DIGITAL LITERACY AND POVERTY: INVESTIGATING THE DIGITAL EXPERIENCE OF CHILDREN LIVING AT PUSAT PERUMAHAN RAKYAT (PPR)

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Abstract

The B40 indicates percentages of Malaysia's lowest income population or the 'Bottom 40%'. While the Malaysian government is doing its best to include the B40s in all its policies, one of the biggest challenges to this is to ensure that the B40s are abreast with the contemporary demands of digital technologies. More specifically, poverty often deprives children of having positive and productive digital media experiences and skills. These children usually lack access to digital media and are unable to grasp the potential that comes with digital technologies. Therefore, this study aims to investigate the children's current level of digital literacy by studying a segment of the B40 group that is the children living at the Pusat Perumahan Rakyat (PPR). Using a survey on 308 children living at three PPRs around the Klang Valley area, this study applied the Digcomp framework for digital competency to measure the children's digital competencies. The study found that the children have moderate informational and operational skills, safety and security skills, communicational skills, and digital participation. However, they lack in content creation and problem-solving skills. Therefore, the study proposes that there needs to be more coordinated effort among relevant and responsible authorities and institutions to push the digital literacy agenda so that it becomes equally, if not more important, than issues of digital access and ownership.

1.0 Introduction

Many studies on children's participation in online environments have revealed that useful features such as the ability to post and share photos and videos are underutilised, while problematic online experiences such as altered photographs and simulated videos, as well as sexual exploitation, cyberbullying, and pornography are prevalent [1][2]. Children are exposed to both the benefits and dangers of being online at a higher rate than adults because of being connected. As such, they must be digitally literate to access and use digital technology securely and effectively. When it comes to performance in society, children who are digitally knowledgeable and have greater access to technology outperform their less technologically savvy peers. Because of technological improvements in digital media, children may

now not only access news and information, but they can also produce and generate their own content [3]. It is through the active use of digital media that young people may learn to be engaged citizens and members of society, and this is especially true for socio-culturally challenged groups such as children living in poverty [4].

The Malaysian government projected that by 2030, Malaysia will become a developed country. In the Communications and Multimedia Blueprint (CMB) 2018-2025, digital inclusiveness that will see the creation of media-savvy Malaysians is specifically highlighted. In addition, the Education Blueprint 2013-2025 clearly asserts that the government wants to ensure that socio-economic status would not hamper the less privileged from accessing the right technology in attaining education. While these aspirations look promising, there are still hurdles to overcome. Among the most prominent issues are the B40's level of effective digital adoption and usage.

B40 refers to the bottom 40% of households in Malaysia based on their monthly income. These households are the most vulnerable and poor in the country. B40 households typically have a monthly income of RM4,850 and below, which is below the national median income of RM5,873. The B40 group comprises mainly low-skilled workers, small traders, farmers, and fishermen, who are often employed in the informal sector of the economy. They face challenges in terms of access to education, healthcare, and affordable housing, and often struggle to make ends meet due to high living costs.

The B40 children more specifically will be the most affected if they are unable to keep up with the rapidly changing and demanding digital world. Effective use of digital technologies is more than just the ability to own and use the technology; rather it requires digital literacy that will guide them to become productive digital citizens [5].

Poverty often deprives children from being positive and productive digital media experiences and skills. These children usually lack access to digital media and are unable to grasp the potential that comes with digital technologies. Especially at this time of health pandemic, digital economy and Industrial Revolution 4.0 where digital literacy and skills are prerequisites to education, industries, and general wellbeing, these children cannot afford to be left behind. A segment of the B40s can usually be found living at the Pusat Perumahan Rakyat or also known as PPR.

The PPR is a low-cost housing initiative that was introduced by the Malaysian government in the late 1990s. The program was created to provide affordable housing to low-income families and individuals, with the aim of reducing poverty and improving living standards in urban areas. PPR units are typically built in high-density urban areas, and they come in various sizes ranging from one to three bedrooms. To be eligible for a PPR unit, applicants must meet certain criteria, including income thresholds, citizenship requirements, and residency status. Priority is given to families with children, single parents, and those living in poor housing conditions. In addition to providing affordable housing, PPR projects also come with various amenities and facilities, such as playgrounds, community halls, and shops. In addition, the government, and several telecommunication companies such Celcom and Maxis have installed community Wi-Fi services in certain PPR areas, providing residents with access to the internet. The Malaysian Communication and Multimedia Commission (MCMC) has also opened Internet Centers in selected PPRs to offer ICT related trainings and services to the residents. These initiatives are aimed at bridging the digital divide and enabling PPR residents to access online services and information. The aim is to create a self-sustaining community that can support the residents' basic needs and improve their quality of life.

Therefore, this study proposes that by investigating how the B40 children living at the PPR access and use the media, relevant and well-suited digital measures, tools, and initiatives can be developed to help these children break away from the vicious poverty cycle that often shackles their potential to become successful citizens.

Based on the problem statement delineated above, this study asks: What are the digital media literacy areas and skills most required by the children of PPR?

2.0 Literature Review

2.1 Children and Citizenship

The recognition of the child as a citizen requires some concrete measures, such as immediate registration at birth and the provision of nationality. Furthermore, as people, every child has the right to live an individual and decent life in society, as well as the ability to constructively engage in the community. As a result, children, like adults, have the right to certain skills, facts, and knowledge to work independently in the community [4]. Globalization's rapid social, economic, and technological shifts are increasing the need for new skills. Children now need competencies for responsible participation in political, economic, social, and cultural life, including emotional and moral skills and obligations, community engagement and volunteering, and political literacy and skills, to be involved citizens. Fostering children's cognitive, emotional, and behavioural skills is critical in assisting them in developing self-esteem, personal responsibility, tolerance for disparity, job effectiveness, civic activity, and mental wellbeing [1].

Digital media plays an important role in assisting children in developing these skills. It can educate people about reality, attitudes, beliefs, and norms that govern how the world works, as well as contribute to the development of worldviews [6][7]. All of this occurs even though digital media does not come with educational or instructional intentions, a specific curriculum, or a formalized set of educational goals. Many studies have shown that children use the full spectrum of media content as a learning environment [8][9]. Media, especially with the rapid growth of the Internet, is now more ubiquitous and inseparable from children's lives. As a result, UNICEF [13] recognized that children's access to the media is a citizenship privilege, while active media use is a citizenship norm.

2.2 Children, Digital Media Literacy and Becoming Citizens

Children who are media literate and have better access to the media have ability to function more productively in society [10]. For example, the political world is a reality that most children are detached from yet are directly influenced by. They are expected to then become politically involved citizens as they grow. With the aid of media, very young children learn to identify their own as well as other countries' political leaders; listen as these leaders give political speeches or argue before their governing bodies; follow demonstrations; and recognize major issues on their national political agenda. The media is crucial in the process of children's emerging understanding of reality [11]. Contemporary digital media affords the ability for children to not only receive news and information but also create and produce their own content. Active digital media use allows children to become active citizens and be included as an integral part of the society [12]. UNICEF [13] had outlined three basic digital media rights that must be given to children. These include: 1) Children as 'producers' of the media, creating spaces for children's expression and opinions of the realities around them; 2) Children as 'users' of the media: children's access to the media; right to information; children's rights over programming content, right to protection from harmful content; 3) Children as 'subjects' of the media: right to protection from misrepresentation and stereotyping; right to privacy, confidentiality, and dignity.

Therefore, as citizens, children need access to the mediated public domain of media news and current events – both as an audience whose needs, skills, and interests are taken into consideration and as participants whose opinions and concerns are being voiced. As such,

digital media literacy through which children will be able to optimize the affordances of the media is an important skill that needs to be imparted.

2.3 Children, Poverty and Digital Media Literacy

However, the relationship between children and digital media literacy is often negatively hampered by many socialization factors that include culture, family dynamics, and poverty. Poverty especially had been proven to deprive children from having positive and productive digital media experiences [14]. Research has shown that children from a lower socio- economic level tend to spend more time on the media but is exposed to less informative content [15][16]. Economically challenged children are also deprived of the necessary digital media skills. For instance, they receive less supervision from family members and tend to watch programs that are not suitable for their age group [17]. They also go to schools that are not equipped with the tools or the expertise to train them to become literate media users. They are also deprived of having the right devices to produce media content. As a result, they tend to become passive media consumers [18]. While the issue of digital divide between different social classes is a global problem, the centrality of digital media use in children's becoming active citizens cannot be seen as just another consequence of rapid technological development. The right access to digital media and the ability to use the media are now basic citizen rights. Poverty may be a barrier to some group of children, but positive change must be produced to ensure that these children can understand that they are part of Malaysia and that their worldview will be in parallel with the government's aspirations [19].

2.4 Digital Literacy Competence Framework

Digital literacy refers to the ability to use digital technologies to access, evaluate, create, and communicate information. It involves the use of digital tools and resources to solve problems, complete tasks, and achieve goals. Digital literacy is a multidimensional concept that encompasses technical, cognitive, and socio-cultural aspects.

The theoretical framework for digital literacy has evolved over time to encompass a variety of perspectives. One of the earliest frameworks was proposed by Paul [20]. who defined digital literacy as "the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers". This framework focused primarily on technical skills and the ability to navigate digital environments.

Later frameworks expanded on Gilster's definition to include a broader range of skills and competencies. For example, the Digital Literacy Framework developed by the European Commission [21] identified five key components of digital literacy: information literacy, communication and collaboration, digital content creation, safety, and problem-solving. This framework emphasized not only technical skills but also critical thinking, communication, and social skills.

Competence frameworks are conceptualizations aimed at structuring a set of intertwined competencies which aim to enhance the capacities of a specific target group, and can be found within policy documents, school curricula, certification schemes and academic papers [22]. A few digital literacy competence frameworks have been developed by international organizations, national or sub-national organizations as well as commercial private sector actors. This study incorporates two recent competence frameworks that are of relevance, that is, the Digital Competence Framework for Citizens of known as DigComp developed by the European Commission [21], and the Digital Kids Asia-Pacific framework of the UNESCO

Asia and Pacific Regional Office [23]. These have been selected for several reasons. First, they have been developed from mapping exercises of other public and commercial digital literacy competence frameworks, and therefore include the first level of aggregation of the competencies present in most existing approaches. Second, they do not represent practical approaches that have been used and implemented in different contexts. Third, they have an international scope, and therefore considered some needed degree of adaptability to different contexts and cultures. These frameworks measure competencies in digital literacy through five skill areas (Table 1).

TABLE 1
Digital competency skill areas

No.	Digital skills area	Characteristics
1.	Informational and operational	To articulate information needs, to locate and retrieve digital data, information and content. To judge the relevance of the source and its content. To store, manage, and organise digital data, information and content.
2.	Safety and Security	To protect devices, content, personal data and privacy in digital environments. To protect physical and psychological health, and to be aware of digital technologies for social well-being and social inclusion. To be aware of the environmental impact of digital technologies and their use.
3.	Communication and digital participation	To interact, communicate and collaborate through digital technologies while being aware of cultural and generational diversity. To participate in society through public and private digital services and participatory citizenship. To manage one's digital identity and reputation.
4.	Content creation and digital innovation	To create and edit digital content. To improve and integrate information and content into an existing body of knowledge while understanding how copyright and licenses are to be applied. To know how to give understandable instructions for a computer system.
5.	Problem Solving	To identify needs and problems, and to resolve conceptual problems and problem situations in digital environments. To use digital tools to innovate processes and products. To keep up-to-date with the digital evolution.

This study had contextualized the framework so that it would be suitable to study a specific part of the society which are the Malaysian children living at the PPR. As such, the study has contribute to the advancement of the digital literacy framework by applying it to a specific population. As a result, the findings of this study can help to refine the existing framework and make it more inclusive and relevant to the needs of disadvantaged groups. In addition, the study also contributes to the enhancement of child-centered research by placing the experiences and perspectives of children living in poverty at the center of the analysis. The study can provide insights into how these children navigate the digital landscape and how their experiences are shaped by their social, economic, and cultural contexts.

3.0 Methodology

A phone survey was conducted instead of face-to-face due to the imposed Movement Control Order (MCO) during the COVID-19 pandemic. The survey was done from 18 January to 3 February 2021.

3.1 Population and Sampling

The population group for the study is school children aged between 7 to 15 years old. They are primary school and lower secondary school children residing at the selected three PPR. The main criteria for selection of the children are that they must reside in the selected PPR. Initially, 100 school children encompassing both male and female were targeted as the sample for each PPR. A contact person from each PPR was identified where he was appointed as person-in-charge for the study. The person-in-charge from the respective PPR provided the researchers with the list of school children with their contact numbers with the permission from their respective parents.

The sampling procedure is done using stratified random sampling procedure where the strata are PPR, age group and gender. The three PPR selected were PPR Desa Rejang, PPR Sumgai Bonus and PPR Kota Damansara. The PPRs were all located in the Klang Valley area. The main reason for their selection is because the Movement Control Order that was imposed during the data collection period of the research limited the researchers' ability to move and travel and as such these three PPRs were most reachable in terms of distance. The table below depicts the demographic breakdown of the children surveyed.

TABLE 2
Demographic Characteristics of the Respondents

Demographic Information (N = 308)	Category	Frequency	Percentage
PPR	Desa Rejang	93	30
	Kota Damansara	96	31
	Sungai Bonus	119	39
Gender	Male	156	51
	Female	152	49
Ethnicity	Malay	230	75
	Chinese	2	1
	Indian	76	24.
Age	7-9 years old	108	35
	10-12 years old	111	36
	13-15 years old	89	29
No. of siblings	None	11	3
	1-3 siblings	169	55
	4-6 siblings	107	35
	More than 7 siblings	21	7

3.2 Research Instrument and Measurement

The questionnaire consists of four (4) main sections. The questionnaire was developed in Malay or Bahasa Melayu (BM) to help the school children to understand it better. Later, the Malay version of the questionnaire was translated into English for this paper. The questionnaire was designed in four sections. The first three sections of the questionnaire asked the children about

their demographic background as well as their media habits and use. These questions were asked to get a better understanding of the children's background and media access. This background information can help the researchers better contextualize the children's level of digital literacy.

The fourth section in the questionnaire was dedicated to measuring the level of digital media literacy. Data from this section informs the findings in this paper, based on the competency framework explained above, the section was broken to five (5) sub-sections that included (a) informational and operational skills, (b) safety and security skills, (c) communication skills and digital participation, (d) content creation and digital innovation, and (e) problem solving skills. Each of the skills was measured through a series of YES/NO questions that measured the children's adoption of the respective skills. A 2-point scale of YES/NO questions was used to make it easier for the children to comprehend and provide decisive answers.

3.3 Validity and Reliability Test

Validity and reliability of the research instrument is very important for both quantitative and qualitative research designs. Validity is defined as the extent to which a concept is accurately measured what is supposed to measure. This exercise has been done through refereeing to the expert in the field of digital literacy and referring to the established instrument. Content validity was also assessed through a pilot study where 30 children were asked to answer the questionnaires. The researchers identified minor language and question organization issues that challenged the children's abilities to understand the survey questions. Corrective improvements were made to simplify the questions and match the children's level of comprehension. Analysis for reliability found that there is internal consistency with Cronbach alpha of $+ .78$.

4.0 Findings

The research question asked about the digital media literacy and skills most required by the children. To answer this question, the study used the digital literacy framework identified through the literature review. The framework focused on 5 literacy skill domains that include: (a) informational and operational skills, (b) safety and security skills, (c) communication skills and digital involvement, (d) content creation and digital participation, and (e) problem solving skills. The study also looked at the type of digital facilities available in the children's household. This is to understand the children's level of access.

TABLE 3
Types of Digital Devices and Digital Facilities at Home

No.	Type of Device/Digital Facility ($N = 308$)	Yes (%)	No (%)
1	Computer/Laptop	53 (17.2%)	255 (82.8%)
2	Tablet/ iPad	32 (10.4%)	276 (89.6%)
3	Smartphone	272 (88.3%)	36 (11.7%)
4	Internet facilities (wifi/mobile)	204 (66.2%)	104 (33.8%)
5	TV subscription (ASTRO, Unifi)	210 (68.2%)	98 (31.8%)

6	Game console (PS/Wii)	5 (1.6%)	303 (98.4%)
7	Streaming services (*Netflix/Viu/Apple TV/Dimsum*)	16 (5.2%)	292 (94.8%)

Majority of the children (88.3%) have access to the smartphone. About two-thirds of them (66.2%) do have Internet and 68.2% of them have subscribed to TV ASTRO and Unifi. Other digital devices and digital facilities are considered underrepresented. Almost all the children (98.4%) do not have console games (PS/Wii) and 94.5% of them do not have Streaming services (Netflix/Viu/AppleTV/Dimsum). Majority of them do not have computer/laptop (82.8%) and Tablet/iPad (89.6%). This indicated that the children still lack access. Further investigation found that while some children had their own phone, many did not and have to share and borrow from their parents thus limiting their internet and digital access at home. Despite the lack of digital ownership, the children are well exposed and are able to use most of the devices because they have used them at school and the internet centres. Therefore, device ownership is not the defining determinant to the children's digital skills. While having their own devices can certainly elevate the children's digital skills, not owning them is not a major deterrent because the children had plenty of other available resources.

4.1   Informational and operational skills

Informational and operational skills revolve around the children's ability to search, manage, and store data and information for effective use. The table below lists the children's aptness in several behaviors that relate to this skill.

TABLE 4
Informational and operational skills

No	Informational and Operational Skills	Yes (%)	No (%)
1.	I know how to use digital devices like smartphones, iPad and laptops.	263 (85%)	45 (15%)
2.	I know how to surf the Internet using impact changers (browsers) and search engines like safari, chrome, google, yahoo etc.	188 (61%)	120 (39%)
3.	I use computer software (e.g., Microsoft Word, Microsoft PowerPoint, Google Docs) to complete my school assignments.	54 (17.5%)	254 (82.5%)
4.	I know how to download applications and software through sources such as GOOGLE Playstore and APPLE Appstore (e.g., game apps).	249 (81%)	59 (19%)
5.	I know how to upload and share files and images.	129 (42%)	179 (58%)
6.	I know how to keep important information in specific folders.	62 (20%)	246 (80%)
7.	I used to register my profile on the Internet facilities.	83 (27%)	225 (73%)

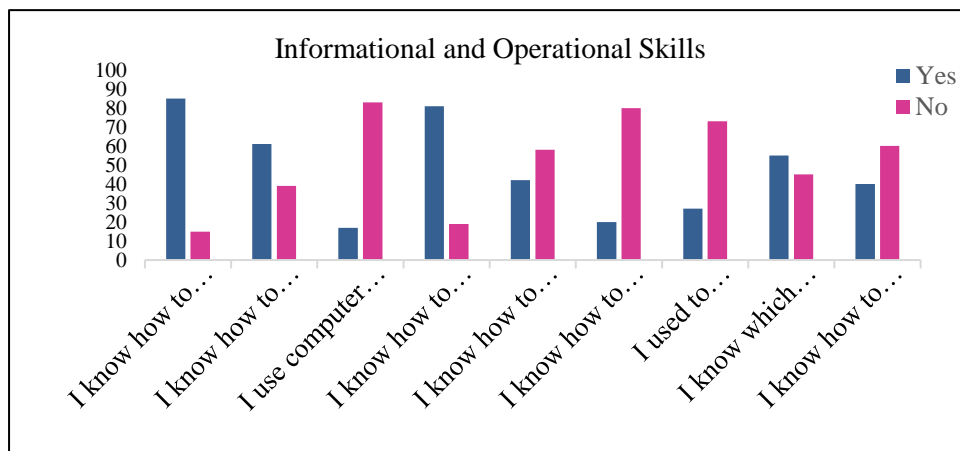| 8.	I know which information that I can and cannot share on the Internet.	168 (54.5%)	140 (45.5%)
9.	I know how to change my password.	122 (40%)	186 (60%)

Figure 1: Informational and Operational Skills

The majority of the children (85%) claimed that they know how to use digital devices like Smartphones, iPad and laptops and they know how to download applications and software through sources such as GOOGLE Playstore and APPLE Appstore (e.g., game downloads) (81%). More than half the number of children indicated that they know how to surf the Internet using impact changers (browsers) and search engines like Safari, Chrome, Google, Yahoo, etc. (61%) and that they know which information they can and cannot share on the Internet (54.5%).

However, there are some informational and operational skills that the children have not acquired yet. The majority of the children (82.5%) claimed that they do not use computer software (e.g., Microsoft Word, Microsoft PowerPoint, Google Docs) to complete learning assignments at school. About three-quarters of them (80%) indicated that they do not know how to keep important announcements in specific folders and that they do not register their profile on the Internet facilities (73%). More than half the number of the children (60%) said that they do not know how to change their password and that they do not know how to upload and share files and images (58%).

4.2   Safety and Security Skills

Safety and security skills (see Table 4) involve the children's capacity to protect information and personal data. It also involves the children's ability to recognize digital identity, measures of safety, responsible and safe use.

TABLE 4:

Safety and security skills

| No.	Safety and Security Digital Skills	Yes (%)	No (%)
1.	I will not click or press on links that look strange or suspicious.	185 (60%)	123 (40%)
2.	I know how to download anti-virus tools.	46 (15%)	262 (85%)
3.	I always share my personal information with other people online. (R)	23 (7.5%)	285 (92.5%)
4.	I will download anything that I like because everything on the Internet is free. (R)	101 (33%)	207 (67%)
5.	I know how to use privacy settings to maintain personal safety / stay away from unwanted acquaintances (e.g., text spam, e-mail).	95 (31%)	213 (69%)
6.	I will answer messages from strangers. (R)	36 (12%)	272 (88%)
7.	I will report to my parents / authority if I get threaten on the Internet.	271 (88%)	37 (12%)
8.	I know how to protect myself from cyber bully.	104 (34%)	204 (66%)
9.	I will let my friends being bullied on the Internet because there is nothing that can be done. (R)	90 (29%)	218 (71%)
10.	I know what cybercrime is.	134 (43.5%)	174 (56.5%)
11.	I will not cheat and give dangerous comments in the social media because it is against the rules and regulations (cyber laws).	238 (77%)	70 (23%)

*(R) Reverse ite
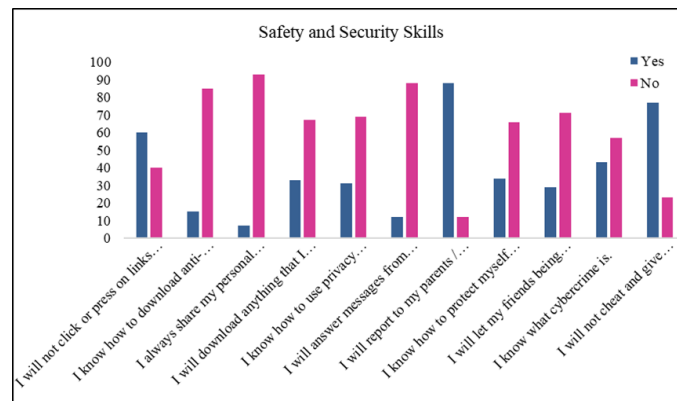
Figure 2: Safety and security skills

88% of the children claimed that they will report to their parents/authority if they get threaten on theInternet. More than three-quarters of the children (77%) indicated that they will not cheat and give dangerous comments in the social media because it is against the rules and regulations (cyber laws). More than half the number of children (60%) admitted that they will not click or press on links that look strange or suspicious.

As for the four reversed statements, the results show affirmatively when the children indicated that they did not agree with statements. It can be summarized that: (a) they do not always share their information with other people (92.5%); they will not download anything that they like because everything on the Internet is free (67%); they will not answer messages from strangers (88%); and they will not let their friends being bullied on the Internet because there is nothing that can be done (71%). Even though there is a tendency to agree with the statements mentioned, the children responded the reverse.

However, two positive statements are negatively answered: (a) "I know how to protect myself from cyber bully" (66%) and (b) "I know what cybercrime is" (56.5%). Therefore, some degree of exposure and learning should be instilled inside the children's mind so that they should know how to protect themselves from cyber bully and they must know the meaning of cybercrime and how to avoid being the victims of it.

4.3   Communication Skills and Digital Participation

Communication Skills and Digital Participation (see Table 6) revolve around the children's ability to communicate in digital environments, share resources through network tools, connect with others and collaborate through digital tools and interact and participate in online communities.

TABLE 5
Communication skills and digital participation

o.	Communication Skills and Digital Participation	Yes (%)	No (%)
1.	I like to share my interests and knowledge with friends on the Internet.	97 (31.5%)	211 (68.5%)
2.	I make new friends online.	60 (19.5%)	248 (80.5%)
3.	Even though I do not agree with someone on the Internet, I will restrain myself from using negative tone.	244 (79%)	64 (21%)
4.	I will not share pictures or information about other people without their permission.	222 (72%)	86 (28%)

| 5.	I used to quarrel with my friends on the Internet. (R)	42 (14%)	266 (86%)
6.	I used to have an argument with an unknown person on the Internet. (R)	13 (4%)	295 (96%)
7.	I will definitely be punished or get caught if I make a mistake on the Internet.	182 (59%)	126 (41%)
8.	I have no problem interacting with people of different backgrounds / nationalities / religions / cultures.	237 (77%)	71 (23%)
9.	I understand that I have to show respect to other people on the Internet.	264 (86%)	44 (14%)
10.	I have pretended to be someone else when using the Internet /social media. (R)	12 (4%)	296 (96%)
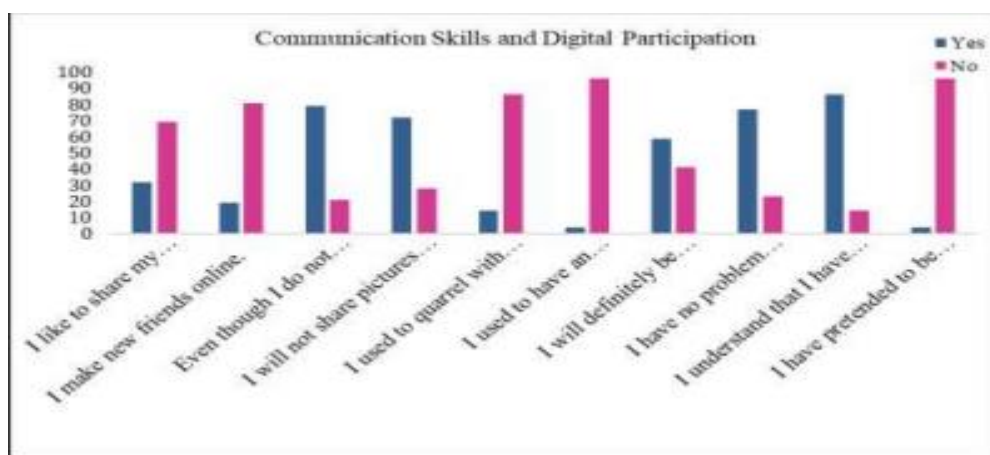
Figure 3: Communication and Digital Participation

Figure 3 demonstrates that the majority of the children (86%) claimed that they understand that they have to show respect to other people on the Internet. More than three-quarters of the children (79%) indicated that even though they do not agree with someone on the Internet, they will restrain themselves from using negative tone and 76.9% of them indicated that they have no problem interacting with people of different backgrounds/nationalities/religion/cultures. In addition, 72% of the children said that they will not share pictures or information about other people without their permission. More than half the number of children (59%) indicated that they will be punished or caught if they make a mistake on the Internet.

Out of the 10 statements on communication skills and digital participation, three (3) statements are reversely stated. They are statement numbers: 5, 6 and 10. For the three (3) reversed statements, it can be implied that they do not quarrel with their friends on the Internet (86%); they do not have an argument with an unknown person on the Internet (96%); and they do not pretend to be someone else when using the Internet/social media (96%).

However, there are two (2) positive statements that received low results. They are "I like to share my interests and knowledge with friends on the Internet" (31.5%) and "I make new friends online" (19.5%).

4.4   Content Creation and Digital Innovation

Content creation and digital innovation covers the children's capacity to create and edit new digital content, integrate and re-elaborate previous knowledge and content, make artistic productions, multimedia content, and computer programming, know how to apply intellectual property rights and

licenses for use.

TABLE 6
Problem Solving Skill

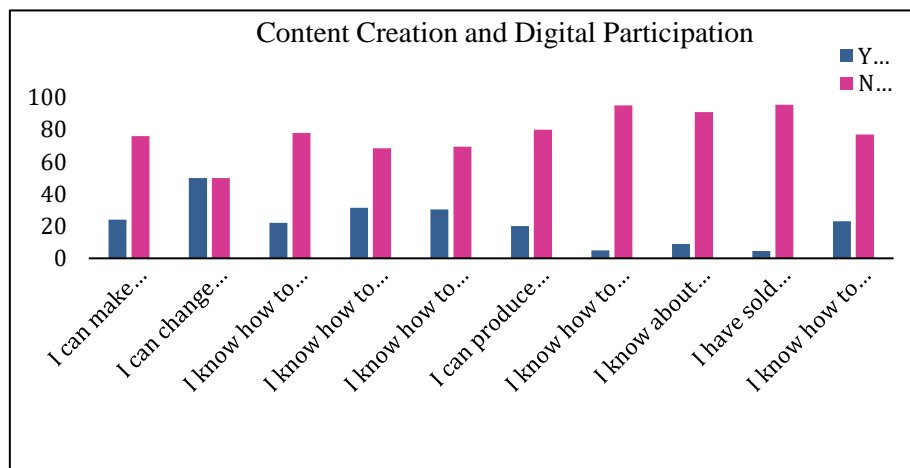| No.	Problem Solving Skills	Yes (%)	No (%)
1.	If I need information about something I will straight away look for it on the Internet.	91 (29.5%)	217 (70.5%)
2.	I will make sure that the information I receive is true and valid before sharing it on the Internet.	192 (62%)	116 (38%)
3.	I can solve technical problems or make a decision on what action to be taken to solve the problem.	91 (29.5%)	217 (70.5%)
4.	I learned to use new technology by trying it myself.	129 (42%)	179 (58%)
5.	I used to help my family or friends who didn't know how to use digital media.	125 (41%)	185 (59%)
6.	I can use suitable technology and programs to complete my school assignments.	218 (70%)	90 (30%)
7.	I control the use of digital media and the Internet because I know it may affect my mental and physical health.	178 (58%)	130 (42%)
8.	I have bought goods / services on online.	59 (19%)	249 (81%)
9.	I can control the use of the Internet because I know it is pricey.	196 (64%)	112 (36%)
10.	I know the appropriate information for my age.	164 (53%)	144 (47%)

Figure 4: Content Creation and Digital Participation

Figure 4 lists 10 skills that the children could possess. However, the results indicated that they have very poor ability in content creation. The most they can do is change the wallpaper on the digital screens (50%). Some children had the ability to produce social media content on sites such as YouTube and Tiktok (31.5%). The children scored low in other content creation and digital innovation skills such as combining images with text and audio (30.5%), making knowledge representation (24%), sharing work on virtual platform (23%), editing audio and sounds (22%), and produce graphic art (20%). The children are rather clueless about copyright and licensing rules (9%). They do not know how to program digital devices (5%) and sell stuff online (4.5%).

4.5 Problem Solving Skills

Problem solving skills (Table 7) are higher end skills that measure whether the children can make informed decisions about the most appropriate digital tools according to the purpose or need, solve conceptual problems through digital media, use technologies in a creative way and solve technical

problems.

TABLE 7
Problem solving skills

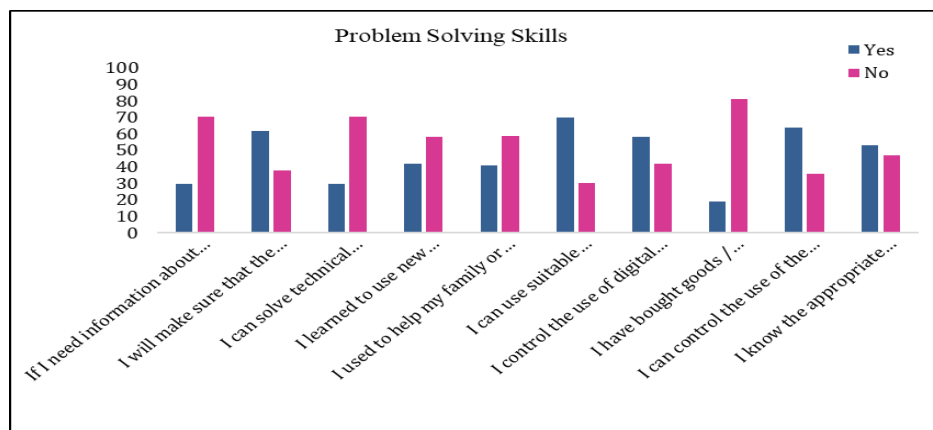| No.	Problem Solving Skills	Yes (%)	No (%)
1.	If I need information about something I will straight away look for it on the Internet.	91 (29.5%)	217 (70.5%)
2.	I will make sure that the information I receive is true and valid before sharing it on the Internet.	192 (62%)	116 (38%)
3.	I can solve technical problems or make a decision on what action to be taken to solve the problem.	91 (29.5%)	217 (70.5%)
4.	I learned to use new technology by trying it myself.	129 (42%)	179 (58%)
5.	I used to help my family or friends who didn't know how to use digital media.	125 (41%)	185 (59%)
6.	I can use suitable technology and programs to complete my school assignments.	218 (70%)	90 (30%)
7.	I control the use of digital media and the Internet because I know it may affect my mental and physical health.	178 (58%)	130 (42%)
8.	I have bought goods / services on online.	59 (19%)	249 (81%)
9.	I can control the use of the Internet because I know it is pricey.	196 (64%)	112 (36%)
10.	I know the appropriate information for my age.	164 (53%)	144 (47%)

Figure 5: Problem Solving Skills

There are mixed findings regarding this issue. The problem-solving skills that have been acquired by the children are information checking (62%), using suitable technology and programs (70%), controlling the amount of usage (58%), controlling the price of usage (64%), and identifying age-appropriate information (53%). Other problem-solving skills that the children scored low in include using the exploiting online information (29.5%), solving technical problems (29.5%), learning new technology (42%), assisting other people's digital use (41%) and doing online commerce (19%).

4.6 Digital Literacy Domains Most Required

The data gathered from the children's responses on the five skills measured indicated that the children have poor to average adoption. The table below summarizes the meaning of skills adoption.

TABLE 8
Summary of skill domains mean

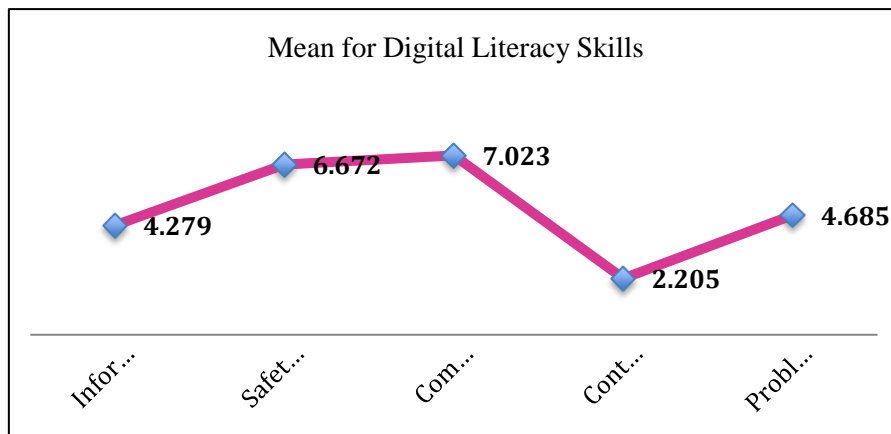| Items	N	Mean	SD
Informational and operational skills	308	4.279	2.31
Safety and security digital skills	308	6.672	1.807
Communication skills and digital participation	308	7.023	1.848
Content creation and digital innovation	308	2.205	2.313
Problem solving skills	308	4.685	2.485

Figure 6: Mean for digital literacy skills

Figure 6 shows that when averaged out from a scale of 1-10, it was found that the children had mostly below to slightly above average adoption of the skills measured. The two skill domains that scored higher than average are communication skills and digital participation (M=7.023), followed by informational and operational skills (M=6.672). The three other domains saw below average scores and they include problem solving skills (M=4.685), informational and operational skills (M=4.279). The children scored lowest in content creation and digital innovation (M=2.205). This indicates that the children need significant support to become digitally literate and competent. The children scored high in communication skills because they had mostly translated everyday offline, real-world ethics and rules such as respect and privacy into their online practices. However, whether they can technically translate this to their digital practice is yet to be seen. The low scores on other dimensions especially content creation and digital innovation signals a need for more initiatives to be undertaken to ensure that the children can become active digital citizens.

5.0 Discussion

The children have basic digital skills in the sense that they understand how to use digital devices such as smartphones and laptop computers. However, the majority lack the skills required to operate digital devices for purposes other than content consumption. Many students, for example, are unable to complete their schoolwork using Office-based software. Just 20% know how to save files and store them in separate directories.

Similarly, children are typically aware of cyber threats and have a conceptual understanding of online risks. They understand, for example, not to click on something unusual (60%), not to respond to

strangers online (88%), and not to share personal information (92.5%). They lack the ability to secure themselves, however, because they are unable to perform simple online security measures such as installing antivirus software (14%) and adjusting privacy settings (31%). A total of 66% confessed to not knowing how to protect themselves from cyberbullies. When asked how to protect themselves online, the younger children are particularly clueless.

Comparably, when it comes to communication skills and digital engagement, the children are very savvy in that they understand how to interact with others online in an ethical manner (79%). They comprehend the idea of consideration and appropriate conduct (86%). They lack the desire to participate, however, since they are unsure how to exchange knowledge (68.5%) and make meaningful relations with others (80.5%). This suggests that PPR children understand the importance of ethical communication but neglect online participation. Thus, although the children scored significantly higher in both the safety and security (M = 6.672) and communication and participation (M = 7.023) dimensions, it seems that this is due to the children's ability to incorporate daily, offline ethics and practices into their digital activities. Not talking to strangers or sharing personal information are basic life skills that parents, and society instill in their children. Respect and the avoidance of arguments are often universal ethics that are not limited to the digital world. However, as suggested by Livingstone [24], while these fundamental skills and ethics may provide children with basic protection and communication skills; they are insufficient to shield them from the plethora of threats unique to the digital world.

As a result, children must be better educated about online threats that vary greatly from those encountered in the offline world, as well as the specific ways to handle them. The children performed poorly in the dimensions of content production and digital creativity (M = 2.205) and problem solving (M = 4.685). Most children are unable to produce materials for use on the Internet. They can only change the wallpaper on their mobile (50%). They cannot, however, edit material or use digital media to create simple information representations such as mind maps, graphic images, or posters (24%).

This notable lack of content development and creativity agrees with [25] that found children living in poverty have limited digital experiences with them only being able to consume content but not being able to create content or exploit the many activities that can be done online. Furthermore, 91% of children are unaware of copyright and licensing laws. Although this is to be anticipated given the children's age, it is a significant indication of the importance of providing children with digital literacy education. This also lends credence to the point that, while children are generally aware of the basic principle of staying safe and secure online, they are unaware of the technicalities of navigating the Internet.

Since digital technology is and will continue to influence children's lives, it is critical that they be trained in how to become digital people who understand the digital world and how it differs from the physical world. The children claim to have problem-solving abilities such as the ability to recognize appropriate programs to complete school assignments (70%), learn about emerging technology independently (42%), and assist others with technological problems (41%). They rarely used any other kind of learning platform. It is also disheartening to discover that the children did not regard the Internet as a reliable source of knowledge (70.5%). In this way, the children are unaware that the Internet contains a wealth of knowledge.

However, on a more positive note, the children are somewhat mindful of the real-world costs of digital use in the sense that they understand the need to limit their Internet usage for health (58%) and economic reasons (64%). The children can conceptualize the connection between online and offline activities by understanding that digital usage can have consequences in their daily lives. This indicates that the children have a basic understanding of how real-world issues can be related to digital interactions and how digital use can impact their daily lives.

To summarize, the children at the PPR are avid consumers of digital media. However, due to a lack of access and digital knowledge, they have only the bare minimum of technological skills required to capitalize on their digital opportunity. For the time being, children are mostly dependent on universal daily life ethics, beliefs, and habits to navigate their digital experience. Although these values are useful and play an important role in helping children link the digital world with their daily lives, they are insufficient to support the children's digital media experience. Relying solely on basic skills would only provide children with limited digital experience, reducing them to digital media viewers rather than active and creative digital users and producers, which are prerequisites for digital citizenship. The

children need more specialized skills related to digital media such as the ability to use different channels, create content, manage data, and understand basic digital regulations such as copyright. These digital knowledge and skills are no longer limited to adults or heavy users of the Internet. These are now necessary skills for any individual child. [13] even noted that digital literacy and skills should be taught to children even when they are not online. The real difficulty in delivering digital training to children is that it necessitates meticulous planning and preparation because the types and levels of skills to be imparted must differ according to the children's age, local culture, and background.

In addition, an enhanced multi-stakeholder partnership between stakeholders and policy makers such as the Malaysian Communication and Multimedia Commision (MCMC), Local Government Institutions (LGI), government officials, non- governmental organizations (NGOs), civil society organizations (CSOs), and private service providers should be initiated to provide child-specific educational and training programs. Although there have been several initiatives that link emerging technology to STEM, more innovative collaborations with the arts and gaming communities will be beneficial. Tohara [26] suggests that the arts and gaming can expose children to the limitless possibilities of digital media and the fact that there are options for all types of interests and inclinations. For example, since children are very interested in online games, it would be better to capitalize on this interest so that the children can not only play games, but also choose wisely, be ethical, and even become content creators. Digital artists may also be approached to educate the children on the various artistic platforms that are accessible for them to explore. Strategic collaboration with emerging tech start-ups may also be established to include short courses or educational visits to expose children to the possibilities of digital technology.

6.0 Conclusion

This study discovered that while economically challenged children living at the Pusat Perumahan Rakyat are widely digitized and are already exposed to the digital world, they are still severely restricted by their socioeconomic status in the sense that they have inadequate access and minimal skills to become successful digital citizens. The danger that these children face is that they are engaging in a digital world that is full of possibilities without proper knowledge and skills. Going into this world blindly can be detrimental. Therefore, it is important that the children be armed with enough skills that can help them maneuver through the digital world safely and successfully. Because of this, it is critical to guarantee that all attempts to increase internet access and digital penetration are fully supported by training and educational activities that teach digital literacy skills. Scholars of media and digital literacy must be more assertive in pushing the digital literacy agenda while also developing solutions that balance children's internet use with their ability to be resilient in the digital age.

While this study can inform about the digital literacy adoption of underprivileged children, a more open and comprehensive research that can study the digital media literacy competencies of children from more affluent categories can provide more a comprehensive understanding of Malaysian children's digital media literacy competency.

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