;
- support for the development and implementation of policy and legislation; and
- strengthen cybercrime and cyber security response capabilities.

In May 2018, these efforts were bolstered by the establishment of the Pacific Cyber Security Operational Network (PaCSON) initiative, which aims to support a regional approach to the management of cyber safety issues. PaCSON is a community of practice and stakeholders are regional cyber security and incident response experts. This group prioritises information sharing and capacity building among Pacific nations to promote best practice. PaCSON aims to strengthen technical skills and knowledge across the region; to enhance the sharing of cyber security threat information; and to develop collaborative response capabilities.

2.2. POLICY AND LEGISLATION

Across the Pacific region, governments are developing and implementing federal policy and legislation to address the online safety of children, young people, families, the business community and the wider public. The Pacific Islands Chiefs of Police's (PICP) Cyber Safety Pasifika initiative, in partnership with PILON and the Australian Attorney General's Department (AGD), has been supporting efforts to strengthen legislation and policy development across the region. In 2016, the PILON Cybercrime Working Group and the AGD undertook a desktop review of cybercrime legislation in the 17 PILON member countries. In partnership with the ITU, and in preparation for the rollout of the new submarine cable, the Kiribati government has been working since 2016 to develop its National Cybersecurity Strategy and Child Online Protection framework. Similarly, building on the 2017 National ICT Policy, the Solomon Islands National Cyber Crime and Information Security Bill is currently being drafted. In May 2019, the Fiji government passed their Online Safety Bill.

2.3. TRAINING AND EDUCATION

Enhancing community awareness of online safety issues has been a key focus for cyber safety initiatives in the region. Developed by the Pacific Transnational Crime Network and the Australian Federal Police the Cyber Safety Pasifika's online safety awareness and education initiative aims to raise children's, young people's and adults' awareness about online safety risks and protective strategies across the region. Using a train-the-trainer model, the initiative supports a team of ten trainers in five Pacific countries to skill officers with community policing responsibilities to deliver education modules to children, young people and adults about responsible technology use. Training is supported by a range of online safety resources including a presentation kit, a website and accompanying fact sheets.

That program saw the Royal Solomon Islands Police Force (RSIPF) conduct cyber security awareness exercises in a number of secondary schools in Honiara. In December of 2019, Solomon Islands became the first site where country-specific awareness and education training was completed. The RSIPF now have 25 trained presenters, located in Honiara and seven of the nine provinces in Solomon Islands, and members of the Police forces of seventeen other Pacific nations, including Kiribati, Papua New Guinea and Fiji, have also qualified as presenters (Cyber Safety Pasifika, 2019).

Beyond community education, training efforts in the region have also targeted the skilling of professionals in the field of cyber- and technology-enabled crime investigation. The Pacific Island Law Officer Network (PILON) convenes an annual Cybercrime Workshop to strengthen the region's crime investigation and prosecution capabilities, in line with international conventions. Cyber Safety Pasifika trialled a pilot Cybercrime Investigations Skills training course in 2017. This training focused on skilling practitioners to use a range of techniques, together with free and easily accessible tools, to assist with

crime investigations. The training dealt in particular with counter-terrorism and online radicalisation, but also gangs, organised crime, white collar crimes, phishing and scams, the sexual exploitation of children, and human trafficking.

The above activity notwithstanding, a critical gap remains: in many instances, with limited access to online safety and digital literacy programs, the region's children, young people and their families feel under-equipped to reap the benefits of the digital age while also staying safe online (Third et al., 2017). While many children and young people in the Pacific region have a sense of the ways digital technology might contribute to a better world, there is significant scope to encourage them to think more expansively about future opportunities and how digital technology might be mobilised to connect and to participate safely and meaningfully (Third et al., 2017).[8]

8. We discuss organisational and institutional stakeholders' perceptions of policy and practice efforts in the Pacific region later in this report (See 'Stakeholder Perceptions of the Policy and Practice Context').

3. METHODS

This project deployed a participatory methodology to conduct qualitative data gathering workshops with three participant groups, including:

- Children;
- Parents and carers; and
- Stakeholders from government departments, local and international NGOs, schools, police, and telecommunications companies.

These workshop methods create spaces for diverse participants to generate in-depth information about specific themes or issues that impact their lived experience. Data and analyses are not designed to be statistically representative. Nevertheless, the quantity and quality of data can surface important policy and practice considerations pertaining to participants' thoughts and behaviours, and reveal nuances relating to specific participant groups, that may be less easily discoverable through quantitative methods. Moreover, these collaborative data generation methods enable participants to discuss and learn from one another about the issues under consideration. Participants have reported that workshop interactions have enabled them to have a voice about important issues.

Workshops comprised a series of activities that participants completed individually, in small groups (3-5 participants per group), or as a whole group. Activities were interactive and involved writing, discussions, polls and art-based tools. The research team facilitated group discussions after each activity to feed back on responses and stimulate further discussion among participants.

Workshop activities were designed to explore key themes and questions relating to children's digital media use and online safety (see Table 1).

In each of the three participating countries, one five-hour workshop was held separately with each participant group (children; parents/carers; and organisational/institutional stakeholders), resulting in a total of nine workshops across the three participating countries. Activities and corresponding themes varied across all three workshops, with some overlap to allow for points of comparison between cohorts. The children's and parents'/carers' workshops focused on themes 1-6, while the organisational/institutional stakeholder workshop focused primarily on themes 2, 3, 5, 6 and 7 (See Table 1).

Workshop were led by members of the Western Sydney University researchers and local co-facilitators. English comprehension was high among all Solomon Islands participants and among the Kiribati and Papua New Guinea organisational/institutional stakeholder cohorts. As such, these workshops were delivered in English with some translation into Kiribati or the local Pidgin dialect by co-facilitators where necessary. For children and parents/carers in Papua New Guinea and in Kiribati, the research team worked closely with teams of local youth co-facilitators affiliated with the respective national ChildFund offices who gave workshop instructions in Tok Pisin and Kiribati and translated content created by participants where required.

Table 1: Key themes and questions addressed by the participatory study

Theme	Question
1. Access and digital ecology	• Where and how are children most accessing the online environment in the country context? • What are the leading platforms used by children aged 10-18? Are these the same, or known to, parents/ carers and supportive adults?
2. Opportunities and benefits	• What are the main opportunities and benefits for children in the online environment?
3. Risks	• What risks are being encountered by children online? • What is the frequency and experience of unwanted sexual experiences or other forms of online violence among children ages 10-18?
4. Resilience and self-protective skills	• What skills do children already have in resilience and self-protective behaviours? • Which areas need to be developed for children to practice self-protective behaviours online?
5. Mediation and support	• What support services are available to children and who experience abuse, exploitation and cyberbullying? • How are they identified and accessed by target groups? • Who are child-led services or identified supports where children gather to receive guidance, life lessons and teaching?
6. Responsibility	• Who do children and adults see as the key actors bearing responsibility for protecting children against, and responding to risks online? • What can responsible adults do to ensure children's online safety?
7. Policy and practice contexts (including Action Plans)	• What online safety interventions and programs are currently being implemented in the country? • Ideally, what online safety interventions or programs would stakeholders like to see implemented in each of the three countries?

3.1. RECRUITMENT AND SAMPLE

Recruitment was arranged and undertaken by partners' local field offices in participating countries: ChildFund in Papua New Guinea and Kiribati, and Plan International Australia in Solomon Islands. In all three locations, local offices publicised research through their existing contacts and networks, and participants were recruited through convenience sampling and accepted, based on their interest and availability. That is to say, the sample was not random; however, nor was it nationally representative.

As we detail below, in each country the research team worked with different socio-economic groupings, sometimes rendering it challenging to distinguish country-level findings from those that pertain to particular socio-economic groups.[9] In analysing the data, the research team has taken great care to ensure that all those claims that are identified as country-specific can be substantiated. However, outcomes and recommendations from this research should be considered alongside the overall evidence base of domain-relevant research when forming and implementing initiatives at national and/or regional levels.

A total of 204 children, parents/carers and other adult stakeholders were recruited in Kiribati (68), Papua New Guinea (64) and Solomon Islands (70) (See Table 2).

3.1.1. Solomon Islands recruitment

Participants for the Solomon Islands workshops were recruited by Plan International Australia, the local project partner. Children and parents/carers who took part came from diverse backgrounds. The majority resided in Honiara, with a minority travelling from villages around Guadalcanal Island to attend. Formal data about participants' socio-economic status was not collected. However, workshop interactions with participants and review of data generated in workshop activities indicated that participants represented low and middle-income cohorts, with a slight majority of participants in the latter category. Those participants residing outside Honiara were all from lower socio-economic backgrounds. Stakeholder participants in Solomon Islands represented a mix of community, NGO, education and government agencies or services (e.g. the police, government bureaucrats).

3.1.2. Kiribati recruitment

In Kiribati, child and parent/carer participants were recruited from a neighbourhood in South Tarawa where ChildFund engages in ongoing support and, consequently, has strong community connections. As is typical of the population profile of Tarawa, the neighbourhood had a relatively low socio-economic profile, with a mix of established families and new residents who had migrated from outlying areas of Kiribati. Stakeholders in Kiribati were recruited from a range of organisations, agencies and businesses involved in digital practice, provision and support, including the telecommunications industry, local and national NGOs, churches, government agencies, education and police.

3.1.3. Papua New Guinea recruitment

In Papua New Guinea, ChildFund partnered with the Young Women's Christian Association (YWCA) PNG to recruit children and adults residing in the Joyce Bay settlement on the outskirts of Port Moresby. Since its establishment in the 1960s, Joyce Bay has become home to over 10,000 people, the majority of whom are economic migrants from other parts of Papua New Guinea.[10] The settlement is primarily composed of residents who are from low socio-economic backgrounds, however, there are also small pockets of middle-income households. Parent/carer and child workshop participants were all from low socio-economic backgrounds.

9. In Solomon Islands, participants represented low- and middle-income cohorts; in Papua New Guinea, participants came from an impoverished community in a settlement outside Port Moresby; and in Kiribati, participants came from lower-income communities.
10. For a fragility assessment of the Joyce Bay settlement, see https://www.adb.org/sites/default/files/publication/30407/fragility-assess-ment-informal-urban-settlement-png.pdf

As in Solomon Islands and Kiribati, stakeholders were recruited from a range of sectors and organisations and included representatives from NGOs, government agencies, and community groups.[11]

Table 2: Summary of participants in each country

	Children	Parents / Carers	Stakeholders	TOTAL
Solomon Islands	28	19	23	70
Kiribati	30	22	16	68
Papua New Guinea	38	17	11	66
TOTAL	96	58	50	204

3.1.4. Children

Participants in the children's workshops were aged between ten and 18 years. Of the 95 total children who participated, 56% identified as female and 44% identified as male. Children were recruited through schools, local organisations and programs, including Plan International Australia's Safer Cities for Girls (Solomon Islands), YWCA PNG (Papua New Guinea) and ChildFund outreach programs (Kiribati).

3.1.5. Families

Participants in the parents'/carers' workshops ranged in age from 20 to 60 years. Of 58 total participants, 78% identified as female and 22% as male. The majority of participants in these workshops were the parents or carers of child workshop participants and were recruited through the same programs. This allowed for some analysis of intrafamilial dynamics and comparisons between responses in these groups. In all three countries, a minority of participants in the parents'/carers' workshops were unrelated to child participants but were nevertheless included as workshop participants because they were parents or carers of children for whom the issues of digital use and safety were relevant.

3.1.6. Stakeholders

The stakeholder workshop comprised participants aged between 20 to 64 years, of which 60% identified as female and 40% as male. Participants in this group were representatives of government departments, local and international NGOs, schools, police, and telecommunications companies, and were recruited through Plan International's (Solomon Islands) and ChildFund's (Kiribati and Papua New Guinea) local networks.

11. As fewer organisational/institutional stakeholders participated in the workshops in Papua New Guinea than in the other two countries, there was a more limited variety of organisations represented. Even so, local NGO and government stakeholders participated in these workshops.

3.2. DATA AND ANALYSIS

Data from workshop activities was primarily captured on printed worksheets or, for collaborative group activities, large blank paper sheets. These were supplemented by observations and notes from the workshop made by Western Sydney University facilitators and local co-facilitators.

Where required, data collected was translated in-country by local partners before digital transfer to the WSU research team for analysis. Data was entered into spreadsheets and analysis was carried out manually by members of the research team using thematic content analysis. The development of key themes and insights was guided by the research questions defined by Plan International Australia and ChildFund Australia. Additional themes emerged organically from the data and were used to supplement and extend findings related to the original research questions.

3.3. ETHICAL CONSIDERATIONS

This project received ethics approval from the Western Sydney University Human Research Ethics Committee (Protocol no. H13573).

Ethical procedures for this project adhered to child safeguarding principles outlined in the National Statement on Ethical Conduct in Human Research (Australia), the Commonwealth Child Safe framework, the National Principles for Child Safe Organisations (Australia), and policies and practices mandated by ChildFund Australia and Plan International Australia to protect children's welfare.

To ensure a culturally appropriate and respectful approach, initial assessment and refinement of research materials occurred online in liaison with Australian-based and in-country personnel from the key partners who were experienced in culturally appropriate intergenerational initiatives and collaborations. In all three participating countries, workshop agendas and materials were further vetted (and where required adapted) on the ground and face-to-face by WSU and local project partners prior to workshop implementation.

To further ensure participant safety, recruitment was undertaken and managed by local partner representatives in each country who were familiar with their respective populations and so could ensure only those safely able to take part were recruited.

To facilitate wide participation, the WSU research team worked with local personnel from ChildFund Australia, Plan International Australia or associated organisations (e.g. PNG YWCA) in each country to translate materials and co-present workshops in relevant local languages. Child and parent/carer workshops in all three countries were co-facilitated by at least three local personnel trained and experienced in working with intergenerational and individual groups. Workshops were held separately with each participant group to ensure that all participants could share their experiences as freely as possible. All participants were provided with the contact details of local support services.

The project included child and adult participants who were competent English speakers as well as non-fluent English speakers preferring local languages (Kiribati, Solomons Pijin, Tok Pisin). All stakeholder participants were fluent English speakers and stakeholder activities addressed community, societal or regional level issues and so local co-facilitation was not needed.

Because online risks of harm and cyber safety are potentially sensitive topics that could trigger negative experiences and disclosures, participants were not questioned directly about their personal experiences. Rather, the workshop used a series of creative activities organised primarily around pair or small-group work (e.g. scenario-based and persona exercises) designed to explore participants' broader ideas about and perceptions of technology-related safety, harm and protective strategies.

4. KEY FINDINGS ACROSS THE REGION

4.1. ACCESS AND DIGITAL ECOLOGY

4.1.1. Level of access

Digital technology is becoming an increasingly prominent feature of everyday life in the Pacific region. Children and parents/carers in the study report that they encounter technology in a variety of places ranging from computers in schools and mobile phone use at home to CCTV in shopping centres and digital presentations of church sermons.

"Laptop: record for church files and documents."
PAPUA NEW GUINEA, CHILDREN, GROUP ACTIVITY

"Desktop computer: school files."
PAPUA NEW GUINEA, CHILDREN, GROUP ACTIVITY

"Surveillance cameras."
SOLOMON ISLANDS, PARENTS, AGE UNKNOWN

"Camera is used by media on the field."
PAPUA NEW GUINEA, PARENTS, AGE UNKNOWN

"CCTV security purpose."
PAPUA NEW GUINEA, PARENTS, AGE UNKNOWN

"Sermon presentations."
SOLOMON ISLANDS, PARENTS, AGE UNKNOWN

Nearly half of the children and at least one third of parents/carers who participated in the workshops in each country report that they do not personally own or have regular and reliable access to an internet-connected device.

Reflecting the ways technology is increasingly integrated into daily life in the region, children and parents/carers in all three countries identified a wide range of devices to which they potentially have access in their communities, including televisions, smartphones, landline telephones, cameras, tablets, laptops and desktop computers. Even so, children have deeply uneven access to digital technology. Nearly half of the children and at least one third of parents/carers who participated in the workshops in each country report that they do not personally own or have regular and reliable access to an internet-connected device.

Echoing other studies of children's digital practices internationally (see for example, Third et al., 2017; Third et al., 2014a), child and parent/carer participants identify homes and schools as the most common environments for technology use by children. However, like their counterparts in other countries in the global South (Third et al, 2017), children also mention using technology at friends' homes, or other locations where they can get a free or reliable Wi-Fi connection (such as at their parent's or carer's workplace). They sometimes seek access in these places as a workaround when digital technology or the internet is not readily accessible. Children also access technology at a range of other locations in their communities, including businesses (stores, fuel station), markets, churches, and public spaces (bus stops, playgrounds), internet cafés and while using services (clinics/hospitals, police stations).

While all child and adult participants reported access to some form of technology at home, the level of access varied significantly across the sample. It appears that, beyond a mobile or smartphone, many families do not have a computer or other internet-connected device at home. A few families don't even have access to a mobile or smartphone.

"No mobile phones; no camera; no laptop."
PAPUA NEW GUINEA, PARENTS, AGE UNKNOWN

"[We] lack of access to technology facilities."
SOLOMON ISLANDS, PARENT, FEMALE, 50

"Poor access to technology: have no phone, no laptop, no access to watching TV because of money."
SOLOMON ISLANDS, CHILD, FEMALE, 18

Children report varied access to digital technology at school. While the groups in the Solomon Islands and Papua New Guinea reported having some – albeit, for many children, infrequent – access to computers at school, this was not the case for the children in Kiribati, where those who have access to technology at home report that they are banned from bringing it to school.

"Sometimes, I can't use it because [we are] not allow[ed] to use on school campus."
KIRIBATI, CHILD, MALE, 18

The majority of children that use digital technology on a regular basis say that, outside school, a mobile or smartphone is their primary point of internet access.

"[I don't have] access to most of this technology, only mobile phone."
SOLOMON ISLANDS, PARENT, FEMALE, 54

Given that mobile access has been shown to deliver a comparatively lower quality experience of engagement (Tsetsi & Rains, 2017; Gonzales, 2014, 2016; Mossberger et al., 2012; Mascheroni et al., 2015), this raises questions about the quality of experience children – and to some extent, their parents and carers – can have online.

In short, quality access remains a critical impediment to children's safe and effective use of technology. This is particularly pronounced in lower-income settings, such as the settlement in Papua New Guinea, where children have very limited exposure beyond watching videos via their parent's or carer's smartphone. If children are to reap the full benefits of connectivity for their education, health, social and familial relationships, cultural identity and future work opportunities, quality access must constitute a key priority for digital policy and advocacy in the region.

IS SMARTPHONE ACCESS TO THE INTERNET ENOUGH?

Mobile access to the internet is frequently celebrated for its 'leapfrogging' (Third & Kao, 2008) potential; providing a way for those in lower-income countries to gain affordable access to the internet in the absence of other means.

In addition to cost-effective connectivity, mobile access has a range of unique advantages, which include mobility (being able to use the technology in a variety of locations or while on the move); fewer and/or lower maintenance costs; being able to seek help when one's personal safety is compromised; and potentially continuous social connection (Marler, 2018).

At the same time, however, research has found that "reliance on a mobile phone for communication and information needs is a problematic stop-gap for low-income individuals lacking computer access... Mobile phones in the hands of the economically destitute are suspect to theft, loss, breakdown, and regular periods of disconnection due to unaffordable service" (Gonzales, 2014, 2016 cited in Marler, 2018 p.3508). Further, they have more limited memory, storage capacity and speed, meaning they rarely support more advanced applications (Mossberger et al., 2012) and provide limited access to particular kinds of content (Napoli and Obar, 2014).

Their smaller screen sizes, their demand for increased scrolling, and diminished functionality when typing require greater cognitive load (Murphy et al., 2016; Napoli and Obar, 2014).

Van Deursen and van Dijk (2019) conclude that "these differences impact behavioral patterns and tendencies," thereby contributing "to diminished levels of user engagement, content creation, and information seeking" (Van Deursen & van Dijk, 2019 p.357). Similarly, Mascheroni and Ólafsson (2016) find that "mobile-based users engage in less advantageous and beneficial uses of the internet," reinforcing offline social inequalities and entrenching "the digital exclusion of the most disadvantaged citizens" (Mascheroni & Ólafsson, 2016 p.8). And Napoli and Obar (2014) argue that we are witnessing the emergence of a 'mobile underclass' who "face a disadvantage in the forms of capital available through Internet access including social, economic, and political resources" (Tsetsi & Rains, 2017 p.242).

While it may be said that mobile access is preferable to no access at all, research suggests that "using a higher diversity of devices is related to a higher diversity of Internet use and more Internet outcomes" (van Deursen & van Dijk, 2019 p.371).

4.1.2. Key platforms and the purposes of digital engagement

Where they have access to technology, children's digital ecology comprises a range of services and apps. Children and parents/carers identify social media, direct messaging, voice communication, and online video repositories as the leading platforms being used and accessed by children in the three countries.

Children in the three countries are reasonably enthusiastic users of social media. Facebook is cited in all three countries as the most commonly used platform. Children in Papua New Guinea frequently use WhatsApp. Participants across the three countries also reported using Facebook Messenger, Instagram, IMO and WeChat.

Beyond the above platforms, children say they use video streaming websites (e.g. YouTube, VidMate and Netflix), search engines (specifically Google), word processing software (specifically, Microsoft), digital encyclopaedias (specifically, Encarta), games (e.g. MineCraft, PubG), and photo editors.

Like many children around the world (Third et al, 2017), those in Kiribati, Solomon Islands and Papua New Guinea most commonly use technology for communication with friends and family; primarily through social media.

"Landline phone – phone calls to families."
KIRIBATI, CHILDREN, MALE, 11; FEMALE, 10; MALE, 13; MALE, 14; FEMALE, 14

"Vidmate apps; Facebook apps; WhatsApp; IMP; WeChat; Instagram."
SOLOMON ISLANDS, PARENTS, FEMALE, 46; FEMALE, 29; FEMALE, 40

"We use to call friends or family."
PAPUA NEW GUINEA, CHILDREN, GROUP ACTIVITY

"To communicate on Facebook with relatives."
KIRIBATI, PARENTS, MALE, 44; FEMALE, 21

"Chatting with friends through Facebook and WhatsApp."
SOLOMON ISLANDS, CHILD, FEMALE, 18

Children and parents/carers also report they use technology for educational purposes, for accessing information via online searches, for entertainment (movies, games, apps) and for other creative purposes, for example taking and editing photos. Despite growing opportunities to connect with individuals, organisations and interest groups internationally, it appears that children in the region primarily use the communicative dimensions of technology to sustain localised friendships and social networks; even more so than children in other national settings (Third et al, 2017). The particular interdependence of the online and the offline in the lives of children in the three countries thereby demands that online safety initiatives align with and leverage children's everyday contexts.

"Research purposes; Encarta; Google browser; Microsoft word/excel; Educational movies."
KIRIBATI, PARENTS, MALE, 21; MALE, 27; MALE, 23, GROUP ACTIVITY

"Playing games; movies; online services/internet."
SOLOMON ISLANDS, PARENTS, AGE UNKNOWN

"Research, internet, information, doing assignments."
SOLOMON ISLANDS, CHILDREN, GROUP ACTIVITY

"Watching news, radio, communicating with friends and families, WhatsApp, texting, Facebook, searching of current [Coronavirus] outbreak."
PAPUA NEW GUINEA, PARENTS. AGE UNKNOWN

"Call; bible app; social media; news; play games; school work; work; movie; take picture; TV."
SOLOMON ISLANDS, PARENTS, AGE UNKNOWN

"We use television to watch movie."
PAPUA NEW GUINEA, CHILDREN, GROUP ACTIVITY

"Call; bible app; play games."
SOLOMON ISLANDS, PARENTS, AGE UNKNOWN

"Cell phone – communicate with relatives; Laptop – for watching movies; Computer – for communicating people; TV – for watching movies."
KIRIBATI, CHILDREN, MALE, 11; FEMALE, 10; MALE, 13; MALE, 14; FEMALE, 14

Distinct from children in other settings around the world, children in Solomon Islands and Papua New Guinea also reported that they commonly use digital technology at church and for religious purposes; for example, using Bible apps, reading 'gospel news' online, or taking photos during special occasions at church.

"We use it for gospel news."
SOLOMON ISLANDS, CHILD, MALE, 10; MALE, 17

4.1.3. Barriers to digital technology use

The above reports of technology usage notwithstanding, many children and their families in the three participating countries face entrenched challenges to accessing technology and the internet. Financial challenges are the key obstacle to accessing technology highlighted by both children and their parents/carers in all three countries. Many families do not have the resources to purchase devices or maintain data plans at current rates.

No money to buy phone."
PAPUA NEW GUINEA, CHILD, MALE, 10; MALE, 13

"No money to buy."
PAPUA NEW GUINEA, CHILD, FEMALE, 18

"My parent told me to stop online because there's no money to buy recharge cards."
KIRIBATI, CHILD, MALE, 13

"Can't afford to buy phone."
KIRIBATI, CHILD, FEMALE, 12

"No money to buy mobile. [It's] too expensive (smart phone)."
SOLOMON ISLANDS, CHILD, MALE, 10

"Poor access through technology: have no phone, no laptop, no access to watching tv because of money."
SOLOMON ISLANDS, CHILD, FEMALE, 18

"[We have] limited access to internet due to financial constraints."
SOLOMON ISLANDS, PARENT, AGE UNKNOWN

"Mobile phone - don't have one because she is a child cannot afford to buy one."
PAPUA NEW GUINEA, PARENT, FEMALE, 21

"[We] want a computer but cannot afford it."
PAPUA NEW GUINEA, PARENT, AGE UNKNOWN

The second most common obstacle listed by children across all three countries was intervention from parents and carers. As we detail further below (See 'Mediation and Support'), parents tend to deploy prohibitive or restrictive mediation strategies. Children say that parents' and carers' rules – which appear to stem from a concern to keep their children safe – often prevent them from accessing digital technology and the internet in ways they find valuable.

"Parents' rules (not allowed to use mobile phone to access internet)."
SOLOMON ISLANDS, CHILD, MALE, 17

"Want to use laptop but not allowed to by parents."
SOLOMON ISLANDS, CHILD, FEMALE, 13

"Not allowed by parents because there are issues been happening by using it."
KIRIBATI, CHILD, FEMALE, 16

Where children share devices with other family members, this also constrains their use significantly.

"My parent doesn't want me to [use] their phone."
PAPUA NEW GUINEA, CHILD, FEMALE, 14

"[I have to] get [my parents'] permission to use phone."
SOLOMON ISLANDS, CHILD, FEMALE, 10

Children in Solomon Islands and Kiribati attempt to overcome these access-related obstacles by borrowing money and devices from family and friends.

"Ask mother, brother and sisters who work to buy me SIM cards."
KIRIBATI, CHILD, FEMALE, 15

"Borrow friend's phone to get online."
KIRIBATI, CHILD, FEMALE, 14

"Can ask my uncle or family members who work overseas to buy me one."
KIRIBATI, CHILD, FEMALE, 13

"Borrowed laptop from my big sister; ask teachers in school for computer or laptop (only for research)."
SOLOMON ISLANDS, CHILD, FEMALE, 16

Where their access to the internet is constrained by limited funds, children also seek out places where they can use Wi-Fi for free.

"[I] use Wi-Fi to access internet when no sim card is... in my phone."
SOLOMON ISLANDS, CHILD, MALE, 17

SNAPSHOT: GENDER, FAMILY AND FINANCES

Household gender roles in Solomon Islands, and to some degree Papua New Guinea, shape mothers' and children's access to digital devices. Reflecting traditional gender values, in Solomon Islands, mothers frequently note that their husbands mediate and restrict both mothers' and their children's digital technology usage; occasionally disallowing ownership of devices entirely.

"[My] husband doesn't allow me to use the internet."
SOLOMON ISLANDS, PARENT, FEMALE, 36

In some cases, the husband is the only member of the family who owns a mobile phone, which other members may borrow to make calls, take photos, watch videos or listen to music.

"[I] do not have a mobile. My husband have a mobile. [I] borrow [it] from husband for do calls/music."
SOLOMON ISLANDS, PARENT, FEMALE, 40

In other cases, husbands have oversight of women's online interactions through access to their passwords, or women choose to restrict their online interactions to avoid situations that might cause tension.

"I share my Facebook password with my husband to avoid jealousy or misunderstanding."
SOLOMON ISLANDS, PARENT/ CARERS WORKSHOP

"I use the internet only to communicate with my husband through messenger."
SOLOMON ISLANDS, PARENT/ CARERS WORKSHOP

In both Solomon Islands and Papua New Guinea, mediation of digital devices by the paternal figure can be understood as an effect of the financial dependence of mothers and wives on their husbands. Where husbands control the household finances, this impacts women's and children's access and use of technology, with some mothers reporting, for example, that they must request money from their husband to buy data.

"[I have to] ask [my] husband to get money for data."
SOLOMON ISLANDS, PARENT, FEMALE, AGE UNKNOWN

Both mothers and fathers and other carers have a critical role to play in enabling their families to safely access and effectively leverage the benefits of technology. As such, it is critical that child online protection initiatives understand and respond to their needs and aspirations.

Like many other children in the global South (Third et al., 2014a; Third et al., 2017), around 20% of children in the the three countries reported that their access to technology and the internet is impeded by unstable electricity supply and/or poor-quality connectivity. These issues were foregrounded in particular by children in Solomon Islands and Kiribati. They were less of a challenge for the child participants from the settlement on the outskirts in Port Moresby in Papua New Guinea, who have much more limited access to begin with. For children in Solomon Islands and Kiribati, having poor quality access is frustrating, highlighting the challenges associated with raising children's expectations about being able to engage online in contexts that are not always equipped to support stable connectivity.

"[I have a] slow connection."
KIRIBATI, CHILD, FEMALE, 15

"Sometimes, I go to outer islands, [where] only WiFi [can be] used."
KIRIBATI, CHILD, MALE, 11

"Electricity or power is not always reliable at home."
SOLOMON ISLANDS, CHILD, FEMALE, 16

"We have no power [electricity]."
SOLOMON ISLANDS, CHILD, FEMALE, 14; FEMALE, 13

"My parents do not allow me to use mobile phone because the network connection is too dangerous."
SOLOMON ISLANDS, CHILD, FEMALE, 14; FEMALE, 13

Reflecting the range of technology experience and use, child and parent/carer participants reported varied knowledge and fluency with the details of platform operations and capabilities. Not surprisingly, then, some children in Solomon Islands and Kiribati highlighted that a lack of or limited technical know-how impacted their ability to use technology.

"[I] don't know how to access internet (Google)."
SOLOMON ISLANDS, CHILD, MALE, 17

"[I] don't have knowledge how to use Facebook."
SOLOMON ISLANDS, CHILD, MALE, 10

"[I] don't know how to get online, I only use the mobile phone for games."
KIRIBATI, CHILD, MALE, 14

When asked to identify how they work around this challenge, children highlighted the importance of their siblings and peers in supporting them to gain the literacy they need to engage online.

"I'll learn how to get online by asking friends, brother and sisters."
KIRIBATI, CHILD, FEMALE, 12

"[I] learn from others how to use internet."
SOLOMON ISLANDS, CHILD, MALE, 17

"Later will learn from my brother/sister."
SOLOMON ISLANDS, CHILD, MALE, 10

Many also reported that they would turn to parents and carers for this support. However, this raises an important challenge for online safety programming. While most parents and carers are aware that their children access social media, movies, and games online, many describe the platforms their children use in general terms such as 'movie sites' or 'computer game websites,' indicating that they are not always familiar with the platforms, apps and services their children use.

"Computer game website."

SOLOMON ISLANDS, PARENTS, FEMALE, 54; FEMALE, 50; FEMALE, 30; FEMALE, AGE UNKNOWN

"Educational games app; soccer app (sport)."

SOLOMON ISLANDS, PARENTS, FEMALE, 16; FEMALE, 29; FEMALE, 40

In order to support their children's online safety effectively, parents and carers require a basic understanding of the various platforms, apps and services their children might access, along with the kinds of content and contacts to which they are potentially exposed. This familiarity enables them to make reasoned judgments about whether their children are interfacing online in age and culturally-appropriate ways, and how they might best work with their children to ensure they maximise the benefits while minimising the risks of harm associated with digital engagement.

4.1.4. Key takeaways: Access

- Basic access to the internet and digital devices remains a consistent challenge for at least half of the children who participated in this study, particularly those living in lower-income communities. The majority of children access the internet via a mobile phone, possibly leading to a diminished online experience.
- The quality and regularity of children's access varied significantly across the sample. The key constraints on children's access are financial. Many families cannot afford devices or data plans. Slow or poor-quality connectivity, unreliable electricity infrastructure, and limited digital literacy also impede children's capacity to engage online.
- Children primarily use digital technology to communicate with parents/carers and friends, for entertainment, accessing information, education, and religious purposes. Children commonly use social media, video streaming websites, search engines, games and photo editors.
- Children sometimes experience challenges connecting online safety education with their own experiences of interacting online, signalling the need to ensure that online safety aligns with children's exposure to digital technology and their safety needs.
- Reflecting the range of technology experience and use, child and parent/carer participants reported varied levels of digital literacy. To be effective, online safety initiatives must be underpinned by digital literacy training for both children and parents/carers.

DIGITAL LITERACY

Digital literacy comprises the technical, social and higher-order evaluative skills (Third et al., 2014b) that enable users to navigate and make sense of the internet. It is about knowing how the technology works and how to navigate and use it; having the skills to create content of various kinds; being able to communicate with different people in appropriate ways using different platforms and devices; and being able to critically evaluate digital content and make ethical choices (Collier, 2012). Digital literacy is fundamental to children's capacity to harness the opportunities associated with digital technology. It is also key to children's safe online engagement. Thus, it is imperative that child online safety initiatives simultaneously build digital literacy.

Significant differences in exposure to digital technology across the Pacific region mean that both children and parents and carers have varying levels of digital literacy. Initiatives to increase child online safety need to accommodate these very diverse capacities to use and make sense of the digital. For example, in the settlement in Papua New Guinea, thanks to education programs there, children were familiar with the term 'cyberbullying' and knew it was a risk of harm that should be avoided. However, when questioned further, children revealed that, due to their very limited exposure to digital technology, they were not entirely sure what cyberbullying is; could not identify anything in their own experience that could be defined as cyberbullying; and had few ideas about how to protect themselves from this potential harm. This highlights the importance of directly connecting education about online risks of harm with children's lived experiences of using technology. In application, programming must proceed according to a strengths-based framework that firstly identifies how children are connecting online and for what purposes, and then seeks to build on these strengths to educate them to identify and mitigate the broader risks of harm they might encounter.

Parents and carers in the three countries frequently expressed a lack of confidence in their own digital skills; a factor that they say impedes their capacity to adequately support their children's online safety. This was particularly so in low-income settings, highlighting the need for parents and carers to have opportunities to develop their own digital literacy.

Importantly, children learn digital literacy through both experimentation - trial and error - and through formal education, underscoring the need for digital literacy to be formally taught in schools across the region. However, the development of digital literacy is also a fundamentally social process. Children learn how to use the internet and digital technology by interacting with and

drawing down on the experiences and expertise of those around them, including their peers, siblings, parents/carers, teachers and other trusted adults. To equip parents and carers and other trusted adults to provide the necessary guidance and support for children as they engage in the opportunities offered by the online world, child online safety programming in the Pacific needs to address the digital literacy of both children and their elders.

Children and parents/carers in the three countries, and especially those in the settlement in Papua New Guinea, had limited understanding of how information flows across international borders and the ways the internet works to connect them to both those they know personally and others. At the same time, research shows that understanding how technology and the internet works is crucial to building awareness of the potential risks of harm children might encounter (Third, 2016). It is therefore vital that children and parents/carers are educated in culturally and age-appropriate ways about how the internet works, and the associated opportunities and risks of harm. In particular, it is suggested that children and parents/carers would benefit enormously from having a culturally-relevant metaphor for explaining how the internet works. Given that wantok kinship structures loosely replicate the ways the internet works - prescribing social connections; systems of loyalty, respect and obligation; as well as social support - this may be an effective metaphor to mobilise in Solomon Islands and Papua New Guinea. Doing so would have the added benefit of aligning the use of digital technology with local culture and practice, thereby helping to strengthen it.

4.2. OPPORTUNITIES AND BENEFITS

Children, their parents and carers, and other stakeholders in each of the three countries recognise that technology affords them important opportunities. However, as Table 3[12] shows, parents/carers and other adult stakeholders were much more likely to identify opportunities associated with children's digital technology use than children themselves. While children are generally optimistic about the digital future, there is scope to raise children's appreciation of the full range of benefits of their digital engagement.

Table 3: Main opportunities and percentages of participants who identified them, by group[13]

	Stakeholders	Parents and carers	Children	Overall
Business	32%[a]	17%[a]	1%[c]	11%
Communications	77%[a]	61%[a]	35%[a]	48%
Connection	21%[a]	9%[b]	1%[c]	7%
Education	77%[a]	96%[a]	15%[a]	40%
Entertainment	51%[a]	17%[b]	27%[a]	32%
Information	43%[a]	70%[a]	14%[b]	28%
Personal Development	28%[a]	48%[a]	3%[c]	14%

Children prioritise the social and communicative opportunities of engaging online above all other potential benefits, followed by entertainment and education. The opportunities highlighted by stakeholders largely align with those surfaced by children, and cluster around the three themes of education, communications, and entertainment. By contrast, parents and carers are most convinced of the educational benefits of their children's access to the digital. Aligned with their belief in the educational opportunities, parents and carers also believe digital technology improves their children's access to information, followed by the potential to enhance communication.

Given the critical developments in both digital technology policy and infrastructure currently underway across the Pacific region, and taking learnings from other settings (see Gasser & Cortesi, 2016), it is important to ensure that these opportunities are leveraged and maximised so that children can reap the benefits presented by increased access to online environments.

12. Table 3 shows the main opportunities identified by participants across countries. Individual country breakdowns relating to opportunities can be found in Appendix 2.

a = participants in all three countries identified this opportunity; b = participants in two countries identified this opportunity; c = participants in a single country identified this opportunity. d = overall percentage across participants from all countries.

Note that while "connection" can be considered a subset of the broader category of "communication", we present a separate connection category because some participants specifically talked about the capacity for technologically mediated communication to grow or develop deeper and more meaningful relationships between people that go beyond more surface exchanges of information.

13. Business = opportunities for business/commerce; communications = opportunities to interact and/or exchange information with others; connection = opportunities to facilitate or sustain relationships with others (e.g., with family or friends); education = opportunities for formal teaching/learning; entertainment = opportunities for leisure/enjoyment; information = opportunities to access general knowledge/information; personal development = opportunities for informal and/or self-sourced individual growth (e.g., physical/psychological wellbeing, skills acquisition).

4.2.1. Communication

Like other children around the world (Third et al., 2017; Third et al., 2014), children in Kiribati, Solomon Islands and Papua New Guinea identify their ability to communicate with friends and family, including those abroad, as the most important positive dimension of their technology access.

Adult stakeholders concur with children on this point, rating the social dimensions of technology use second only to the educational benefits. Stakeholders report that, in their experience, new technologies provide effective ways to communicate and connect with family, friends, peers and colleagues, and that sustaining these connections has the potential to strengthen and sustain social and familial relationships.

"Allow/enable [people] to communicate or touch base with loved ones/school."
KIRIBATI, STAKEHOLDER, MALE, 32

"[It] improve[s] communication and connections with families and people."
PAPUA NEW GUINEA, STAKEHOLDER, FEMALE, 30

"It helps young people to [engage in] social interaction."
SOLOMON ISLANDS, STAKEHOLDER, FEMALE, 42

Parents and carers are more likely to highlight the educational opportunities over the communicative advantages of technology for their children. Even so, some parents and carers in Kiribati and Papua New Guinea and very few in Solomon Islands acknowledge communication as a positive aspect of children's digital engagement. They highlight these benefits for strengthening relationships with immediate family, as opposed to friends or distant relatives, implicitly pointing to their perception that digital supports and sustains everyday family life.

4.2.2. Entertainment

In all three countries, children also appreciate the entertainment value of social media and other websites. Adult stakeholders also commonly identify entertainment-related opportunities and benefits that can be enjoyed via technology. They noted that technologies act as a medium to access more traditional activities and opportunities for leisure. They also highlighted that digital technology offers opportunities for children to develop new skills in digital creative content production.

"I use it for music, games, videos."
KIRIBATI, STAKEHOLDER, FEMALE, 42

"I use it for fitness, new contacts."
PAPUA NEW GUINEA, STAKEHOLDER, FEMALE, AGE UNKNOWN

"Young people can use technology to be innovative, create films, music etc."
SOLOMON ISLANDS, STAKEHOLDER, FEMALE, 28

On this latter point, research shows that enabling children to take advantage of the more creative affordances of technology use, such as digital creative content production (e.g. blogging, collaborative creative writing, generating and sharing video content and so on), means they are more likely to develop sophisticated digital literacy and be better prepared to mobilise technology for benefit (Livingstone et al., 2014). However, realising such ambitions at scale across the Pacific region may take time. Even in high-income countries with strong uptake of digital media across the population, children still do not participate in many of the higher-order, creative possibilities associated with digital media use (Livingstone et al., 2014).

Remembering children's right to play, entertainment is an important benefit afforded by children's digital engagement. Parents and carers in Solomon Islands were more likely than their counterparts in the other two countries to list entertainment as a positive aspect of technology. However, parents and carers are broadly much less attuned to these benefits than children, suggesting there is opportunity to increase intergenerational understanding around the benefits – and limitations – of children engaging online during leisure time.

4.2.3. Formal and informal education

As in other countries around the world (Third et al, 2017), children in Solomon Islands, Kiribati and Papua New Guinea are positive about the educational opportunities that greater access to information provides. Children in Solomon Islands are most excited about improving their English skills, being informed about news and current affairs in the region and overseas, and listening to inspirational advice from successful entrepreneurs. Children in Papua New Guinea are also enthusiastic about the opportunity to develop their vocabularies, in addition to staying up-to-date with world news and sporting developments. Children in Kiribati are most excited about the possibilities of access to learning resources.

Parents/carers and adult stakeholder groups rate the educational opportunities of children's digital engagement as the most important. Across the three countries, 86% of adult stakeholders and 96% of parents and carers believe that digital technology facilitates education. They point to both formal or institutionally-driven teaching and learning, and informal or individually-motivated acquisition of knowledge and information; for example, through online courses and access to news or current affairs.

"Improves ability to learn more efficiently."
KIRIBATI, STAKEHOLDER, MALE, 32

"Self-pace learning and online courses (e.g. school dropouts can teach themselves programming/codes from online resources)."
SOLOMON ISLANDS, STAKEHOLDER, FEMALE, 37

Stakeholders also highlight that technology potentially enables those in rural or remote communities greater access to educational resources and training. Given that geographical dispersion characterises population distribution in the Pacific region, this is a benefit that is not to be underestimated.

"Enables rural communities to have access to information (news/updates/awareness)."
PAPUA NEW GUINEA, STAKEHOLDER, FEMALE, 30

Parents and carers in Kiribati and Solomon Islands suggest that digital technology can play a positive role in their child's development. While the negative influences that children may encounter via online platforms is a common concern for parents and carers (see 'Risk'), some also see the potential for their children to be exposed to positive influences online. In some parents'/carers' eyes, this can help them to develop their talents and become better people.

"[It] can change one's life to become a better person."
KIRIBATI, PARENTS, FEMALE, 35; FEMALE, 29; FEMALE, 20

"Activities that develop [children's] potential talents, positive behaviours [are beneficial]."
SOLOMON ISLANDS, PARENT, AGE UNKNOWN

"[It can] help them to become better person by seeing and imitating positive attitudes."

KIRIBATI, PARENTS, MALE, 60; FEMALE, 42

Kiribati parents and carers noted that their children's development of digital literacy and technical skills can position them for future careers in technology-related fields. Similarly, parents and carers in Papua New Guinea expressed concern that if their children do not learn digital skills, they will miss out on certain opportunities.

"[We need] to encourage them to keep using internet to expose to knowledge and skills in fixing computers or to become Information Technology [specialist]."

KIRIBATI, PARENT, AGE UNKNOWN

WORK AND ECONOMIC OPPORTUNITY IN PAPUA NEW GUINEA

Children and their parents/carers are enthusiastic about the broad range of opportunities afforded by digital media, both for their lives today and for the future. However, participants in Papua New Guinea were particularly excited about how digital technologies can enhance children's economic opportunities. Programs to raise awareness of and incentivise technology-based commerce in PNG have instilled the idea that the digital strengthens individuals' opportunities to generate sustainable income. Indeed, in low-income communities, the rise of digital technology appears to have opened up new economies and online business opportunities such as online marketplaces and entrepreneurial businesses that operate online. This appeared to be the key source of parents'/carers' belief that technology could support children's future work opportunities.

For example, children and parents/carers talked about the capacity to generate or supplement household income by marketing and selling goods online. Stakeholders in Papua New Guinea were also interested in the commercial opportunities that digital technologies could offer, listing a range of business-related or income generation uses for technology, including banking, small-medium enterprises, marketing, remote work, networking, cost reductions, productivity, and tourism.

4.2.4. Future employment and careers

Of the parents and carers in the three countries, interestingly, only those in Papua New Guinea identified specific employment opportunities associated with digital technology. Parents and carers in the other two locations tended to focus more on the benefits of technology for children in the present rather than thinking in a future-oriented way or, as identified above, pointed to generic employment opportunities associated with acquiring digital skills.

By contrast, adult stakeholders in all three countries brought a comparatively longer-term lens to the discussions about the impacts of the digital on work and employment opportunities. As opposed to the immediate benefits of engaging in digitally-enabled business, they were more likely to identify the potential benefits of being a part of a digitally connected global community for business and job prospects.

4.2.5. Health, personal safety and religious benefits

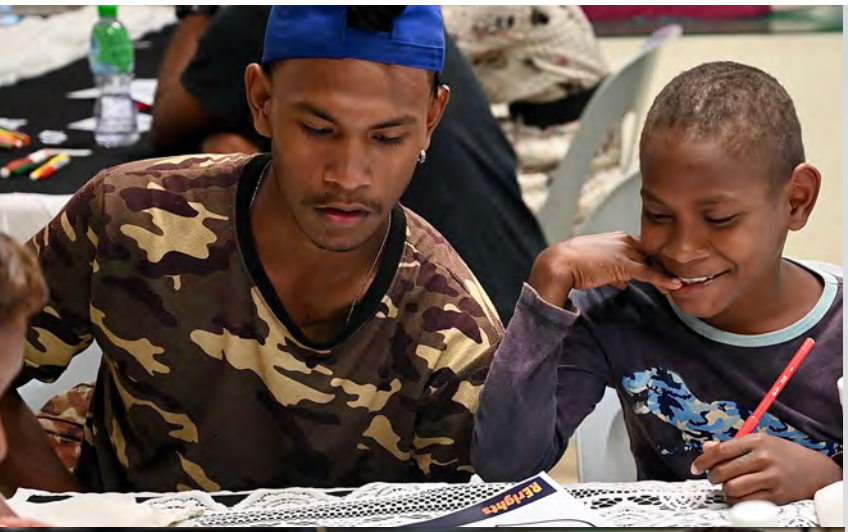
Parents and carers across the region foregrounded improved access to health resources and personal safety services as a benefit of digital technology. Parents and carers in Kiribati and Papua New Guinea highlighted increased capacity to contact emergency services as a positive improvement stemming from digital technology. Parents and carers in Solomon Islands and Papua New Guinea see increased access to online health information as an important opportunity.

> "It is used to communicate with any Government Ministries responsible in a case of emergencies, disaster."
>
> KIRIBATI, PARENT, AGE UNKNOWN

As we discuss in further detail below (See 'Religion and Digital Media'), both parents/carers and children emphasised the value of access to religious content and resources via digital technology. Children in Solomon Islands were distinct from both children in previous international studies (Third et al, 2017; Third et al, 2014a) and the children in Kiribati and Papua New Guinea, in their identification of access to religious resources as a key benefit.

4.2.6. Key takeaways: Opportunities

- Children find it more difficult to talk about the opportunities associated with digital technology than their parents and carers. They would benefit from knowing more about the benefits of engaging online.
- Participants identify enhanced access to both formal and informal learning as a key benefit of digital technology. Children and adult stakeholders also highlight communication and entertainment as key opportunities. Adult stakeholders believe children's digital engagement can strengthen and sustain social and familial relationships. In addition to education, parents and carers believe that the key benefits of their children's digital engagement are informational, communicative and religious.
- There is scope to enhance parents' and carers' understanding of social, communicative and entertainment benefits of children's use of digital technology, to align their understandings with those children.
- Given digital creative content skills are a predictor of increased opportunity online, it is worth considering how to build children's capacities in this area.



4.3. RISKS OF HARM

Generally, as children's access to online technologies increases, so too do the risks of harm they encounter online (see, for example, Livingstone et al, 2017). However, research consistently shows that not all children experience risks of harm in equal measure. Those who are most vulnerable offline are most vulnerable online (Livingstone, Lansdown & Third, 2017) and efforts to safeguard children in relation to their digital practices need to more effectively target such children.

As per Table 4 below, online risks of harm are generally grouped according to three key categories, providing a helpful rubric for both identifying and developing responses to support children to successfully manage online safety risks:

> **Content risks:** Risks in which the child is a recipient of mass distributed (one-to-many) content
>
> **Contact risks:** Risks in which the child is a participant in an interaction (often driven primarily by adults)
>
> **Conduct risks:** Peer-to-peer risks in which a child participates in interaction in which they may be an initiator on perpetrator. (Livingstone & Haddon, 2009: 8)

Table 4: A classification of online risks for children (Adapted from Livingstone & Haddon, 2009: 9)

RISKS	CONTENT Child as recipient	CONTACT Child as participant	CONDUCT Child as actor
Commercial	Advertising, spam, sponsorship	Tracking/ harvesting personal info	Gambling, illegal downloads, hacking
Aggressive	Violent/ gruesome/ hateful content	Being bullied, harassed or stalked	Bullying or harassing another
Sexual	Pornographic/ harmful sexual content	Meeting strangers, being groomed	Creating/ uploading pornographic material
Values	Racist, biased info/ advice (e.g. drugs)	Self-harm, unwelcome persuasion	Providing advice e.g. suicide/ pro-anorexia

Children, parents/carers and stakeholders in the three countries were asked to identify what risks of harm children might face online, as well as the likelihood of encountering those. Those children in the three Pacific countries who have experience of using digital technology are aware to some degree that they face a range of risks online. However, as detailed below, there is significant scope to raise children's understanding of the nature and likelihood of the risks of harm associated with digital technology use, and to skill them to better mitigate such risks.

Research in other parts of the world shows that children's perceptions of online risks of harm do not always match up with the concerns of their parents/carers and other significant adults (Third et al, 2017). Strikingly, in the three Pacific countries, children's perceptions of online safety risks correlate almost exactly with those identified by their parents and carers, and other adult stakeholders.

As Table 5[14] shows, content risks – those associated with **accessing and consuming inappropriate content** – far and away constitute the key concern of participant groups across the board (average of 82% across the sample).

Participants' secondary concerns relate to **cyberbullying** (a contact risk) and **exposure to harmful influences** (a combination of content, contact and conduct risks), although children and parents/carers prioritise these issues differently. Children rate cyberbullying and the possibility of encountering negative influences as more or less equally concerning (37-38%). Children also identify **privacy** risks – specifically, **hacking** – as a key concern (35%), though this does not register as a key concern for parents and carers. Parents/carers and other adult stakeholders consider harmful influences significantly more of an issue (45% and 70%) respectively than cyberbullying (27% and 59%) respectively.

Table 5: Main risks and percentages of participants who identified them, by group[15]

	Stakeholders	Parents/Carers	Children	Overall
Cyberbullying	59%[a]	27%[b]	38%[a]	44%
Distraction	59%[a]	18%[c]	19%[b]	34%
Exploitation/Abuse	41%[b]	9%[b]	12%[c]	22%
Harmful Behaviour	39%[a]	14%[b]	17%[a]	25%
Harmful Influence	70%[a]	45%[a]	37%[a]	51%
Health	45%[a]	18%[b]	10%[b]	25%
Inappropriate Content	86%[a]	89%[a]	77%[a]	82%

Conduct risks – what we identify as 'harmful behaviour' in Table 5 – did not constitute particular concerns for participants in Kiribati, Solomon Islands and Papua New Guinea, possibly signalling that children are either generally trusted to do the right thing online or that they are primarily seen as victims of harm online.

14. Table 5 shows the main risks identified by participants across countries. Individual country breakdowns relating to risks of harm can be found in Appendix 3.

15. Note:
a = participants in all three countries identified this risk of harm;
b = participants in two countries identified this risk of harm;
c = participants in a single country identified this risk of harm.
d = overall percentage across participants from all countries who identified this risk of harm.
Cyberbullying = bullying or bullying-like behaviours conducted online; distraction = distraction from usual and socially normative behaviours (e.g., school work, chores, sleep etc.); exploitation/abuse = extreme risks (e.g., child abuse, stalking, human trafficking, etc.); harmful behaviour = where children themselves engage in harmful behaviour as a result of their online activity; harmful influence = people or information that can negatively influence children; health = risks to physical and mental health; inappropriate content = digital content that is seen to be harmful (e.g., pornography, violence, explicit horror, etc.). Participants from groups in all three countries identified risks presented in this table.

Children's top four online safety concerns – inappropriate content, harmful influences, cyberbullying and hacking – are largely consistent with those surfaced by children in previous international studies (Third et al, 2014a; Third et al, 2017). However, there is variation in how children in the three Pacific countries prioritise these issues (See Appendix 3). In Solomon Islands and Papua New Guinea, children are most concerned about cyberbullying, followed by hacking. Despite their level of concern about these risks, only half of all children feel that they are likely to experience those risks themselves. In Kiribati, children are less concerned about cyberbullying and hacking, identifying inappropriate content – particularly exposure to horror movies and pornography – as the key risk of harm.

4.3.1. Social media as risk

Interestingly, children, parents/careers and other adult stakeholders across all three countries consistently report that children face the greatest risks on **social media and entertainment platforms**. As we elaborate below, children generally conceive these platforms as exposing them to inappropriate behaviour and negative influences, ranging from catfishing and unsolicited photo requests to cyberbullying and hacking. A few say these platforms also potentially put them at risk of exploitation or serious harm. Parents and carers across all countries believe social media exposes children to risks that include cyberbullying, advertisements, stranger danger and online grooming; although, as we describe in further detail below, parents and carers were not overly concerned about the latter two risks for their children. By contrast, both children's and parents'/ carers' concerns about other digital platforms, services and devices were minimal.

4.3.2. Parents' and carers' sense of lacking control

Parents and carers frequently reported that they **lack control** over the experiences their children may be exposed to online. They worry that the online environment generally, and social media in particular, challenges their ability to curate their children's experience of growing up and to instil their family and cultural values. Digital technology, they say, opens potential avenues for external influences to infiltrate and undermine the sanctity of their family relationships and values, and the safety of the family home.

"My fear is that my child will be exposed to this outside world where you have no control of the good and the bad."

SOLOMON ISLANDS, PARENT, AGE UNKNOWN

"[I worry about] online safety. Children can no longer be safe in the house due to the accessibility of technology, various online content."

SOLOMON ISLANDS, PARENT, AGE UNKNOWN

"I am worried for children to use internet. As we know that they can contact strangers and get in trouble. They can be crazy when they are asked by strangers what they want."

KIRIBATI, PARENT, AGE UNKNOWN

"I am worried about my daughter because she spent a lot of time using internet. It is known now that she actually communicates with a married man online."

KIRIBATI, PARENT, AGE UNKNOWN

Such parental concerns are not exclusive to the three countries in this study. Many parents around the world worry that they are unable to effectively fulfil their responsibilities to children by mediating their exposure to potentially harmful influences (Third et al, 2019 pp.5-6). While parents and carers tend to narrate this as a 'lack of control', they appear to be primarily concerned that they lack the digital literacies and skills to effectively intervene to protect children from 'dangerous' content or contact. There is great scope to enhance parents' and carers' understanding of the risks their children face online; to build their digital literacies; and to thereby empower them to provide more effective support for their children.

Further, we know from previous research that children translate their moral frameworks and values across online and offline spaces. Working with parents and carers to help them understand the influence of family relationships and shared values on children's digital practices will boost their confidence and empower them to support their children's online engagement.

4.3.3. Content risks

Children's key online safety concerns relate to inappropriate content. They point, in particular, to **violent or sexual content**, such as films that show brutal murders or pornography. The majority report that they rarely seek out this content; rather, their exposure tends to be incidental. Children are also concerned about content that contains **swearing or other negative behaviours**.

SHARING MEMORIES OF THE DECEASED IN KIRIBATI

Children, parents/carers and stakeholders in Kiribati are excited about the internet's ability to keep them informed and connected, allowing them to become global citizens. They are particularly appreciative of their ability to connect with family and friends, particularly those living abroad; sharing memories, photos and videos of their loved ones. However, in Kiribati, the sharing of memories and photos has now been extended to include those of the deceased. Like in other Pacific Islands nations, mourning is an open process, and the living maintain close connections to the deceased. As a result, it is not surprising that the news of a loved one's death is announced on social media. During workshop discussions, children explained that it has become a cultural norm to share photos of the deceased on social media.

Some children in Kiribati expressed concerns about seeing 'ghosts' and 'dead people' on social media platforms. These children find the unexpected images of a friend or family member's corpse to be distressing and say that it deters them from using social media.

"I felt sad about my brother who found died in the sea. The photos uploaded on Facebook. For that reasons I don't like watching or accessing Facebook."
KIRIBATI, CHILD, MALE, 16

"[I'm] scared of pictures, e.g. ghost, dead man and etc."
KIRIBATI, CHILD, FEMALE, 13

These content issues underscore the need for online safety initiatives to resonate with local experience, expectations and traditions.

Echoing their children's concerns, parents and carers in all three countries identify accessing inappropriate content as the primary risk their children face online and when using digital technologies. **Pornography** is a key focus of parent's worries in all three countries, but especially in Papua New Guinea. Parents and carers worry that inappropriate content sets a bad example for their children and teaches them bad behaviours.

"My biggest fear or worry about my child is that they might access to websites that are harmful, e.g. pornography."
SOLOMON ISLANDS, PARENT, AGE UNKNOWN

"I am worried about my child when she opens the website that are not good for her or him then he or she will end up as a naughty boy/girl."
KIRIBATI, PARENT, AGE UNKNOWN

"I don't want my child to log into digital internet. Why? Because I think it's not good for my child [to] be in Facebook, watching and downloading movies, pornography… and bad comics."
PAPUA NEW GUINEA, PARENT, AGE UNKNOWN

Stakeholders in all three countries concur that exposure to inappropriate content – including sexualised and violent material, and **disturbing or traumatic information** – is the primary risk facing children online. Further, some are concerned that exposure to violent content in particular might lead children to imitate violent conduct themselves. Stakeholders tend to view exposure to inappropriate content as highly risky, and also think that children have a relatively high likelihood of encountering that form of content.

"Accessing explicit materials and content (pornography)."
SOLOMON ISLANDS, STAKEHOLDER, MALE, 30

"Access to violent movies/activities."
SOLOMON ISLANDS, STAKEHOLDER, FEMALE, 37

"Exposure to explicit images/information."
PAPUA NEW GUINEA, STAKEHOLDER, FEMALE, AGE UNKNOWN

"Learn about/practice violence."
PAPUA NEW GUINEA, STAKEHOLDER, MALE, 35

"Watching too many horror movies can lead to killing."
KIRIBATI, STAKEHOLDER, MALE, 38

Implicit in these fears about the content risks children are exposed to are a series of assumptions about how digital media content directly influences children's behaviour. Repeated exposure to particular forms of content can potentially negatively affect children's behaviour. Ideally, children would be prevented from accessing age-inappropriate content. Encouraging parents/carers and children to use available privacy and security settings, as well as family filters can help achieve this end. However, technical solutions are not perfect. As such there is a need to also nurture more social and behavioural protections. In particular strategies that encourage parents/carers and other responsible adults to have regular conversations with children about what they are doing online can help to ensure that, when children confront inappropriate content, they have ready avenues for help-seeking (Third et al., 2019).

Further, it must be remembered that children interpret content through their existing knowledge, values and morals. In addition to their relationships with adults, children's peer networks play a critical role in children's

mediation of the content they consume online. If the right mechanisms are in place to facilitate conversations with peers, family and other significant adults, exposure to inappropriate content can constitute an opportunity to negotiate and reinforce shared understandings about what is appropriate and what is not (Third et al., 2019). Ensuring children can turn to their peers, parents/carers or other responsible adults for support and guidance when they encounter inappropriate content is vital.

4.3.4. Contact risks

Overall, children, parents/carers and other adult stakeholders believe social media to be the key source of contact risks.

Children in all three countries consider social media platforms – specifically Facebook – a conduit through which perpetrators of **online violence** and **cyberbullying** may reach them. They describe receiving unsolicited images, being **hacked** and having ones' private images exploited. They also describe how social media constitutes a public space in which disagreements play out.

"Facebook [is a problem] because someone can send bad picture to you and can hack your account and uploading bad picture in your account."

SOLOMON ISLANDS, CHILD, FEMALE, 14

"I chat with my Facebook friend and he uploaded his/her photos that is not good to see."

KIRIBATI, CHILD, FEMALE, 13

"He got a fight with his friend verbally while using Facebook. He was blocked and couldn't access to contact him or her again."

KIRIBATI, CHILD, MALE, 13

Children explain how, in some instances, relationships developed over social media can eventuate in serious forms of **offline violence**, such as murder or rape. For example, almost half of the children in Kiribati identified murder as an extreme risk resulting from negative experiences online, with four of the participants indicating that they believe it could happen to them. However, none of the children in the study reported having direct experience of such extreme consequences.

Parental fears about contact risks in other parts of the world tend to focus more on the extreme risks associated with children's use of digital technology, such as the potential for child sexual exploitation and trafficking. While the drivers of these risks are arguably present in the Pacific (e.g. high levels of violence against children, growing poverty, patriarchal societies and gender inequality, and rapid urbanisation (Plan International, 2019)), such risks are not prominent concerns for the majority of parents/carers and other adult stakeholders in the three countries.

Instead, parents/carers and other adult stakeholders across the three countries, are much more concerned about the ways digital technologies might unduly influence children to engage in potentially harmful behaviours. These concerns centre around ideas about how contact with others might undermine **cultural and family values** or expose them to groups whose belief systems conflict with those of their families and communities more broadly.

"Internet can affect the children in many ways like changing their lifestyle and their belief toward certain things."

KIRIBATI, STAKEHOLDER, MALE, 63

"Children can easily join in a group that is unhealthy for their development (cult groups)."

PAPUA NEW GUINEA, STAKEHOLDER, FEMALE, 30

Both known and anonymous sources are seen as potentially negative influences on children's behaviour. Underpinning these concerns is the idea that children are malleable subjects with little agency to resist harmful influences.

"Children can easily be influenced."

SOLOMON ISLANDS, STAKEHOLDER, MALE, 39

This suggests that online safety initiatives will be most effective if they can strengthen those local cultural and family values that are known protective factors.

Another prominent contact risk identified by participants is cyberbullying. Children and parents/carers in all three countries frequently mentioned **cyberbullying** as a key risk. This concern was particularly pronounced in Papua New Guinea, where it appears children living in the settlement on the outskirts of Port Moresby have received some education about cyberbullying (See 'Digital Literacy'). Other adult stakeholders in Solomon Islands and Papua New Guinea also identify cyberbullying as a key risk, but only two stakeholders raised it as a concern in Kiribati.

Overall, stakeholders feel that children are relatively unlikely to encounter some form of cyberbullying online. Even so, some warn that cyberbullying can lead to very serious consequences.

"Cyberbullying leads to suicide."

SOLOMON ISLANDS, STAKEHOLDER, MALE, 39

Stakeholders in all countries also mention the risk of interacting with unknown others and the consequences. They believe this can expose children to the possibility of becoming a victim of crime, illegitimate or destructive relationships, and fake friendships. Stakeholders rate these forms of risks as the most dangerous and suggest there is a medium likelihood that children will encounter these risks.

"Cyberbullying leads to suicide."
SOLOMON ISLANDS, STAKEHOLDER, MALE, 39

"Online dating/hangouts lead to fraud in some cases."
SOLOMON ISLANDS, STAKEHOLDER, FEMALE, 60

"Toxic relationships [can form] due to dating online."
SOLOMON ISLANDS, STAKEHOLDER, AGE UNKNOWN

"Communicating with strangers [can be an issue]."
KIRIBATI, STAKEHOLDER, FEMALE, 42

While parents and carers in Kiribati and Solomon Islands are concerned about contact risks such as children contacting or meeting strangers online, the same concerns were not raised by parents and carers in Papua New Guinea.

When developing online safety initiatives, we must remember that not all interaction with strangers online is harmful in its own right. For some children who experience themselves as different from their peers or others in their immediate community – such as gender variant or sexually diverse children or children living with disabilities – interacting with strangers can provide vital networks of support and validation (Third et al., 2019). Nonetheless, interacting with strangers online does increase the likelihood that children might be exposed to strangers with ill-intentions. The challenge for online safety initiatives is to identify strategies for protecting children from harm while not demonising or obstructing some children's need for community and solidarity.

Extreme risks such as **grooming**, **abuse**, **exploitation** and **trafficking** did not register as key concerns for children in the three Pacific countries. For example, despite an awareness of the potential of digital platforms to expose them to violence and abuse, only three children in Solomon Islands explicitly identify child online abuse as an extremely dangerous risk online. Only one of these children indicated that they think it is likely to happen to them.

Stakeholders in both Solomon Islands and Papua New Guinea specifically identify extreme issues such as grooming, abuse and exploitation as risks children could encounter online, whereas these issues are not identified at all by stakeholders in Kiribati. In both Solomon Islands and Papua New Guinea exploitation and abuse are seen as extremely dangerous. However, in Papua New Guinea stakeholders rate the likelihood of encountering these risks as higher than their counterparts in Solomon Islands who think the likelihood is low.

Given that the most recent, publically available evidence shows that serious, digitally-mediated crimes against children appear to be on the rise in the region (ILO, 2014), it appears there is scope to increase children's understanding of how digital technology may expose them to serious risks of harm. However, any education or awareness raising will need to be careful to contextualise these risks, clearly communicate their likelihood, and skill Pacific children to ensure that they are not discouraged from using digital technology.

Further, we must remember that, levels of violence against children in the Pacific are already extremely high (Plan International, 2019: 5) and, without proper investment and planning, could be exacerbated by increased uptake of digital technologies. As efforts are made to draw attention to very serious forms of digitally-mediated violence against children, which potentially have international dimensions, there must also be a focus on technology and "the 'everyday' violence experienced by children in the Pacific" (Plan International, 2019: 7).

GENDER AND RISK

Dominant gender relations play into children's framings of online risks, with the vast majority of child participants in the study reporting that they believe girls to be far more at risk of harm online than boys.

"I think girls are more targeted than boys with most of the [online safety] issues."
SOLOMON ISLANDS, CHILD, FEMALE, 12

Girls are thought to be particularly vulnerable when using social media. They imagine potentially catastrophic consequences of their engagement with social platforms, including murder, rape, kidnapping, as well as serious mental health issues and suicide. Importantly, violence against girls is frequently thought to start online and then transition offline, underscoring how, for those children in the three countries who engage with digital technology, the online and the offline are deeply integrated.

"I think it is riskier for girls because some people use fake accounts to gain their advantage and they can either get kidnapped, raped or killed."
SOLOMON ISLANDS, CHILD, MALE, 18

Reflecting dominant gender stereotypes, girls are thought to be more emotional, easily influenced and susceptible to online deception and cyberbullying. Further, they are thought to lack the physical strength or emotional fortitude to deal with the effects of online safety breaches against them.

"Girls [are most at risk] because they don't have the strength to cope with risks."
KIRIBATI, CHILD, FEMALE 13

"Social media issues are riskier for girls because it can cause violence or any bad behaviour that would make a particular girl feel depressed and [have] low self-esteem that sometimes may lead to suicide."
SOLOMON ISLANDS, CHILD, FEMALE, 16

Children generally identify boys as the perpetrators of harms directed at girls.

"I personally think these issues are riskier for girls, because young girls are mostly targets for men and boys."
SOLOMON ISLANDS, CHILD, FEMALE, 12

"Girls [are most at risk] because they can't stand against boys."
KIRIBATI, CHILD, MALE, 12

In some instances, however, boys, as well as some girls, tend to allocate a level of blame to girls who are victimised online. Some children expressed problematic ideas about how girls might invite harm online.

"She behaves seductively to boys, and therefore willing to follow what/where she is told to go by boys."
KIRIBATI, CHILD, MALE, 12

“Us girls tend to do unthinkable stuff.”
SOLOMON ISLANDS, CHILD, FEMALE, 12

To put the above concerns about girls’ vulnerability in context, children across the Pacific region also noted that girls tend to be more vulnerable to offline abuse and violence. Recent statistics indicate girls in the Pacific experience significant levels of physical and sexual violence (Plan International, 2019) in their everyday lives. As Plan International explain:

“Gender inequality is a common problem across many countries in the Pacific… with unequal gender power relations and discrimination driving high levels of violence against women and children within these societies. Communities are deeply patriarchal with entrenched notions of gender roles developed through traditional ideologies, customary practices and powerful religious influences.” (Plan International, 2019: 13)

Girls’ perceived susceptibility to online harms might thus be understood as one effect of a broader issue of gender-based discrimination and/or violence in the region. This highlights the need for online safety interventions in the Pacific region to target broad-based gender attitudes, and to align with and amplify existing programs to address gender discrimination and to prevent gender-based violence. Indeed, it may be worth considering how to embed digital safety programming in existing gender initiatives.

4.3.5. Conduct risks

A few parents and carers, as well as other adult stakeholders expressed a concern that peer or group pressure resulting from online interactions might lead children to act in undesirable or dangerous ways. In general though, children in the three countries are seen as **victims rather than agents** of online risks of harm.

Parents/carers and other adult stakeholders believe that children are most likely to participate in more generic or everyday conduct risks. They highlight the risks of harm that over-reliance on digital technologies might pose to children's mental health and their development of social skills. They worry that digital technology is impacting on children's social, community or familial engagement, relationships and values.

"[They] get so carried away with being online that kids do not have time to get out and play, miss classes and don't have friends outside of the internet."
SOLOMON ISLANDS, STAKEHOLDER, MALE, 33

"Social interactions will be affected as they are focusing on using these technologies."
KIRIBATI, STAKEHOLDER, FEMALE, 28

"The virtual world lacks [the] social connections in real life."
PAPUA NEW GUINEA, STAKEHOLDER, MALE, AGE UNKNOWN

In Solomon Islands, parents/carers and children themselves are concerned that digital technology use could distract from important tasks like schoolwork and chores in the family home and causes them to be lazy. They worry that this can cause family disruption. Interestingly, although parents and carers in the three countries believe technology opens up new pathways for their children's education, in Solomon Islands they commonly note that digital technology potentially distracts children from their education.

"[I am concerned] my child might prioritise tech use over their studies."
SOLOMON ISLANDS, PARENT, AGE UNKNOWN

"I worry about the future of my child because of their use of the internet."
SOLOMON ISLANDS, PARENT, AGE UNKNOWN

However, the risk of distraction was not raised by children in Kiribati and Papua New Guinea; nor have children commonly identified these risks in comparable studies internationally (Third et al, 2017; Third et al, 2014a).

Interestingly, and pointing to the ways risks of harm move across online and offline spaces, a small number of people across participant groups in Kiribati identified the potential for social media to create distrust and/or deception between a husband and wife, potentially leading to violence in the family home.

"The wife of someone whom I contact on Facebook is getting angry at me, so I have to be very careful."
KIRIBATI, CHILD, FEMALE, 11

"[It] causes problem if you become Facebook friend and chat with someone you don't know [is] married. The husband or wife might get back to you when the Facebook chat between the two go way beyond."
KIRIBATI, CHILD, FEMALE, 16

"They use [social media] for chatting [and] that causes problems of affairs between a woman and a man."
KIRIBATI, STAKEHOLDER, MALE, 64

SNAPSHOT: CONCERNS ABOUT CULTURAL EROSION

While many children and their families in Kiribati, Papua New Guinea and Solomon Islands are excited about the opportunities presented by digital technology and enhanced connectivity, parents/carers and other adult stakeholders raised strong concerns that exposure to the digital world may be undermining local cultural values. Technological change in the Pacific region is unfolding against a broader backdrop of social and economic transformation, including rapid urbanisation, growing poverty and changes in the family unit (e.g. Wantok) (Plan International, 2019: 12). It is not surprising that parents/carers and other adults stakeholders are concerned about how technology might be fueling the erosion of local culture.

In Papua New Guinea, parents and carers worry that girls' exposure to media texts and information from Western cultures is encouraging them to dress 'provocatively' (e.g. wearing short skirts and low cut tops), thereby potentially exposing them to violence in offline and offline spaces.

In Solomon Islands and Kiribati, parents, carers and some children say that social media has undermined the strength of the marital unit by making it easier for married couples to have illicit affairs.

"[Social media] causes problem for couples."
KIRIBATI, PARENTS, MALE, 21; FEMALE, 40; FEMALE, 35; FEMALE, 21; FEMALE, 20

"Using Facebook creates problems between couples."
KIRIBATI, PARENT, FEMALE, 35

The concern is that this can cause intra-family violence and other forms of disruption in children's lives, demonstrating yet again the interconnection of the online and the offline.

Parents and carers from all three countries - especially in those communities where mobile phone access to the internet was predominant - lamented that digital technology encourages their children to operate autonomously from adult supervision or to challenge adult authority ('talking back').

Given that strong cultural values can be a key protective factor for children who encounter risks online, child online safety initiatives might seek ways to leverage digital engagement to strengthen the positive dimensions of local culture.

It will be critical to understand what is driving these perceptions locally, in order that concerns can be effectively addressed. So too, online safety initiatives need to work across both online and offline spaces.

Lastly, **health risks** emerged as something of a concern relating to conduct risks for participants across the three countries. Research shows that the risks of harm to children's health and wellbeing primarily stem from unregulated or over-use and may result in either physical or psychological consequences.

Interestingly, while children in other parts of the world commonly associate physical health risks, such as obesity and poor eyesight, with the use of digital technologies (Third et al, 2014a; Third et al, 2017), this is not a prominent concern for children in Solomon Islands, Kiribati or Papua New Guinea.

Their parents/carers and other adult stakeholders, by contrast, were much more likely to be concerned about negative **physical health** outcomes. Their concerns primarily relate to the ways that digital technology use might displace and/or reduce children's opportunities for exercise and other forms of physical activity, leading to both short- and longer-term health issues.

"Inactive unhealthy lifestyle (always on PC or mobile device)."
KIRIBATI, STAKEHOLDER, MALE, 28

"Health risk - eye strain, etc. due to prolong sight of screen."
KIRIBATI, STAKEHOLDER, MALE, 54

"Lack of physical activity - lifestyle diseases."
PAPUA NEW GUINEA, STAKEHOLDER, FEMALE, AGE UNKNOWN

On average, parents and carers in Kiribati are much more concerned about these risks than their counterparts in the other two countries. They worry, in particular, about how digital technology use may negatively impact their children's **sleep patterns** and their time for **rest**.

"My worry is that my child will get sick mentally because s/he has no time to rest... She or he can't sleep the whole night [because of their technology use]."
KIRIBATI, PARENT, AGE UNKNOWN

It appears there may be scope to raise children's awareness of the potential health risks that accompany digital technology use and to help them and their parents and carers find strategies to best balance physical and other activities with their technological engagement.

Parents/carers and other adult stakeholders also highlighted concerns about the **mental health** impacts of digital technology use. Stakeholders worry that technology use is exacerbating mental health issues in their communities.

"I am concerned about [the] increase of mental health issues (depression, anxiety), stereotypes and low self-esteem."
PAPUA NEW GUINEA, STAKEHOLDER, FEMALE, AGE UNKNOWN

"[Technology use can] lead to negative self-image, mental disorders [like] depression."

PAPUA NEW GUINEA, STAKEHOLDER, FEMALE, AGE UNKNOWN

The relationship between mental health and technology use is complex. However, research has consistently shown that, under the right circumstances, digital technology can support positive mental health. For example, it has the potential to:

- connect children in remote locations with mental health services;
- provide those experiencing mental health difficulties with a community of support; and
- support help-seeking for those who, for reasons of stigma, might otherwise be reluctant to seek help (Burns et al., 2013).

It appears there is opportunity to raise awareness and explore strategies that harness digital technology to support children's mental health and wellbeing.

Parents and carers – specifically, those in Papua New Guinea – are more concerned about the possibility that spending too much time online might lead to **addiction**.

"[I worry about them] spending more time that will be addiction to them."

PAPUA NEW GUINEA, PARENT, AGE UNKNOWN

However, at the same time, they are also concerned about their child not having access to technology and what this could mean for their digital literacy.

"I'm worried because my child does not have a laptop and is not sure how to open google account."

PAPUA NEW GUINEA, PARENT, AGE UNKNOWN

While stakeholders in all countries see addiction as a potential risk, in the main they did not describe it as the most dangerous risk or think it was a risk that most children were likely to experience.

"Addict[ion] to computer games [is a problem]."

SOLOMON ISLANDS, STAKEHOLDER, AGE UNKNOWN

"Children are addict[ed to] the use of phones."

KIRIBATI, STAKEHOLDER, FEMALE, 28

Similarly, unlike their counterparts in many parts of the region, and particularly those in South East Asia (Third et al, 2017), children are not overly concerned about becoming addicted to digital technologies.

Lastly, stakeholders strongly supported a holistic and strengths-based approach to online safety that engages multiple institutions, along with parents/carers and children themselves in implementing the necessary protections. Stakeholders believe that legislative responses will be critical to securing child online safety. They also identified a pressing need for dedicated online safety awareness raising, educational resources for children and parents/carers, and training for professionals. Further, they expressed enthusiasm for working together to embed online safety in existing initiatives, projects and interventions to reduce gender-based violence and/or violence against children.

At the same time, stakeholders are acutely aware of the urgency of addressing child online safety issues in the region and sometimes reverted to thinking about quick fixes to what are, essentially, highly complex challenges. In this context, stakeholders raised the possibility of using filtering to secure children's safety online. However, as outlined above, while a filtering scheme may supplement other strategies, it does not represent a comprehensive solution to the challenges identified by participants. Navigating the tension between short and longer-term solutions will be a key challenge for new online safety initiatives.

4.3.6. Key takeaways: Risks

- Children, parents/carers and other adults stakeholders are primarily concerned about children encountering inappropriate content online (content risks); chiefly violent content and pornography. Their secondary concerns are cyberbullying and exposure to harmful influences. Children also identify privacy risks – specifically hacking – as a key concern.
- Overall, children, parents/carers and other adult stakeholders believe social media to be the key source of contact risks.
- Girls are thought to be much more vulnerable to and less capable of managing online harms. Boys are seen as the key protagonists of harm against girls online.
- There is significant scope to raise children's and parents'/carers' awareness of the full range of potential risks online and to skill them to critically assess and manage them.
- In participants' experience, risks of harm play out across online and offline spaces, pointing to the need for child online protection initiatives to tackle online safety as part of a broader issue of safety.
- Given the high rates of violence against children in the region, it will be critical to ensure that digital technology does not exacerbate children's likelihood of encountering violence.

4.4. RESILIENCE AND SELF-PROTECTIVE SKILLS

While children's access to digital technology varies across all countries, children in Solomon Islands and Kiribati generally feel confident about their ability to keep themselves safe online and have an understanding of a range of self-protective strategies they can use to avoid potentially harmful situations.[16] As Table 6 shows, their strategies include both **technical** skills – such as using privacy and security settings – and **behavioural** guidelines that they follow to stay safe. Children's knowledge of technical protective strategies was not extensive, nor were technical measures uniformly applied by all children, indicating there is a need to enhance children's knowledge of the technical safety and security features of the platforms they use. It appears that children in the region rely predominantly on behavioural strategies to protect their safety when online.

Table 6: Key self-protective strategies identified by children in Kiribati and Solomon Islands

Technical self-protective strategies	Behavioural self-protective strategies
Using privacy and security settings	Turn to an adult for help
Deleting apps or blocking websites or contacts	Limiting time spent online
Protecting passwords	Exercising self-restraint
	Avoiding downloading explicit content
	Not using other people's phones
	Not accepting friend requests from or communicating with strangers
	Following parental guidance and rules
	Adhering to religious values
	Educating themselves on safe online practices

4.4.1. Technical strategies

Children in Solomon Islands and Kiribati most commonly report that they **delete apps and block websites or contacts** to ensure that they are not accessing inappropriate content or being contacted by people who might do them harm.

While cyberbullying was among children's main concerns regarding risk online, blocking bullies was only occasionally listed as a strategy to manage that risk. More frequently, children said they would block people who shared inappropriate or explicit content with them, or friends who are a bad influence.

16. In line with their limited exposure to technology, children in the settlement in Papua New Guinea had little understanding of the risks they might face online and, so, the research team made the decision not to complete activities designed to interrogate their protective strategies with that cohort.

"Block our contacts whom we notice they're [acting] sexy, to avoid receiving porno movie or sexy pictures from them."

KIRIBATI, CHILD, FEMALE, 16; MALE, 11; FEMALE, 18

"Block our Facebook friends who post photos that are not good for watching or to delete them if we think they are not good for watching."

KIRIBATI, CHILD, FEMALE, 11; FEMALE, 15; FEMALE, 14

"You can protect yourself by blocking bad webs because it's dangerous for us."

SOLOMON ISLANDS, CHILD, MALE, 10

"Block all apps that contain bad things inside."

SOLOMON ISLANDS, CHILD, MALE, 14; FEMALE, 14

"Stop adding people who been mean to others and block them from your page."

SOLOMON ISLANDS, CHILD, FEMALE, 11; FEMALE, 16; MALE, 10

In terms of managing bullying that plays out in online spaces, children in Solomon Islands, in particular, are likely to **turn to an adult for help** resolving the situation (see 'Mediation and Support'). While seeking support from an adult is an effective and appropriate strategy to tackle cyberbullying, there may be scope to educate children about how to manage bullying in online settings using a range of other strategies (e.g. empowering children who witness bullying to support those who experience it).

Overall, children in Solomon Islands seem to be more familiar with technical self-protective strategies than their counterparts in Kiribati, who were more likely to cite **blocking contacts** as their key preventive strategy. Other technical skills mentioned by children in Solomon Islands include **using strong passwords** and using **firewalls**. However, their knowledge of how firewalls work and the level of protection they provide appears to be relatively limited. It is critical that children understand the strengths and limitations of technical protections in order that they can make realistic assessments about how they may be vulnerable online.

"Create strong passwords to secure...find a way to secure the apps...firewall [protection]."

SOLOMON ISLANDS, CHILD, FEMALE, 13; FEMALE, 12; MALE, 11

"Firewall [security]; strong softwares to secure your internet from the hackers."

SOLOMON ISLANDS, CHILD, MALE, 11; FEMALE, 14; MALE, 17

"Set up a security on the internet that can't be hacked."

SOLOMON ISLANDS, CHILD, MALE, 18; MALE, 15; FEMALE, 10

"Make a password."

SOLOMON ISLANDS, CHILD, FEMALE, 13; FEMALE, 13; FEMALE, 14

Children conceive these strategies primarily as ways to protect themselves against hackers, rather than as general safety practices that will secure their protection online. It is therefore worthwhile considering programs to raise children's awareness of the importance of security and privacy in everyday circumstances, not just in higher risk situations. Initiatives should also seek to develop children's technical capacities and knowledge of privacy and security settings, firewalls, password management and other technical protections.

4.4.2. Behavioural strategies

Beyond blocking contacts, children in Kiribati do not tend to deploy technical features to protect their safety. However, they list a range of behavioural strategies that they can deploy to protect themselves online. These include **limiting time spent online**, **exercising self-restraint**, **avoiding downloading explicit content** (e.g. horror movies and pornography), and **not using other people's phones**, as they might have access to content that is not appropriate for them to view. Some children also highlight that **adhering to their religious values** – such as practising kindness and respect – helps to keep themselves and others safe online. This underscores the key role of religion in guiding many children's interactions online.

"Don't ever borrow mobile phone from others to get online."
KIRIBATI, CHILD, MALE, 18; MALE, 12; MALE, 11

"I try to always pray, and follow our church rules."
KIRIBATI, CHILD, MALE, 18; MALE, 12; MALE, 11

"I can decide not to get online and to stop use Facebook."
KIRIBATI, CHILD, MALE, 16

Children in Solomon Islands cite their behavioural strategies as comprising limiting time spent online and exercising self-control. In addition, they include **not accepting friend requests or communicating with strangers**, **following guidance and rules from parents and carers** and **educating themselves** on safe online practices as ways they can behave to keep themselves safe online.

"We can learn how to protect ourselves and ways to prevent it by talking to someone or watching videos about how to prevent or protect or minimise all the dangerous risks."
SOLOMON ISLANDS, CHILD, FEMALE, 12

"Do not add friend with those people you do not know or else they will abuse you."
SOLOMON ISLANDS, CHILD, FEMALE, 13

"Follow some guidelines from parents."
SOLOMON ISLANDS, CHILD, MALE, 10

"There are ways I do to protect myself against these risks for example chat only with trusted friends on Facebook."
SOLOMON ISLANDS, CHILD, MALE, 17

While overall children's confidence in their own online safety practices is high in both Kiribati and Solomon Islands, around 9% of the children we worked with explicitly acknowledged they don't have the necessary skills to protect themselves against online risks.

"Sometimes I don't know how to go against this risk."
SOLOMON ISLANDS, CHILD, FEMALE, 11

"I don't know how to protect myself from risks."
SOLOMON ISLANDS, CHILD, FEMALE, 14

Importantly, some children feel that they are particularly vulnerable to certain risks because they are children. Further, reflecting perceptions about gender discussed above (See 'Gender and Risk'), one child in Kiribati noted that her gender limits her capacity to stay safe.

"We can prevent risks, but if it goes beyond our capabilities as children, we can't then prevent it."

KIRIBATI, CHILD, FEMALE, 16

"I can't protect myself because I'm a girl."

KIRIBATI, CHILD, FEMALE, 11

Thus, while many children feel as though they are capable of protecting themselves online, this is certainly not consistent across the sample and appears to vary according to socioeconomic backgrounds, as access to digital media and literacy levels differ.

In short, children noted that their individual self-protective capabilities are sometimes not enough to protect them appropriately and they need the support of an adult to help them navigate challenges (See 'Mediation and Support').

4.4.3. Key takeaways: Resilience and self-protective skills

- Children in the Pacific use a combination of technical and behavioural strategies but currently rely more heavily on the latter to protect their safety online.
- Children tend to associate the use of technical settings with preventing hackers from targeting them, indicating opportunity to raise children's awareness of the importance of security and privacy in everyday situations.
- Education should target the development of children's technical capacities and knowledge of privacy and security settings, firewalls, password management and other technical protections.
- Children's behavioural self-protective strategies include limiting time spent online; exercising self-restraint; avoiding downloading explicit content; not using other people's phones; adhering to their religious values; not accepting friend requests or communicating with strangers; following guidance and rules from parents and carers; and educating themselves on safe online practices. Children say they turn to adults – primarily parents/carers – when they face difficulties online.
- Beyond turning to an adult for help, there is scope to educate children about other strategies to manage bullying that plays out in online spaces.
- Some children indicate that they feel vulnerable and ill-equipped to adequately protect themselves online. Children's development of self-protective strategies is dependent on their overall exposure to digital technology. Children from low socio-economic backgrounds who have some exposure to technology appear to have the greatest need for education about how to protect themselves.

RELIGION AND DIGITAL MEDIA

Religion plays a central role in the social and cultural life of many Pacific Island countries. Indeed, religious values and the role of the Church were a prominent theme of workshops with children, parents/carers and stakeholders; in particular in Solomon Islands, though also in Papua New Guinea and Kiribati.

Unlike children in other international studies, children in Solomon Islands describe using digital technology to support their religious practices using Bible apps, reading gospel news online, or taking photos during church ceremonies.

"Using Bible apps; taking photos during special occasions."
SOLOMON ISLANDS, CHILDREN'S WORKSHOP

Parents and carers, too, emphasise the value of access to religious content online as a key opportunity presented by digital technology and describe how digital technology has been adopted in church sermons.

"Laptop is used for sermon presentations."
SOLOMON ISLANDS, PARENTS WORKSHOP

"Tablet is used for scriptures."
PAPUA NEW GUINEA, PARENTS WORKSHOP

While it is unclear if, or how, Christian beliefs and values shape attitudes towards digital technologies in these countries, it is clear that religion - and specifically religious leaders - play an important role in providing guidance to both parents/carers and children, supporting them to make sense of what happens online.

"[Churches and church leaders] can help the children by inspiring them to have bible in the mobile phones, learning many things about God and Christian life."
PAPUA NEW GUINEA, PARENT, FEMALE, 50

"I will ask a catechist to give good ways on using online and Facebook. He will also occupy my child with church activities and help them to go to Sunday Mass."
KIRIBATI, PARENT, FEMALE, 20

Parents and carers in Kiribati also see church leaders as intermediaries between the community and government and big business and turn to them to advocate on their behalf for the restriction of inappropriate content online.

"[Church leaders can] inform the telecom about bad pictures or movies."
KIRIBATI, PARENT, MALE, 23

"[Church leaders can] send request to the Government to close the pages and apps that are not good for our children to see."
KIRIBATI, PARENT, FEMALE, 36

As an important influence on children's and families' 'moral compass', religion in these countries appears to support children to safely use digital technologies and guide them on how to make good decisions online. It must be acknowledged that, for some children, their engagement with religious organisations is not straightforwardly beneficial and can threaten their identity, wellbeing, and opportunities for social connection. However, the centrality of religious leaders and values in these countries suggests that it is worthwhile exploring ways to leverage the role of churches and religious organisations to support child online safety in the Pacific.

4.5. MEDIATION AND SUPPORT

Of all the adults that might potentially support their safe online engagement, children in the three countries believe parents and carers play the most critical role. However, due to their own limited exposure to digital technology, and the consequences this has for their own digital literacy, parents and carers report that they feel ill-equipped to play this important role in children's digital engagement.

4.5.1. Who children turn to for support

Children in all three countries say that they primarily look for support from their parents and carers to resolve or manage risks online, and to guide their digital media use more broadly. However, the nature of the support they would seek differs between countries.

In Papua New Guinea and Solomon Islands, children seek parental support in the form of guidance and advice about how to deal with challenging situations, primarily before they result in negative consequences.

"Seek help from parents or right people to help you to deal with the cyber bully which you are being affected from it."
SOLOMON ISLANDS, CHILD, MALE, 11; FEMALE, 14; MALE, 17

"Talk it over with parents."
SOLOMON ISLANDS, CHILD, FEMALE, 13; FEMALE, 10

"Parents give advice whether using the phone is good or bad."
PAPUA NEW GUINEA, CHILD, AGE UNKNOWN

By contrast, in Kiribati, children tend to report that they turn to their parents or carers for comfort or forgiveness if something bad happens online, rather than seeking their assistance to pre-emptively intervene in a situation or to provide advice on how to resolve it before it impacts them negatively.

"He asks for his father's forgiveness. He said that he will never do it again."
KIRIBATI, CHILD, MALE, 18

"[When something goes wrong, she] shares with her mother. That makes her better. She is happy."
KIRIBATI, CHILD, FEMALE, 10

Across the sample, children identify very few other adults they would regularly turn to or seek help from if they need it online. Children in Solomon Islands and Kiribati occasionally mention the police as a category of support, and at times, adults more generally. In Solomon Islands, those children who identify the police as important say that they would report an issue if there was no other avenue for resolve. In Kiribati, children say they would turn to the police after a breach to investigate online crimes or to block strangers or other people misbehaving online.

"Report to police if only necessary."
SOLOMON ISLANDS, CHILD, FEMALE, 13; FEMALE, 12; MALE, 11

"Police will do the investigation on this in order to find the girl who uses my photo to her contact member. She will be arrested when she is caught."
KIRIBATI, CHILD, FEMALE, 10

"The policeman told me to block that guy and not to contact him anymore. He affirmed me that I would not be worry because I have a good supporter and a helper."
KIRIBATI, CHILD, MALE, 13

A few children in Solomon Islands also highlight that police have a role to play in educating children about online safety.

"Tell the police to give awareness about safety online."
SOLOMON ISLANDS, CHILD, FEMALE, 16

THE DIGITAL GENERATION GAP IN THE SOLOMON ISLANDS

In Solomon Islands, as in many parts of the world (Third et al, 2017), children and parents and carers described a generation gap shaping digital practices in their communities. They distinguish between 'digital natives' and 'digital migrants' to the extent that both groups believe children generally are significantly heavier users of technology; have greater levels of affinity with technology; and are able to understand and/or use new technologies much more readily than their parents and carers.

While we must be wary of making generalisations about generational differences, our findings indicate that, in Solomon Islands today, even those children who use technologies relatively infrequently generally demonstrate greater confidence in how technologies work than their parents and carers.

Situating this finding in relation to the broader body of scholarship and experience about implementing online safety strategies, there is both risk and opportunity at play here.

On the one hand, unless perceptions – and current realities – of intergenerational differences pertaining to digital technologies and their use are explicitly tackled, we risk entrenching such generational differences, possibly fuelling parental anxieties and failing to create the environments in which children are supported by their elders to use technology well.

On the other hand, given the regard in which children's technological expertise is held, current beliefs about generational technical capacities might be leveraged to have children strengthen their existing knowledge about online safety and so position themselves to teach adults about online risks and strategies for handling them. In this way, intergenerational capacities could be nurtured.

Unlike other children around the world (Third et al., 2017), children in the three countries do not appear to conceive teachers, community or religious leaders, support services or adult members of their extended family as potential supports for their digital practices. It thus appears there is significant scope to raise children's awareness of the support available to them from adults in their communities, beyond their parents/carers and the police.

4.5.2. Parents' and carers' perspectives on mediation and support

Despite being the key source of adult mediation and support identified by their children, parents and carers across the region report being under-equipped to support their children to engage positively online. This is particularly the case in lower socioeconomic contexts and is a direct consequence of parents' and carers' own limited exposure to digital media. Given children see parents and carers as important sources of advice and support for their digital practices, it is critical that parents and carers are supported to develop their own digital literacy.

As the primary providers of support for their children, parents and carers across the three countries have developed common strategies for mediating and supporting their children's digital media practices.

DIFFERENT KINDS OF PARENTAL MEDIATION AND SUPPORT

There are broadly three categories of parental mediation and support of children's digital media practices.

Active mediation consists of "talking about media content while the child is engaging with (watching, reading, listening to) the medium (hence, this includes both positive/instructional and negative/critical forms of mediation)."

Restrictive mediation involves "setting rules that restrict use of the medium, including restrictions on time spent, location of use or content (e.g., restricting exposure to violent or sexual content), without necessarily discussing the meaning or effects of such content."

Co-using signifies "that the parent remains present while the child is engaged with the medium… thus sharing in the experience but without commenting on the content or its effects" (Livingstone & Helsper, 2008: 4).

The most common strategies among parents and carers from all three countries centre on **restrictive mediation**; restricting or limiting their children's access to and use of digital media, without necessarily instigating conversations about why rules are put in place.

Parents and carers in Solomon Islands in particular feel strongly that their children should not use digital media at all. Parents and carers in Kiribati and Papua New Guinea echo these ideas, however to a lesser degree.

"Don't teach them how to use Facebook; Avoid them from using it."
KIRIBATI, PARENT, MALE, 21; MALE, 27; MALE, 23

"I don't allow my daughter to have a phone."
SOLOMON ISLANDS, PARENT, AGE UNKNOWN

"I don't want my child to watch television; I don't want my child to hold mobile phone; I don't want my child to use mobile phone."
PAPUA NEW GUINEA, PARENT, AGE UNKNOWN

In all three countries, parents and carers identify their children's age/developmental stage as a key reason behind their decision to prohibit their digital media access and use. In some cases, parents and carers say that these restrictions will be lifted once they reach an appropriate age.

"No mobile phone as my child is still of primary school."
SOLOMON ISLANDS, PARENT, AGE UNKNOWN

"Underage no use of phone."
PAPUA NEW GUINEA, PARENT, AGE UNKNOWN

"I allowed my child to have mobile phone when she reached 16 years."
SOLOMON ISLANDS, PARENT, AGE UNKNOWN

The parents and carers of those children who have access to digital media often mediate children's use by implementing rules about how long, at what times of day and where they can go online. They also restrict what types of content or activities children can access or engage in.

"Don't use mobile after 10pm."
KIRIBATI, PARENT, FEMALE, 44; MALE, 23; FEMALE, 36; FEMALE, 29

"To organize the time well for watching and using video, playing games, laptop and many more, so that they can well rest before the next day."
KIRIBATI, PARENT, MALE, 21; FEMALE, 40; FEMALE, 35; FEMALE, 21; FEMALE, 20

"No Instagram in church."
SOLOMON ISLANDS, PARENT, AGE UNKNOWN

"No watching movies/computer games from Sunday evenings to Thursdays."
SOLOMON ISLANDS, PARENT, AGE UNKNOWN

"Not to watch TV every often; not to use phones - when it is class time; not to play games inside the phone or watch movies."
PAPUA NEW GUINEA, PARENT, AGE UNKNOWN

Parents and carers in Kiribati and Solomon Islands also report monitoring or supervising their child's online practices to ensure their safety.

"Our role as parents is to check our children's Facebook contact. Who are they? Are their relatives or not? If not, then must block them."
KIRIBATI, PARENT, FEMALE, 25; FEMALE, 26; FEMALE, 50

"To regularly check of what my children do on internet."
KIRIBATI, PARENT, MALE, 44; FEMALE, 21

"Close watch on online activities, apps and movies they are watching."
SOLOMON ISLANDS, PARENT, FEMALE, 33; FEMALE, 45; MALE; 45

Less commonly, some parents and carers in Kiribati and Solomon Islands report implementing online security and privacy settings to help safeguard their children online. In Kiribati, parents and carers primarily identify blocking people as a safety measure, whereas parents and carers in Solomon Islands cohort list a wider range of security settings they can set up on their families' and children's devices.

"Block those who post these sort type of movie and photos."
KIRIBATI, PARENT, FEMALE, 40; FEMALE, 31

"Use Google features to restrict content to ages below 16... Use firewalls/antivirus that has regular reporting or restrict access."
SOLOMON ISLANDS, PARENT, FEMALE, 39; FEMALE, 34

"Deactivate apps that make free downloads."
SOLOMON ISLANDS, PARENT, FEMALE, 46; FEMALE, 29; FEMALE, 40; FEMALE, 34

Other parents and carers report adopting more **active forms of mediation** by discussing online safety with their children and providing guidance to their children about using privacy and security settings and other self-protective measures.

"Awareness with children and regular checking and conversations; courtesy; train children on security/privacy features on social media they use, include in school curriculum."
SOLOMON ISLANDS, PARENT, FEMALE, 39; FEMALE, 34

However, overall, parents and carers in Kiribati, Papua New Guinea and Solomon Islands tend to rely on this strategy less than prohibitive measures and restrictions. It appears that, particularly for parent and carers in lower socioeconomic communities, their reliance on prohibitive or restrictive approaches is connected to their own lack of confidence in using digital technology.

With children relying heavily on family caregivers to keep them safe online, parents and carers would benefit from targeted guidance and training around how to mediate their child's digital media use and ensure their online safety, while also supporting their children to reap the benefits and opportunities that digital media presents.

4.5.3. Key takeaways: Mediation and support

- Children rely heavily on their parents/carers to mediate and support their online safety. There is significant scope to raise children's awareness of the other forms of support available to them to support their online safety.
- Parents and carers across the region rely heavily on prohibitive or restrictive strategies to safeguard their children online, and around 15% of parents and carers ban their children from using digital technology. There is scope to enhance parent's and carers' active mediation of their children's digital engagement.
- The majority of parents and carers – particularly those in low-income communities – feel ill-equipped to effectively support their children's use of digital technology. Parents and carers would benefit from targeted guidance and training around how to best support their child's safe, effective and enjoyable online engagement.

4.6. RESPONSIBILITY

Overall, when it comes to identifying those actors that participants feel are most responsible for helping to secure children's online safety, parents/carers, schools and teachers, government and the police are rated most highly.[17]

As Table 7 and Figures 1, 2 and 3 show, participants across the different countries are in agreement that **parents and carers** bear the greatest responsibility for ensuring children's safety online, followed by **teachers and schools**. However, parents/carers and other adult stakeholders in Kiribati rated schools and teachers much lower than in other countries.

While in Solomon Islands and Papua New Guinea, participants across the board rated the **government**'s role in child online safety very highly, in Kiribati, they ranked the government's role much lower than that of other actors. Across the three countries, stakeholders and parents/carers placed greater emphasis on the role of government than did children.

Children generally, but particularly those in Kiribati, were significantly more likely to cite the **police** as having responsibility for online safety, ahead of government, schools and teachers. In Kiribati, children voted the police as the most important actor responsible for keeping them safe online. Adult stakeholders in Kiribati also rated the role of the police highly – second only to parents and carers – and well above how adult stakeholders in Solomon Islands and Papua New Guinea ranked the police.

Children in all three countries rate the responsibility of the **media** – by which they mean both mainstream media and, more often, social media platforms – in their online safety; much higher than their parents and carers.

Participants also named **community leaders**, **churches** and **religious organisations** as among those who bear responsibility for keeping children safe online.

Notably, very few participants (2% on average across the three participant cohorts) identified **children and young people** as being responsible for child online safety. This perhaps reflects the fact that, "in Pacific societies, social status is attained with age, resulting in children having low status and power" (Plan International, 2019: 12), with adults seen as the key decision-makers. Nonetheless, there is perhaps scope to increase children's awareness and agency in relation to decision making around online safety, as well as encouraging them to take responsibility for keeping themselves and others safe online.

4.6.1. Parents and carers

All three stakeholders groups across the three Pacific countries feel that parents and carers have key responsibility for keeping their children safe online. All groups in Solomon Islands, Kiribati and Papua New Guinea believe the onus lies primarily with parents and carers to protect children online, with the exception of children in Kiribati, who ranked parents and carers as second to police officers.

Parents and carers in Kiribati, Papua New Guinea and Solomon Islands affirm the high level of responsibility they bear for their children's online safety. Over 40% of Kiribati parents and carers voted the parents and carers category as 'most responsible', and approximately one quarter in both Solomon Islands and Papua New Guinea.

In order to meet these expectations, as discussed in the previous section, parents and carers implement a range of (usually prohibitive or restrictive) strategies to support and mediate their children's digital technology use.

17. Children in Papua New Guinea did not complete the formal workshop activity assessing their perceptions about responsibility, however when directly asked who they would speak to about their digital media use and online safety, participants elected the Prime Minister, community leaders and parents/carers, indicating they perceive these people to be those who are most responsible for children's online safety.

Table 7: Summary table showing who children, parents/carers and other adult stakeholders in all three countries believe to be most responsible for ensuring children's safety online

Most responsible actors	Child participants	Parent and carer participants	Adult stakeholder participants	Average across participants
Parents and carers	20	30	25	25
Schools/teachers	13	13	19	15
Police	22	14	9	15
Government	4	15	17	12
Churches	6	5	7	6

However, some parents and carers indicate that they implement rules that prohibit or restrict their children's access and use because digital technologies are relatively unknown to them and feel outside of their control. Indeed, parents and carers across all three countries report that they lack basic digital literacy skills to navigate and utilise digital technology and the internet effectively.

"Not familiar to web pages how to go about it."
SOLOMON ISLANDS, PARENT, MALE, 40

"[I am] computer illiterate."
SOLOMON ISLANDS, PARENT, FEMALE, 50

"No knowledge of using."
PAPUA NEW GUINEA, PARENT, FEMALE, 36

"I don't use it because I don't know how to use it."
KIRIBATI, PARENT, FEMALE, 42

In order to support parents and carers to effectively fulfil their responsibility to support children's online safety, educational opportunities and training in a range of digital literacy skills, including, but not limited to, online safety practices, would be a significant asset to parents/carers and other family members in this region.

Children's perceptions of most responsible actors

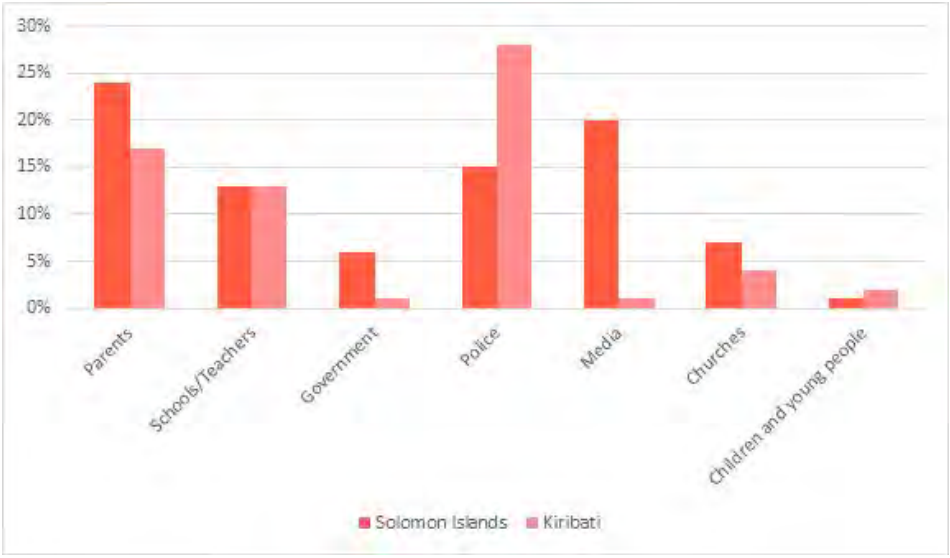


Figure 1: Children's perceptions of most responsible actors[18]

Parents' perceptions of most responsible

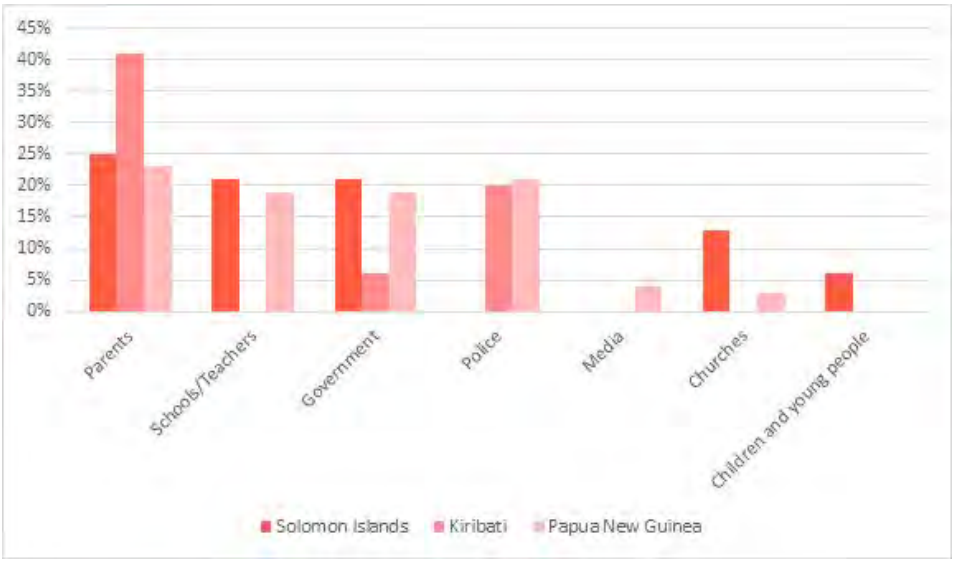


Figure 2: Parents' perceptions of most responsible actors

4.6.2. Teachers and schools

Children in Solomon Islands and Kiribati feel that schools and teachers have a critical role to play in keeping them safe online. In Kiribati, adult stakeholders agree that schools and teachers bear responsibility; although to a lesser degree than those in Papua New Guinea and Solomon Islands. Parents and carers in Papua New Guinea and Solomon Islands believe teachers and schools, alongside governments, are critical to ensuring children's online safety. By contrast, parents and carers in Kiribati do not rate teachers as among those who bear most responsibility for children's online safety, indicating there is scope to raise the awareness of

18. Working with participants in each country, the research team developed a list of people, agencies, and groups who might be viewed as responsible for children's online safety. From that list, we asked participants to vote for who they thought was 'most responsible' for keeping children safe online (participants had multiple votes and so were able to nominate more than one group or person from the list if they chose to). In all participating groups, clear patterns emerged identifying who participants thought were most responsible for keeping children safe online. Those actors identified as most responsible have been captured in the tables in this section. Participants were also asked to identify those actors who are 'somewhat responsible'. While these actors are not represented in the tables, we discuss them in the accompanying analysis.

THE IMPORTANCE OF MOTHERS

Children across the three Pacific countries report that, when faced with difficulties relating to their use of digital technology, they tend to turn to their mothers for support. Given cultural values around care-giving and the gendered division of labour in the region, which position mothers as key figures in children's lives, it is perhaps not surprising that children seek out their mothers' guidance. However, other studies with children around the world have shown that children rely on both mothers and fathers for this kind of support. Conversations with children in the three countries suggest that the advice they seek from their mothers about their online engagement centres on social and emotional issues, rather than technical needs. This in turn suggests that children see online safety challenges primarily as a socio-emotional issue, as opposed to a technical one. This is an excellent starting point for developing meaningful, community-based online safety interventions that enable children to draw down on the support of their existing relationships. At the same time, there is significant scope to better support mothers – through, for example, digital literacy initiatives – to support their children's safe online engagement. There may also be opportunity to encourage fathers to share these responsibilities with mothers.

Kiribati parents and carers about how schools can support their children to gain digital literacy and online safety skills and how teachers might guide their children's decision making in online spaces.

Parents and carers expect teachers and schools to implement rules around their children's digital media usage at school, as well as to educate their children about digital media. Notably, a number of parents/carers and some children in Solomon Islands and Papua New Guinea called for digital literacy skills and online safety skills to be embedded into the education curriculum.

"Teachers [should be] teaching about technology."
PAPUA NEW GUINEA, PARENT, FEMALE, 31

"I would invite the minister of education to discuss issues relating to online safety for children. I'd ask if it is possible to include topics relating to online safety for children to be formerly included in the current education syllabus."
SOLOMON ISLANDS, PARENT, MALE, 40

"[We need to] create more schools to teach how to use computers, laptops."
PAPUA NEW GUINEA, CHILD, FEMALE, 13

"I don't use it because I don't know how to use it."
KIRIBATI, PARENT, FEMALE, 42

ICT AND CYBER SAFETY EDUCATION IN KIRIBATI

In stark contrast to the other two nations, children and parents/carers in Kiribati consider schools and teachers to be among the least responsible when it comes to teaching cyber safety and keeping children safe online.

To put this in context, it appears that technology is yet to be integrated into the school setting in Kiribati. None of the child participants indicated that they had access to a computer at school, whether it be a desktop or laptop. Further, children explained that technology is banned at school, and the devices they bring are confiscated, which is why they chose not to identify their teachers as responsible for keeping them safe online.

"The teacher told me to give my phone to the family and ask them to keep it for me therefore I can not use it anytime that I want. During class I must control myself not to use it. I will set a time appropriately when to use or not use the phone. Like I can use it most of the time on Saturday."
KIRIBATI, CHILD, FEMALE, 15

Children in Kiribati most frequently use technology at home and sitting under the coconut trees, where they do not have to adhere to adult rules and restrictions. While it is important for children to have time to experiment independently, without the intrusion of adults, it is also important that they have opportunity to use digital technology in formal settings, such as schools, so they can access the support and guidance of adults and learn to use technology appropriately.

4.6.3. Governments

Children in Solomon Islands and Kiribati place far less emphasis on the responsibility of respective governments to keep them safe than their adult counterparts. In Solomon Islands, approximately one quarter of the child participants said that governments have no responsibility for keeping children and young people safe online.

By contrast, government is deemed highly responsible for children's online safety by parents/carers and other adult stakeholders in Papua New Guinea and the Solomon Islands. However, government responsibility is not widely agreed upon by the Kiribati cohort. Parents and carers in Kiribati voted governments as among the least responsible for keeping children safe online, which is a notable difference from the other two countries.

The above suggests that governments and other actors might raise children's and parents'/carers' awareness of the important legal, regulatory and educational role governments can play in securing children's online safety.

Where they acknowledge the need for governments to support child online safety, children and parents/carers in all three countries call for the development and implementation of policies, regulation and legislation to protect children online. Their suggestions include age restrictions and bans on certain websites, particularly

those containing pornographic or other inappropriate content. They also call for support to mitigate the risk of cyberbullying, as well as provision of hardware for children to use for their education.

"To legislate law protecting or keep children safety online. Who should access online; age limit; site accessibility; control; restricted."
SOLOMON ISLANDS, PARENT, AGE UNKNOWN

"To speak to the phone companies to put a control over the use of internet by the developing countries like PNG; not allowing kids under 20 years old of buy phone that will not excess for the use of internet."
PAPUA NEW GUINEA, PARENT, AGE UNKNOWN

"I would invite my member of parliament for my constituency to talk about children's online safety. I will tell them to control all website in their level, e.g. the bills. I think kids should be restricted on some page on website which might disturb them."
SOLOMON ISLANDS, PARENT, MALE, 52

"Make policies such as only 18 and up of age should access those movies (government policies); seek any assistance that would help to deal with any problem about cyberbullying; make policies that would avoid cyberbullying."
SOLOMON ISLANDS, CHILD, FEMALE 16; FEMALE 18

"[Governments should] provide students with tablets to do research and download school programs; provide sponsorship for youths in PNG; provide homes with television to watch news; rules to stop people from spoiling others on Facebook."
PAPUA NEW GUINEA, CHILD, FEMALE, 13; FEMALE, 17; FEMALE, 12; FEMALE, 10

As we describe further below (See 'Stakeholder Perceptions of the Policy and Practice Context'), stakeholders in Solomon Islands were particularly vocal about the need for a cross-sector, multi-stakeholder approach to develop legislation around children's online safety (although some stakeholders in Kiribati and Papua New Guinea also touched on this issue).

Stakeholders' perceptions of most responsible actors

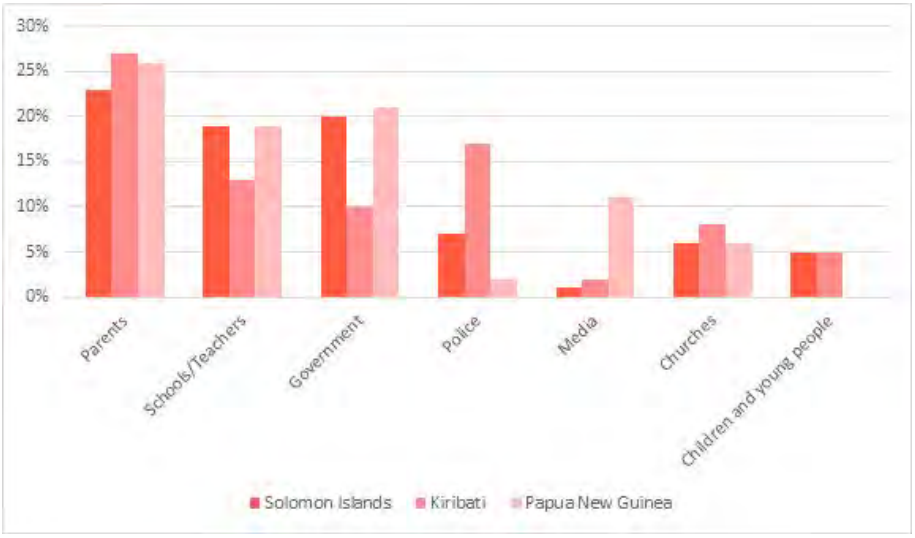


Figure 3: Adult stakeholders' perceptions of most responsible actors

4.6.4. Police

Children in Kiribati and Solomon Islands feel that police are among the most responsible actors when it comes to their online safety. This aligns with their responses about which adults they would turn to for help if they encountered a risk online. Children's emphasis on the responsibilities of police appears to reflect their conceptualisation of police as protectors of society.

Importantly, children see police as responsible not only as an avenue for reporting and investigating crime, but also for raising awareness about online safety.

"Tell the police to give awareness about safety online."
SOLOMON ISLANDS, CHILD, FEMALE, 16

Parents and carers in Kiribati and Papua New Guinea rate the police as having key responsibility for child online safety. Parents and carers in Solomon Islands, by contrast, do not rate police among those bearing particular responsibility.

Other adult stakeholders in Papua New Guinea and Solomon Islands see some role for police to play in children's role in online safety, ranking them as fourth most responsible. By contrast, adult stakeholders in Kiribati rate the responsibility of police for child online safety second only to that of parents and carers.

These differences in perception of the role of police in relation to child online safety in the three countries may point to important differences in the visibility, authority and connection to community of police forces in each site. Online safety initiatives will need to take account of these differences in order to maximise the efficacy of police involvement in protecting children online.

4.6.5. Churches and religious organisations

Approximately 10% of adult stakeholders in all countries identify churches and other religious organisations as 'somewhat responsible' for online safety. Parents and carers in Solomon Islands and Papua New Guinea see churches as highly responsible and somewhat responsible, respectively, while parents and carers in Kiribati do not assign much responsibility to this group. Parents and carers see the role of these organisations as important in providing pastoral guidance to their children about digital media use, and in the case of Kiribati, as a liaison between the community and the government or big business tasked with conveying their concerns and desires for internet restrictions.

"[The church] to send request to the Government to close the pages and apps that are not good for our children to see."
KIRIBATI, PARENT, FEMALE, 36

"[Churches and church leaders] can help the children by inspiring them to have bible in the mobile phones, learning many things about God and Christian life."
PAPUA NEW GUINEA, PARENT, FEMALE, 50

One parent noted that church leaders can help assert alternatives to children spending time online.

"I will ask a catechist to give good ways on using online and Facebook. He will also occupy my child with church activities and help them to go to Sunday Mass."
KIRIBATI, PARENT, FEMALE, 20

Religious values and institutions were a recurring theme in workshops across all countries, suggesting that it will be critical to engage these groups in strategies to support child online safety.

4.6.6. Community

According to participants from Kiribati, Papua New Guinea and Solomon Islands, community members and leaders also bear some responsibility in ensuring children's digital media practices are safe and supported. Neighbours, Chiefs, Council of Elders, youth leaders and councillors, and extended family and community members, were among those identified.

"Inform the councillor about our young children going online within our community. And as a community councillor to do awareness [educate] the young children the purpose of online safety."

PAPUA NEW GUINEA, PARENT GROUP

An effective, whole of community approach to child online safety would logically engage community leaders and the broader community.

4.6.7. Media

Children in Solomon Islands rank the media as the second most responsible actor vis-à-vis their online safety (20%). By contrast, only 1% of children in Kiribati rated the media as responsible.

Interestingly, between 0% and 4% of parents/carers and other adult stakeholders in all three countries rated the media as one of the most responsible actors, with the exception of stakeholders in Papua New Guinea, 11% of whom believe the media to be the fourth most responsible actor after parents/carers, government, and schools and teachers.

One child explained that they felt the media could lobby technology companies to implement age restrictions. Another child suggested that they would like technology companies to restrict children's access to social media in order to decrease children's dependence on technology.

"I should tell the media that they can tell the owner of the internet to tell that 11 year olds up to 18 should not use the internet."

SOLOMON ISLANDS, CHILD, FEMALE, 11

"Owner of Facebook (media). I text would tell him to shut down the website so that us [children] will never access those things that will make us move... our daily life [to] using Facebook and will also improve us [because] we will not really depend on online stuff."

SOLOMON ISLANDS, CHILD, MALE, 17

MEDIA REPRESENTATIONS OF RISK

Across the Pacific region, mainstream media coverage has recently highlighted particular online safety issues, thereby influencing how technology-related risks of harm are perceived and interpreted in each country. In Papua New Guinea, participants pointed to the circulation of pornography via technology as a key issue, while in Solomon Islands, adult stakeholders were concerned about how digital media might expose girls to the possibility of sexual assault. These issues have received recent mainstream media coverage, demonstrating the power of the mainstream media to set the online safety agenda.

Research in other parts of the world shows that mainstream media reporting plays a key role in setting the online safety agenda. Mainstream coverage tends to focus excessively on extreme cases. Given that many parents and carers gain information about the online risks their children potentially face from mainstream media coverage, this can fuel parental anxieties (Third et al., 2019), militating against parents' and carers' capacity to make reasoned and informed decisions about how best to guide and protect their children online. In short, mainstream media coverage can undermine the confidence of parents and carers in protecting their children online (Third et al., 2019). Any comprehensive approach to online safety in the region should include advocacy around the mainstream media's responsible and balanced reporting of online safety breaches against children. Further, there is scope to develop best-practice guidelines for media professionals' reporting of online safety issues.[19] Media reporting should ideally link readers to evidence-based online safety resources and trusted support services.

4.6.8. Children and young people

Surprisingly, in comparison to other key actors, parents/carers and stakeholders in all three countries did not identify children and young people as having responsibility for keeping themselves safe online. By contrast, children in Solomon Islands and Kiribati agree that they are somewhat responsible for their online safety, and in Kiribati, over one third of child participants think children and young people are 'somewhat responsible'. The generational difference in perception of children's responsibility suggests a discrepancy between how children perceive their own agency, and the ways the adults around them conceptualise their dependence on adults.

Given that established cultural norms dictate that children must be obedient to their elders (Plan International, 2019: 12), a delicate balance is required for online safety initiatives to be effective. Such initiatives should consider approaches that encourage adults to recognise children's autonomy and capabilities and explore ways to empower children through their digital engagement. At the same time, they must acknowledge that established norms and practices have protective value and, therefore, seek to leverage the role and influence of dominant cultural norms.

19. For an example of best-practice guidelines relating to the reporting of suicide, mental health, drug, alcohol and related issues, see https://mindframe.org.au

4.6.9. Key takeaways: Responsibility

- Participants believe parents and carers bear the greatest responsibility for ensuring children's safety online, along with schools and teachers, government and the police.
- Parents and carers called for digital literacy skills and online safety skills to be embedded into the education curriculum.
- Across the three countries, stakeholders and parents/carers call on government to develop and implement policies, regulation and legislation to protect children online.
- Strategies and programs seeking to address children's digital practices and online safety should consider adopting a whole-of-community approach. Such approaches should acknowledge parents and carers as the primary caregivers and locus of responsibility for children's safety, both online and offline, but also harness the commitment of government, schools, police, community leaders, religious organisations, mainstream media and children themselves.
- There is scope to increase children's awareness and agency in relation to decision making around child online safety policy and programming.

4.7. STAKEHOLDER PERCEPTIONS OF THE POLICY AND PRACTICE CONTEXT

This last section reports on adults stakeholders' perceptions of the policy and practice context, considering some of the broader contextual factors that will impact the design, implementation and efficacy of new online safety initiatives in the region. In the context of the new network of submarine cables that will deliver high speed connectivity to island nations in the region, how prepared are countries in the Pacific to implement online safety initiatives at the pace that is required to appropriately support children aged 10-18 years as they gain increased access to digital technology and the internet? How do participants perceive the strengths and limitations of the legislative, regulatory and knowledge sharing infrastructure that are already in place to support online safety policy and programming efforts? What opportunities might exist to scale online safety interventions and the learnings that emerge across the 'Blue Continent' once they have been trialled in specific locations?

As outlined in the Background section of this report, work is already underway in nations across the Pacific region to anticipate the online safety needs of children. Much of this work is supported by foreign aid investment and implemented via partnerships between NGOs, governments and community organisations. As part of workshops with adult stakeholders in all countries, the research team asked participants to identify the existing initiatives they were aware of that were relevant to facilitating digital safety for children in their country. Table 8 below shows the numbers of initiatives, aligned to the categories that stakeholders identified.

Table 8: Numbers of adult stakeholders who identified existing initiatives relevant to online safety[20]

	Solomon Islands	Kiribati	Papua New Guinea
Online safety commissioner		2	
Legislation & regulation	8		7
Awareness raising	10	1	4
School-based education	1	1	
Professional training program	2	1	
Research	1		
Service provision	1		2
Technical solutions	2		5

20. Commission = government body/group; awareness raising = information program aimed at the general population or a population subset (e.g. girls, parents); school-based education = education program aimed at school students; professional training program = program aimed at service providers (e.g. police, teachers); legislation & regulation = government regulation/law; service provision = = dedicated and targeted support resource (e.g. telephone counselling line); technical solutions = technology-based activity/intervention (e.g. filtering software, automated messaging).

Stakeholders are cognisant of the relationships and interactions between online and offline systems and behaviours. As noted above, when asked to identify initiatives relevant to digital safety, stakeholders most readily highlighted initiatives that did not have an exclusive online focus (e.g. stakeholders talked about initiatives to address or strengthen social and family issues, or build emotional resilience).

Moreover, as demonstrated below (See 'Action Plans'), when given the opportunity to devise their own strategies for encouraging digital safety, stakeholders frequently proposed whole-of-system approaches, acknowledging the interconnectedness between online and offline realms. This is not to suggest that dedicated digital literacy and safety programs have no place. Our data indicates that effective programs and initiatives for children's digital safety must also address the offline challenges and risks they face, and that teaching children to be safe and resilient offline will enhance their capacity to keep themselves safe online.

4.7.1. Legislation, regulation and government oversight

Stakeholders in all countries most readily identify formal, governmental initiatives, processes and outputs such as commissions, legislation and regulation. Stakeholders point to laws and policies – either existing or in development. This includes the classification of online content, mobile telephony regulation, cyber-security/cyber-crime and child protection laws (Papua New Guinea), and national youth policies and modifications to family protection acts (Solomon Islands).

Stakeholders also highlighted the newly established appointment of an Online Safety Commissioner in Kiribati as an example of good practice, though noted that the initiative is still too new to say how effective it has been. The Australian Government's Office of the eSafety Commissioner, established in 2015, is held up internationally as best practice for government oversight in the field of online safety. It is worth considering the establishment of similar roles and accompanying offices in Pacific nations.

While there is still much work to be done, stakeholders were in support of legislative and regulatory efforts, deeming them a critical component of an effective child online safety ecosystem. Stakeholders in Solomon Islands were particularly vocal about the need for a cross-sector, multi-stakeholder approach to developing legislation around children's online safety, although some stakeholders in Kiribati and Papua New Guinea also raised this issue.

4.7.2. Programming

Collectively, stakeholders across the region painted a picture of an expanding online safety sector. However, they also reported that much of the programming underway is not as well coordinated as it might be, resulting in piecemeal approaches with limited success and/or unnecessary duplication. They noted that responsibility for online safety often falls between different government portfolios and that greater clarity around key areas of responsibility and reporting lines would greatly support better coordination and greater impact. Stakeholders also asserted the need for clearer lines of responsibility around which implementation partners are best positioned to drive different kinds of programming, whether it be community education, school-based online safety education, training of law enforcement personnel, and so on.

It appears, then, that from a programming perspective, there is scope to enhance planning, communication and coordination processes to maximise the efficacy of existing and emerging programs.

a) Awareness raising

Stakeholders note a range of awareness raising initiatives implemented by civic service or community organisations.

In Solomon Islands, stakeholders identify community policing and awareness programs in schools, as well as initiatives developed and administered by NGO groups (e.g. Safer Cities for Girls, Plan International Australia; and Side by Side, Oxfam). Stakeholders in Kiribati and Papua New Guinea also note programs run by police and schools. In Kiribati, stakeholders highlight online safety awareness campaigns delivered by the police. In Papua New Guinea, stakeholders raise peer education initiatives developed by churches and youth groups, which incorporate online safety components.

b) School-based education

Stakeholders noted that some teaching in digital literacy and online safety is occurring in schools. For example, stakeholders in Papua New Guinea point to school-based citizenship and Christian values education that includes some digital components. However, it appears there is not yet comprehensive digital literacy and online safety education incorporated into the formal curriculum in schools in the region. Further, what school-based education exists is plagued by a lack of overall coordination and dedicated resourcing.

Stakeholders call for targeted digital literacy and online safety education to be embedded into the school curriculum in all three countries. The Office of the eSafety Commissioner in Australia has developed targeted resources for children and young people that may constitute a useful resource for schools as they develop digital literacy and online safety education for the region.

c) Training and support for frontline workers

Stakeholders identified a range of initiatives offering training and support for frontline workers responsible for responding to child online safety issues. For example, stakeholders in Kiribati noted the Australian Federal Police's (AFP) cyber safety awareness program for local police. Those in Papua New Guinea identified the 'Rights, Respect and Resilience' project to train teachers to manage student wellbeing across a broad range of issues including gender rights and sexual health. And stakeholders in Solomon Islands, in addition to the AFP's cyber safety awareness program for local police, also mentioned school administration rule books as a mechanism for teachers to support students' digital safety.

However, aside from the AFP initiative, stakeholders identified few existing, dedicated online safety training and support programs for those responding to online safety issues as part of their work brief. Frequently, such training was general and focused on wider face-to-face social issues, only targeting the digital tangentially (e.g. positive parenting programs and child protection policies). On the basis of stakeholder reports, it appears that those on the frontline may not be receiving sufficient or effective training or support to enable them to respond effectively to child online safety issues.

Further, stakeholders in all countries underscored the point that key actors' and decision-makers' limited digital literacy and/or lack of familiarity with how children use technology is an issue at multiple levels in services and government: Therefore, upskilling these actors should constitute a priority.

4.7.3. Research

Stakeholders highlighted there is limited rigorous, qualitative or quantitative data about online safety issues in the region to guide their policy and practice. While there is strong evidence demonstrating violence against children in the region is endemic (Plan International, 2019), there is very little evidence about children's or parent's digital practices, and data pertaining to the prevalence of online risks of harm is scant. It is critical this evidence gap is addressed if policy and practice is to effectively regulate and enable child online safety.

There are a range of best practice quantitative and qualitative research tools available to support the generation of national and/or regional evidence-base. The research tools developed by Global Kids Online and the Australian Communication and Media Authority provide good exemplars of ready-made toolkits for gathering quantitative and internationally comparative data with both children and parents/carers.[21] These might be usefully complemented by qualitative research tools developed to underpin international studies conducted by UNICEF (See Third et al., 2017).

4.7.4. Service provision

It appears that those seeking support for online safety issues have access to generic joint-organisation direct assistance services (e.g. 1-tok Kaunselin). Based on discussions with stakeholders, it appears that there is scope to both enhance children's and parents'/carers' knowledge of such pathways for helpseeking, and to ensure that professionals who staff such services are trained to respond to online safety breaches.

4.7.5. Technical solutions

Stakeholders identified three categories of technical intervention underway to support child online safety in the region:

- provision of hardware (e.g. computers or tablets for schools);
- software/content solutions (e.g. filtering at local or national level, digital content supply); and
- commercial infrastructure, including digital networks and systems and their potential use for digital safety (e.g. the capability to broadcast population-wide messages).

Interestingly, both technical initiatives identified in Solomon Islands were related to commercial infrastructure (telecom services and message broadcast). In Papua New Guinea there are one commercial (telecom services), one software-related (supply of e-learning resources) and three hardware (supply of devices) initiatives.

4.7.6. Knowledge exchange

Adult stakeholder groups in all three countries emphasised the value of and need for enhanced knowledge exchange among groups and organisations working in the digital technology and online safety domains. They report having some knowledge both of initiatives underway in their own countries and of wider Pacific-region initiatives and programs. However, none of the stakeholders in any of the three countries believe they have enough information or understanding of other relevant work being undertaken, either in their own country or across the region. There is a clear desire among stakeholder groups to better join up conversations, to share experiences and to enhance learning between Pacific nations. They strongly suggest that wider and more comprehensive knowledge exchange between varied stakeholders could:

- strengthen individual initiatives;
- increase effective collaborations both intra- and internationally;
- reduce duplication;
- maximise existing resources; and
- lead to the development of effective new interventions for online safety.

4.7.7. Challenges to effective policy and practice in the region

Stakeholders across all countries identified a range of challenges to the development and implementation of effective child online safety strategies.

21. See, for example, http://globalkidsonline.net/tools/

Principal among these challenges was the lack of funding or insufficient financial support.

"We face the challenges of lack of funds and other resources."
SOLOMON ISLANDS, STAKEHOLDERS GROUP

"Without funding we are unable to implement [child online safety strategies]. There are costs associated with internet services, equipment, transportation and wages."
PAPUA NEW GUINEA, STAKEHOLDERS GROUP

"[Funding is] a must before setting up a body in order to operate and function."
KIRIBATI, STAKEHOLDERS GROUP

Lack of political will was also highlighted by stakeholder groups as a challenge to effective online safety policy and program implementation. They attribute the absence of political support to factors including politicians' lack of understanding of the key issues; under-appreciation of the seriousness of the issues; bureaucratic hurdles; and even corruption.

"Lack of commitment and understanding means the Solomon Islands cannot progress cybersecurity initiatives. There is a lack of political will [and] corruption in businesses. MPs are not focused to enable legislations. It's not a priority."
SOLOMON ISLANDS, STAKEHOLDERS GROUP

"There is a lack of political leadership in providing overarching policies and guidelines."
PAPUA NEW GUINEA, STAKEHOLDERS GROUP

"[Having] political champions... is the key enabler for cyber security policies and a lack thereof will impede all progress."
KIRIBATI, STAKEHOLDERS GROUP

Paucity of human resources, and particularly personnel with relevant knowledge, skills or experience was also seen to be a key obstacle to the implementation of child online protection initiatives. Interestingly, stakeholders suggested that this expertise gap was an issue for practitioners working in the domain of child online safety, as well as more generally.

"Lack of human resources to drive change is a problem. There is a lack of knowledge or ignorance."
SOLOMON ISLANDS, STAKEHOLDERS GROUP

"Local people need to be better informed about the different internet laws/policies/regulations."
PAPUA NEW GUINEA, STAKEHOLDERS GROUP

"The public should be well informed of new issues and initiatives."
KIRIBATI, STAKEHOLDERS GROUP

The above suggests that advocacy across the three countries should encourage governments and funding bodies to invest in child online safety initiatives; enhance key decision makers' understandings of the issues and their urgency; and argue for increased training of professionals who are in a position to implement online safety initiatives.

4.7.8. Action plans

Working in small groups, stakeholders in all three countries identified specific issues or areas of concern related to children's online safety in their countries and developed action plans to address those issues (four groups in Solomon Islands and two each in Kiribati and Papua New Guinea).

Action plans were developed using a blue-sky approach; that is to say, stakeholders assumed no barriers or constraints (e.g. funding, cultural/political factors, access to technology) would limit implementation of their plans. Such an approach encourages collaboration, and prompts stakeholders to engage in creative, non-conformist thinking and adopt fresh and innovative perspectives. While ideas developed using blue-sky approaches may not be immediately actionable, the collaborative development process itself can lead to important information exchange between stakeholders and create valuable interrelationships between stakeholder groups.

The specific plans stakeholders developed served two important purposes. They provided further information about the issues that stakeholders perceive as most critical, and they have the potential to act as frameworks from which stakeholders can assess and build actionable plans relevant to their specific contexts.

Action plans across all three countries aligned to three common themes. Cyberbullying was the predominant theme with both stakeholder groups in Papua New Guinea and three of the four groups in Solomon Islands focusing on that issue. Online safety and protection more broadly was identified by the remaining group in Solomon Islands and one group in Kiribati, while the final Kiribati group planned to address the specific issue of contact with strangers online.

"[We want to make sure] children and young people are able to identify potential online risks."

SOLOMON ISLANDS, STAKEHOLDERS GROUP

"[We wish to] shift knowledge about cyberbullying, [it]s impacts... [and] how to be safe online. [We aim to] share info on cyberbullying risk."

PAPUA NEW GUINEA, STAKEHOLDERS GROUP

"[Our aim is to make] children aware of consequences of contacting strangers online."

KIRIBATI, STAKEHOLDERS GROUP

As well as commonality in the themes that stakeholders chose to focus on, there was also some alignment between the solutions groups proposed. Five of the eight groups outlined plans with a strong emphasis on regulatory or legislative steps (three in Solomon Islands and one each in Kiribati and Papua New Guinea). One group in each country focused on education and/or awareness raising. In Solomon Islands, two participants were actively involved in the ongoing development of the National Cyber Crime and Information Security Bill. As such, the Bill was a prominent topic of discussion and likely influenced the predominantly legislative approaches taken by groups in Solomon Islands.

Where groups emphasised legislative approaches, they also described the necessary procedural steps for developing and enacting relevant laws or regulations through formal parliamentary processes. However, those groups did also look beyond actions that were exclusively centred around government, acknowledging the importance of incorporating broader community, scholastic, practitioner and industry involvement through, for example, working-groups, specialist advisory panels, awareness raising and education, and community feedback processes in relation to developing laws or regulations.

"We need to conduct a gap analysis on relevant laws... draft the bill, review [it and seek] parliament endorsement/implementation."

SOLOMON ISLANDS, STAKEHOLDERS GROUP

"Our action plan aims to develop laws, create a body or commission (regulator), develop awareness programs, identify and utilise platforms to enable/implement awareness programs."

KIRIBATI, STAKEHOLDERS GROUP

Action plans focused around legislation emphasised macro-level strategies, outcomes and benefits (e.g. law-making processes, societal awareness).

In contrast, three groups focused on strategies that adopted broader, whole-of-community approaches. Action plans from those groups included proposals to enhance formal school curricula to address online risk and safety; awareness raising and education for children, parents/carers and families; involving bodies such as churches, community council/elder groups as advocates for online safety; and utilising the resources of organisations like the police, NGOs, and other practitioners/stakeholders to educate and monitor online safety issues.

"Work in collaboration with DOE/INGO/Censorship Board/Office of Children and Family, awareness and advocacy program to reach people... develop key messages online, parental guidance, teacher training."

PAPUA NEW GUINEA, STAKEHOLDERS GROUP

"Church leaders, billboards (awareness), media content (video, radio)... dedicated awareness campaigners, online awareness platform."

KIRIBATI, STAKEHOLDERS GROUP

Paucity of human resources, and particularly personnel with relevant knowledge, skills or experience was also seen to be a key obstacle to the implementation of child online protection initiatives. Interestingly, stakeholders suggested that this expertise gap was an issue for practitioners working in the domain of child online safety, as well as more generally.

Action plans that favoured education or awareness raising generally emphasised micro- and/or meso-level factors. For example, these groups' plans emphasised the value of building emotional resilience and technical awareness in individuals and the utility of identifying interventions at group or population level (e.g. parents/carers, practitioners, and stakeholders).

Despite the variations in strategic emphasis between groups focused on legislative initiatives compared with those favouring education or awareness-raising, in all three countries stakeholders agreed about the importance of both forms of interventions or strategies. While the nature and purpose of the action planning exercise compelled stakeholders to privilege some issues and strategies over others, nevertheless, stakeholders in Solomon Islands, Kiribati and Papua New Guinea all appreciated the value of their respective colleagues' plans and initiatives. They also concurred about the necessity for multilevel approaches and multi-sector collaborations to effectively understand and address the risks children face online and ensure that children's online experiences will be safe, productive and enjoyable.

5. CONCLUSION

The digital landscape in the Pacific region is currently undergoing significant transformation with the new undersea fibre-optic cable providing high-speed connectivity to many families and communities in the region. Enhanced access and increasing uptake of mobile digital technologies has profound implications for children's online safety, opening up potential for exposure to new risks of harm. Simultaneously, however, these technologies offer a wide range of new possibilities and benefits for children's education, health and development. At this important juncture, it is critical that initiatives and programs addressing children's digital technology use seek to strike an appropriate balance between mitigating the risks and harnessing the opportunities of digital technologies for children.

Although significant inequalities in digital access exist both between and within countries in the Pacific region, children and adults are acutely aware of the potential risks inherent in their technology use. Children themselves demonstrate a range of self-protective strategies and resilience in the face of these harms, and many feel confident in their ability to keep themselves safe online. In situations where they require the support of a trusted adult, children frequently turn to their parents and carers for assistance in resolving issues or protecting them from online risks. Indeed, the significant responsibility of parents and carers in safeguarding their children's digital technology use, and comparatively low levels of confidence among parents and carers in their own digital literacy skills, suggests that there is a particular need for parents and carers to undertake education and training so they may effectively support and mediate their children's responsible and safe technology use.

While being aware of the risks, children and adults alike are enthusiastic about the possibilities and opportunities that digital technology brings. They see enhanced access to learning, education and information resources; communication between family and friends; recreation and entertainment; and positive reinforcement of cultural and religious values as some of the benefits that digital technology affords children. If children are to maximise the transformative opportunities offered by technology and reap the full range of benefits, there is a need for effective programs and strategies that can help children to become informed and active global citizens in a digital world, while also being mindful of and skilled to deal with the risks. Ideally, these programs should adopt a cross-sector, whole-of-community collaborative approach.

There is a need for further research that seeks to understand children's and families' capabilities and lived experiences of digital technologies in the Pacific region in order to inform effective policy and practice responses to children's online safety. Current technological transformations alongside increasing regional coordination, emerging training and education initiatives, and the development of policy and legislation addressing the online safety of children and their wider communities, signify a unique opportunity to develop a regional strategy that builds on the strengths of the Pacific Island communities, and supports the realisation of children's provision, protection and participation rights.

REFERENCES

Burns, J.M., Davenport, T.A., Christensen, H., Luscombe, G.M., Mendoza, J.A., Bresnan, A., Blanchard, M.E. & Hickie, I.B. (2013) Game On: Exploring the Impact of Technologies on Young Men's Mental Health and Wellbeing. Findings from the first Young and Well National Survey. Young and Well Cooperative Research Centre, Melbourne.

Collier, A. (2012) 'Literacy for a digital age: Transliteracy or what?'. NetFamilyNews. https://www.netfamilynews.org/literacy-for-a-digital-age-transliteracy-or-what

Cyber Safety Pasifika. (2019, December) Awareness and Education: Solomon Islands Country Specific Training. Cyber Safety Pasifika. https://www.cybersafetypasifika.org/sites/default/files/CSP%20Newletter%20-%20December%202019.pdf

Ellsberg, M., Fulu, E., Warner, X., Potts, A., Dixit, D. & Ullman, C. (2019, October) Ending Violence Against Women and Girls: Evaluating a decade of Australia's development assistance Canberra: Australian Government Department of Foreign Affairs and Trade. https://www.dfat.gov.au/sites/default/files/evawg-final-report-nov-19.pdf

Family Online Safety Institute (2012) The Online Generation Gap: Contrasting Attitudes and Behaviours of Parents and Teens. Washington D.C.: Hart Research Associates/Family Online Safety Institute. https://www.issuelab.org/resource/the-online-generation-gap-contrasting-attitudes-and-behaviors-of-parents-and-teens.html

Gasser, U., and Cortesi, S. (2016) 'Children's Rights and Digital Technologies: Introduction to the Discourse and Some Meta-Observations'. In M. D. Ruck, M. Peterson-Badali and M. Freeman (eds.). Handbook of Children's Rights: Global and Multidisciplinary Perspectives, 417–36. New York: Routledge.

International Labor Office (ILO) (2014) Commercial Sexual Exploitation and Trafficking of Children in a Nutshell – A Resource for Pacific Island Countries. Geneva: International Programme on the Elimination of Child Labour (IPEC).

Livingstone, S., Byrne, J., & Bulger, M. (2014) Researching children's rights globally in the digital age: Report of a seminar held on 12-14 February 2015 London School of Economics and Political Science. www.lse.ac.uk/media@ lse/research/Research-Projects/Researching-Childrens-Rights/pdf/Researching-childrens-rights-globally-in-the-digital-age-260515-withphotos.pdf

Livingstone, S, Lansdown, G. and Third, A. (2017) The Case for a UNCRC General Comment on Children's Rights and Digital Media: A Report Prepared for the Office of the Children's Commissioner of England. London: LSE Consulting. https://www.childrenscommissioner.gov.uk/wp-content/uploads/2017/06/Case-for-general-comment-ondigital-media.pdf

Livingstone, Sonia, Kirwall, Lucyna, Ponte, Cristina and Staksrud, Elisabeth (2014) In their own words: what bothers children online? European Journal of Communication, 29 (3). pp. 271-288.

Livingstone, S., and Haddon, L. (2009) Introduction. In S. Livingstone and L. Haddon (Eds.), Kids Online: Opportunities and Risks for Children (1-15). Bristol: The Policy Press.

Livingstone, Sonia and Helsper, Ellen (2008) Parental mediation and children's Internet use. Journal of broadcasting & electronic media, 52 (4). pp. 581-599.

Livingstone, S., & Helsper, E. (2007) Gradations in digital inclusion: children, young people and the digital divide. New Media & Society, 9 (4), 671–696. Livingstone, S., Byrne, J. & Carr, J. (2016) 'One in Three: Internet Governance and Children's Rights', Innocenti Discussion Papers no. 2016-01. UNICEF Office of Research - Innocenti, Florence.

Marler, W. (2018) Mobile phones and inequality: Findings, trends, and future directions. New Media & Society, 20(9), 3498–3520.

Mascheroni, G., & Ólafsson, K. (2016) The mobile Internet: Access, use, opportunities and divides among European children. New Media & Society, 18(8), 1657-1679.

Mossberger, K, Tolbert, CJ, Hamilton, A (2012) Broadband adoption and measuring digital citizenship: mobile access and broadband. International Journal of Communication 6: 2492–2528.

Murphy, HC, Chen, M-M, Cossutta, M (2016) An investigation of multiple devices and information sources used in the hotel booking process. Tourism Management 52: 44–51

Napoli, PM, Obar, JA (2014) The emerging mobile Internet underclass: a critique of mobile internet access. The Information Society 30(5): 323–334.

Plan International. (2019, September) Desk Review: Online Cyber Safety in the Pacific Region: Solomon Islands, Papua New Guinea (PNG), Kiribati. Asia Regional Office.

Plantera, F. (2019) A sustainable roadmap for digital transformation in the Pacific Islands. e-Governance Academy. https://ega.ee/blog_post/sustainable-roadmap-digital-transformation-pacific-islands_1/

Singh, R. (2018) Mapping online child safety in Asia and the Pacific. Asia and the Pacific Policy Studies (Special Issue: The Pacific islands in the twenty-first century). 5(3): 651-664.

Tekiteki, S. (n.d.) Regional Coherence and Sustainable Development: 2050 Strategy for the Blue Pacific Continent & Pacific Roadmap for Sustainable Development. Pacific Islands Forum Secretariat. https://www.unescap.org/sites/default/files/Session%202%20-%20Regional%20coherence%20and%20sustainable%20development_%5BPIFS%5D_1.pdf

Third, A. et al. (2019) Young People in Digital Society: Control/Shift. London. Palgrave Macmillan.

Third, A. et al. (2017) Young and Online: Children's Perspectives on Life in the Digital Age (The State of the World's Children 2017 Companion Report). Sydney: Western Sydney University. https://www.westernsydney.edu. au/__data/assets/pdf_file/0006/1334805/Young_and_Online_Report.pdf

Third, A., Bellerose, D., Dawkins, U., Keltie, E. and Pihl, K. (2014a) Children's Rights in the Digital Age: A Download from Children Around the World. Melbourne: Young and Well Cooperative Research Centre. https://researchdirect.westernsydney.edu.au/islandora/object/uws%3A28202

Third, A., Collier, A., & Forrest-Lawrence, P. (2014b) Addressing the cybersafety challenge: From risk to resilience. Telstra Corporation. www.telstra.com.au/content/dam/tcom/about-us/community-environment/pdf/cyber-safety-challenge-risk-resillience.pdf

Third, A., Kao, K. -T., & Quigley, M. (2008) ICT leapfrogging policy and development in the Third World. In Encyclopedia of Information Ethics and Security.

Tsetsi, E, Rains, SA (2017) Smartphone Internet access and use: extending the digital divide and usage gap. Mobile Media & Communication 5(3): 239–255.

van Deursen, A. J., & van Dijk, J. A. (2019) The first-level digital divide shifts from inequalities in physical access to inequalities in material access. New Media & Society, 21(2), 354–375. https://doi.org/10.1177/1461444818797082)

APPENDIX 1

KEY DIFFERENCES ACROSS THE SAMPLE

Across the three countries that participated in this study, there were many more commonalities of experience than differences. This suggests that collaborating across the Pacific region to address child online safety challenges would be fruitful and enable individual countries to maximise the use of precious resources.

Given that the study worked with different socio-economic groups in each country, we have had to be very careful about drawing national comparisons. However, with this in mind, the study revealed the following key differences across the sample.

Access

While children in Solomon Islands are generally significantly heavier users of technology than their parents and carers, and have higher levels of knowledge and expertise, this was not the case in Kiribati and Papua New Guinea.

By contrast, the situation of children in the settlement in Port Moresby, Papua New Guinea, foregrounded the issue of digital literacy for children living in lower socio-economic communities. Because of the constraints on their exposure to technology and the internet, children's digital literacy appears to be severely limited. While it appears relatively common for children to watch videos – often unsupervised – via video streaming platforms on their parent's/carer's mobile phones, many children did not know what the internet was, and few of those who knew about it understood how it works. Further, they have very little understanding of the potential risks of harm associated with their use of technology and do not appear to have developed protective strategies. These children – and others like them across the Pacific region – are potentially disproportionately exposed to online safety risks. There is significant scope to nurture the digital literacies that are necessary both to protect these children from harm and to ensure they can take advantage of the opportunities that accompany increased connectivity.

Opportunities and benefits

In relation to educational benefits:

- Children in Solomon Islands appreciate opportunities to improve their English, learn about news and current affairs, and access advice from successful individuals.
- Children in Papua New Guinea highlight the benefits of developing their language skills and staying abreast of news and sport.
- Children in Kiribati are most enthused about accessing learning resources.

Children in Solomon Islands were much more likely to highlight the benefits of accessing religious resources online than children in Kiribati and Papua New Guinea.

Parents and carers across the three countries rate the educational benefits of technology as the most important but have differing views about the secondary benefits of digital engagement.

Parents and carers in Papua New Guinea and Kiribati value communication with family and friends but this is not commonly suggested by parents and carers in Solomon Islands.

- Parents and carers in Solomon Islands emphasise the value of access to religious and cultural resources, and also to entertainment for their children, whereas parents and carers in Kiribati and Papua New Guinea were more likely to highlight how digital technology supports connection with family and friends.
- Parents and carers in Solomon Islands were more likely than their counterparts in the other two countries to list entertainment as a positive aspect of technology.
- Parents/carers and stakeholders in Papua New Guinea were much more likely to talk about the economic opportunities associated with digital technology, as compared to their counterparts in the other two countries.

Risks

Children in Solomon Islands and Papua New Guinea are most concerned about cyberbullying, followed by hacking. In Kiribati, children are most concerned about encountering inappropriate content.

Pornography is a key focus of parent's worries in all three countries, but especially in Papua New Guinea.

Children, parents/carers and other adult stakeholders in all three countries raised cyberbullying as a key risk. Those in Papua New Guinea are much more concerned than those in the other two countries, possibly because there has been education about cyberbullying in Papua New Guinea.

While parents and carers in Kiribati and Solomon Islands are concerned about contact risks such as children contacting or meeting strangers online, the same concerns were not raised by parents and carers in the settlement in Papua New Guinea, where primary caregivers' digital literacy is particularly low.

While stakeholders in both Solomon Islands and Papua New Guinea identify extreme issues such as grooming, abuse and exploitation as extremely dangerous risks to children, stakeholders in Kiribati do not. Stakeholders in Papua New Guinea rate the likelihood of such serious risks higher than their counterparts in Solomon Islands, who think the likelihood is low.

Parents/carers and children in Solomon Islands were the only ones in the three countries to identify concerns that digital technology use distracts children from other important tasks like schoolwork and chores in the family home.

Children, parents/carers and stakeholders in Kiribati raised the issue that social media can create tension between a husband and wife, potentially leading to violence in the family home.

Parents and carers in Papua New Guinea are more concerned than those in other countries about the possibility that spending too much time online might lead to addiction.

Resilience and self-protective skills

Children in Solomon Islands appear more familiar with technical self-protective strategies than children in Kiribati, whose key technical strategy is to block contacts.

To protect their safety online, children in Kiribati tend to prioritise behavioural strategies over technical strategies to a much greater extent than their counterparts in the other two countries.

Mediation and support

In Papua New Guinea and Solomon Islands, children appear to seek parental support in the form of guidance and advice on how to deal with challenging situations before they escalate. By contrast, in Kiribati, children tended to report that they turn to their parents and carers for comfort or forgiveness if something bad happens online.

Parents and carers from all three countries believe that restricting or limiting their children's access to digital media is the most effective mediation strategy for protecting their children's online safety. Parents and carers in Solomon Islands in particular feel strongly that their children should not use digital media at all. This is also echoed in Kiribati and Papua New Guinea, however to a lesser degree.

In Kiribati, like their children, parents and carers primarily identify blocking people as a self-protective measure. Parents and carers in Solomon Islands nominate a wider range of technical measures they can put in place to protect their children.

Responsibility

Parents and carers in Kiribati voted both schools and teachers and governments as among the least responsible for keeping children safe online while, in the other two countries, these actors were voted most responsible after parents and carers.

Kiribati participants placed much greater importance on the responsibility of police to keep children safe online, with children voting them the most important actor and adult stakeholders rating them second only to parents and carers, and well above how adult stakeholders in Solomon Islands and Papua New Guinea ranked them.

Parents and carers in Papua New Guinea and Kiribati place equal importance on the police as responsible for protecting children's online safety. By contrast, parents and carers in Solomon Islands did not rate police as among those who bear key responsibility.

Parents and carers in Kiribati did not assign much responsibility for children online safety to churches and other religious organisations, whereas parents and carers in Solomon Islands and Papua New Guinea see churches as highly responsible and somewhat responsible, respectively.

APPENDIX 2

PERCENTAGES OF PARTICIPANTS WHO IDENTIFIED OPPORTUNITIES, BY GROUP AND COUNTRY

Stakeholders	Solomons	Kiribati	PNG	Overall
Business	36%	6%	67%	32%
Communications	77%	88%	56%	77%
Connecting people	23%	6%	44%	21%
Education	59%	88%	100%	77%
Entertainment	36%	88%	22%	51%
Information/News	41%	31%	67%	43%
Personal Development	45%	6%	22%	28%
Parents and carers	**Solomons**	**Kiribati**	**PNG**	**Overall**
Business	14%	13%	25%	17%
Communications	29%	63%	88%	61%
Connecting people	14%	13%	0%	9%
Education	100%	88%	100%	96%
Entertainment	43%	0%	13%	17%
Information/News	86%	25%	100%	70%
Personal Development	43%	38%	63%	48%
Children	**Solomons**	**Kiribati**	**PNG**	**Overall**
Business	2%	0%	0%	1%
Communications	23%	55%	35%	35%
Connecting people	0%	0%	3%	1%
Education	9%	16%	24%	15%
Entertainment	34%	26%	18%	27%
Information/News	23%	0%	12%	14%
Personal Development	0%	0%	9%	3%

APPENDIX 3

PERCENTAGES OF PARTICIPANTS WHO IDENTIFIED RISKS, BY GROUP AND COUNTRY

Stakeholders	Solomons	Kiribati	PNG	Overall
Cyberbullying	84%	7%	90%	59%
Distraction	74%	47%	50%	59%
Exploitation/Abuse	42%	0%	100%	41%
Harmful Behaviour	37%	20%	70%	39%
Harmful Influence	63%	67%	90%	70%
Health	21%	80%	40%	45%
Inappropriate Content	89%	93%	70%	86%
Parents and carers	**Solomons**	**Kiribati**	**PNG**	**Overall**
Cyberbullying	43%	0%	38%	27%
Distraction	0%	0%	50%	18%
Exploitation/Abuse	14%	14%	0%	9%
Harmful Behaviour	0%	14%	25%	14%
Harmful Influence	14%	71%	50%	45%
Health	0%	43%	13%	18%
Inappropriate Content	100%	86%	75%	86%
Children	**Solomons**	**Kiribati**	**PNG**	**Overall**
Cyberbullying	33%	20%	100%	38%
Distraction	29%	15%	0%	19%
Exploitation/Abuse	25%	0%	0%	12%
Harmful Behaviour	13%	15%	38%	17%
Harmful Influence	46%	35%	13%	37%
Health	17%	5%	0%	10%
Inappropriate Content	67%	85%	88%	77%


COLOURFUN

ChildFund Australia

childfund.org.au

Plan International Australia

plan.org.au

Young and Resilient Research Centre

westernsydney.edu.au/Young and Resilient