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FACTORS INFLUENCING DIGITAL PROBLEM-SOLVING SKILLS AMONG B40 CHILDREN LIVING AT THE PUSAT PERUMAHAN RAKYAT (PPR)

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ABSTRACT

In Malaysia, the B40 indicates the percentage of the country's lowest-income population, sometimes known as the "Bottom 40 percent." While the Malaysian government is doing everything it can to integrate the B40s in all of its policies, one of the most difficult challenges it faces is ensuring that the B40s are up to date with the present needs of information and communication technologies. More particular, poverty frequently deprives children of positive and useful digital media experiences and skills, as well as other opportunities. These children typically do not have access to digital media and are therefore unable to fully appreciate the possibilities offered by digital technologies. This study aims to investigate the current level of digital literacy among children living in Pusat Perumahan Rakyat (PPR), a segment of the B40 group that includes children from three PPRs in the Klang Valley area. A phone survey was conducted among 308 children from three PPRs in the Klang Valley area. The Digcomp framework for digital competency was used in this study to assess the children's digital skills, with a particular emphasis on the digital problem-solving skill. Based on their informational and operational abilities, safety and security skills, communication skills, and digital participation, as well as problem-solving skills, the children were deemed to be of moderate competence. They, on the other hand, are lacking in terms of content creation and innovation. The researchers discovered that the children's problem-solving skills are significantly influenced by their other digital-literacy skills, according to the findings. The study closes by recommending the development of more inclusive digital literacy programs that are attentive to the socio-cultural milieu in which Malaysian children are raised.

Keywords: B-40, Children, Digcomp, Digital Literacy, Pusat Perumahan Rakyat (PPR).

INTRODUCTION

Children are growing up in homes where emerging technologies encourage them to engage in a variety of activities such as social networking, blogging, vlogging, gaming, instant messaging, downloading music and other content, uploading, and sharing their own creations, and engaging with others in a variety of ways (Wok & Mohamed, 2017). The new media are a frontier, rich with opportunities and threats, especially for children, as the media weaves stories and images that inform them about the roles of ethnicities, cultures, gender, lifestyles, and the majority of what to think and do in their daily tasks. Today's children seek knowledge instantly, connect with public services, chat with peers, participate in social and political events, and use social networks.

Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

Children's interaction with online settings shapes and influences their attitudes and values, relationships, choices, and decisions. Social networking platforms such as WeChat, TikTok, YouTube, Twitter, and Instagram have altered the social climate of today's children, influencing how they can develop themselves and express (or not express) their desires and motivations. While media and Internet usage among children is now unavoidable, rendering them digital by default, this does not mean that they have the strategic skills required to profit from it in various aspects of life. As shown by the results of numerous studies, they may simply remain at the level of using certain basic (gaming, social media) applications (Mustaffa et al., 2011; Juhari & Mat Zin, 2013; Baboo, Pandian, Prasad, & Rao, 2013).

Indeed, numerous studies on children's participation in online environments indicate that many useful features of social media are underutilized, while problematic online experiences such as altered photographs, simulated videos, fake news, sexual exploitation, cyberbullying, or pornography are flooding the Internet, influencing how children use, understand, and create content (Livingstone, 2011; Rashid, Mohamed & Azman, 2017). Children are more vulnerable to both the benefits and dangers of being linked because they spend more time online than adults (Ofcom, 2019). As a result, children need digital literacy to direct and educate their digital access and use. Children who are technologically literate and have greater access to technology outperform their peers in society. Thanks to the developments in digital media, children can now not only access news and information, but also create and produce their own contents. The active use of digital media allows children to become active citizens and accepted members of the society (UNICEF, 2017)

The Malaysian government projected that by 2030, Malaysia will become a developed country. In the Communications and Multimedia Blueprint (CMB) 2018-2025 (MCMC, 2017), digital inclusiveness that will see the creation of media savvy Malaysians is specifically highlighted. In addition, the Education Blueprint 2013-2025 (Ministry of Education, 2013) 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 issue is the B40's level of effective digital adoption and usage. The B40 presents percentages of the country's lowest income population or the 'Bottom 40%'. 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 the B40 children to become productive digital citizens (Mohamed, Work, Nasir & Ghazali, 2021).

Children living at the Pusat Perumahan Rakyat (PPR) is a segment of Malaysian society that could be left behind by the government's progressive policies if they are not given the right guidance and worldviews to be a part of a developed Malaysia. Digital technology is a powerful tool that can facilitate these children into becoming active citizens. By understanding how these children access and use the media; relevant measures, tools and initiatives can be developed to help them adopt the right digital skills and literacy that can positively influence their future. More specifically, this research study aims to:

Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

i. To determine the extent of skills on digital media literacy acquired by the school children; and
ii. To analyze the relationship between informational and operational skills, safety and security skills, communication skills and participation, and content creation and innovation skills with problem solving skills.

LITERATURE REVIEW

Digital Media Literacy

The definition of literacy implies fundamental skills and expertise and is historically linked to books and printed materials. However, the recent boom in technology changes the sense of the word. In today's world, it is possible to read and write digital texts and decode and encode them. The fast dissemination and domestication of technology (Livingstone, 2011) transforms literacy into a significantly relevant phenomenon (Sefton-Green, Marsh, Erstad, & Flewitt, 2016) that requires people to be adequately equipped to confront the ways their everyday world is affected by the rapid and dynamic changes in technology (Bulger, 2012). Therefore, it is not irrational for digital literacy to be considered as the fundamental ability necessary to work in society (Ala-Mutka, 2011; Baruah, 2012). Nevertheless, literature and surveys warn that both the younger (Miller & Barlett, 2012) and older populations are inadequately informed of digital literacy. Digital literacy can be characterized as social practice, with the use of various digital technologies, which involves reading, writing and multimodal interpretation. It explains literacy activities and practices that includes digital and non-digital practices. Online/offline and material/immaterial literacy can transverse boundaries, thus creating complex trajectories of communication across space and time (Hobbs, 2010; Hoechsmann & DeWaard, 2015). Digital literacy can include access, use and analysis, as well as development and distribution of texts by means of 'reading' and 'writing' in their broadest terms. Digital literacy involves skills that are linked to alphabetic printing and to accessing and using digital technology, including conventional skills. This category can also include the ability to acquire, use and develop expertise in the processes involved. Our interpretation of digital alphabetism has in this sense synergies with these competence-oriented concepts.

Digital Literacy Competence Framework

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 (Van Deursen, Helsper, & Eynon, 2014). A number of digital literacy competence frameworks have been developed by international organizations, national or sub-national organization as well as commercial private sector actors. This study incorporates two recent competence frameworks that are of particular relevance, that is, the Digital Competence Framework for Citizens of known as DigComp developed by the European Commission (Ferrari, 2013), and the Digital Kids Asia-Pacific framework of the UNESCO Asia and Pacific Regional Office (2019). These have been

Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

selected for a number of 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 the majority of 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 taken into account 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.

Areas 1, 2 and 3 are rather linear while areas 4 and 5 are more transversal. This means that while areas 1 to 3 deal with competences that can be re-traced in terms of specific activities and uses, areas 4 and 5 apply to any type of activity that is been carried out through digital means. This does not mean that areas 1, 2, and 3 are not inter-related. Although each area has its own specificity, there are several forced overlapping points and cross-references to other areas. At this point we need to discuss "Problem solving" (area 5), competence area which is the most transversal of all. In the framework, elements of problem solving can be found in all of the competence areas. For instance, the competence area "Information" (area 1) includes the competence "evaluating information", which is part of cognitive dimension in problem solving. Communication and content creation include several elements of problem solving (namely: interacting, collaborating,

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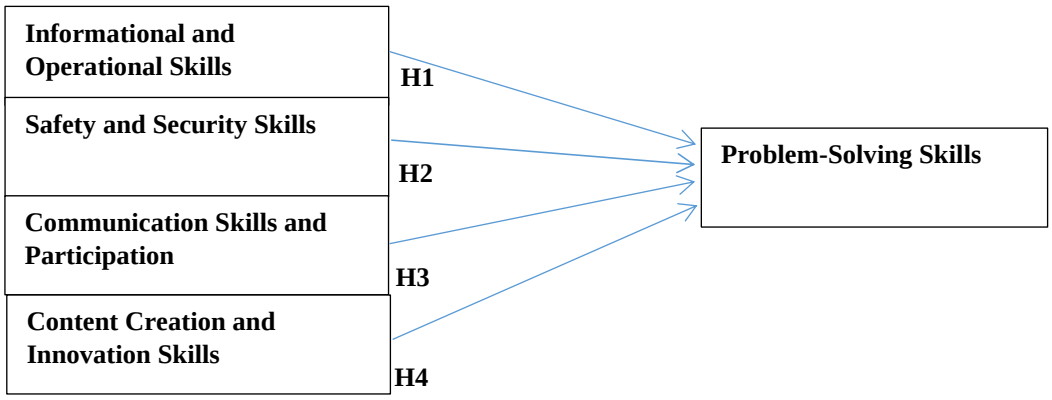
Journal of Social Sciences and Humanities
Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

developing and integrating content). Despite including problem solving elements in relevant competence areas, it was seen necessary to have a dedicated stand-alone area about problem solving, as for the relevance this aspect has on the appropriation of technologies and digital practices. It can be noted that some of the competences listed in areas 1 to 4 can also be mapped into area 5.

Figure 1: Conceptual Framework Depicting Factors Influencing Problem Solving Skills in Digital Media Literacy



Hypothesis of the Study

Based on the literature review and conceptual framework, the following hypotheses of the study are formulated:
H1: There is a positive relationship between informational and operational skills with problem solving skills.
H2: There is a positive relationship between safety and security skills with problem solving skills.
H3: There is a positive relationship between communication skills and participation with problem solving skills
H4: There is a positive relationship between content creation and innovation skills with problem solving skills

METHODOLOGY

This study was conducted during the Movement Control Order (MCO) period in Malaysia. Due to the movement control, face-to-face survey was not able to be conducted therefore phone surveys were employed instead. Nine survey enumerators were hired and trained to conduct the survey. They were carefully informed about the research objectives and process. The enumerators called the respondents and record their responses in the Google form.

The survey was conducted from 18 January to 3 February 2021. A total of 308 children living at three PPRS in the Klang Valley participated in the study. Specifically, a total of 93 (30.2%) respondents came from PPR Desa Rejang, 96 (31.2%) respondents from PPR Sungai Bonus, and 119 (38.6%) respondents from PPR Kota Damansara. Their representation is proportionate to one another.

e-Bangi Faculty of Social Sciences and Humanities Universiti Kebangsaan Malaysia
Journal of Social Sciences and Humanities
Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

Population and Sampling Procedure

The population group for the study is children aged between 7 to 15 years old that live at the PPR. Three PPRs were selected for sampling purposes, and they are PPR Desa Rejang, PPR Sungai Bonus and PPR Kota Damansara. 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 to become the person-in-charge for the study. The person-in-charge from respective PPR provided the researchers with the list of school children with their contact numbers and the signed permission from their respective parents. The sampling procedure was done using stratified random sampling procedure where the strata are PPR, level of education and gender.

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.

Section 1 of the questionnaire is set to measure the demographic information of the respondent such as gender, ethnicity (race), and age. In addition, three (3) questions were asked including the usage of free time, having own digital device, and main location when using the digital devise. Alternative options are provided in the questionnaire for easy coding.

Section 2 of the questionnaire is set to measure the ownership of digital device and the availability of the digital facilities at home. Nine (9) digital device and facilities were identified. The examples of the digital device asked are computer/laptop, tablet/iPad and smart phone while the facilities asked include TV subscription to ASTRO/Unifi, game console (PS/Wii), and Streaming services (Netflix/Viu/Apple TV/Dimsum). The alternative answers given are "yes" and "no", where yes is coded as 1 and no as 0.

Section 3 of the questionnaire is set to measure media usage. There are three (3) sub-sections: (a) usage of media at home, (b) topics surfed when using digital media, and (c) social media account subscribed to or used. The usage of media at home has nine (9) options given such as listening to radio, watching television, and watching YouTube. For topics frequently surfed, the nine (9) options given are among others are school subjects, music and songs, and drama and film. There are nine (9) options given for the social media account subscribed and used such as Facebook, WhatsApp, and Instagram. The alternative given is yes (1) and no (0).

Section 4 of the questionnaire is set to measure the level of digital media literacy. This section has five (5) sub-sections, namely, (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. **Informational and operational skills** have nine (9) items with an alternative answer of either yes (1) or no (0). An example of the items is "I know how to use digital devices like smart phones, ipad and laptops". **Safety and security skills** have eleven (11) items with an alternative answer of either yes (1) or no (0). An example of the items is "I will not click or press on links that look strange or suspicious". There are four (4) items that were worded in the reversed way. An example of the items is "I always share my personal information with other people". **Communication skills and digital participation** have ten (10)

Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

items with an alternative answer of either yes (1) or no (0). An example of the items is "I like to share my interests and knowledge with friends on the Internet". There are four (4) items that were worded in the reversed way. An example of the reversed items is "I used to quarrel with my friends on the Internet". **Content creation and digital innovation skills** have ten (10) items with an alternative answer of either yes (1) or no (0). An example of the items is "I can make knowledge representation (e.g., mind mappings, images) using digital media". **Problem solving skills** have ten (10) items with an alternative answer of either yes (1) or no (0). An example of the items is "If I need information about something, I will straight away look for it on the Internet".

Validity and Reliability Test

Validity 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. Validity is also done through conducting of the pilot study. The reliability of the study is attained by checking with the expert in the field of measurement to ensure that the items do measure the intended concept.

Data Analysis

The online Google Forms survey questionnaire was initially stored in an Excel file and later the whole file was imported and saved into Statistical Package for the Social Sciences (SPSS) program for further analysis. For this study, both descriptive statistics and inferential statistics are used. For the descriptive statistics, frequency, percentage, minimum, maximum, median, mode, mean and standard deviation are used. To know the level of digital literacy skills (informational and operational skills, safety and security skills, communication skills and digital participation, content creation and digital innovation skills, problem solving skills), the sum for each issue was computed after the reversed item was coded no as 1 and yes as 0, accordingly.

FINDINGS OF THE STUDY

Demographic Characteristics of the Respondents

From a total of 308 respondents (Table 1), there is an almost equal proportion of male (50.6%) to female (49.4%). About three-quarters of the respondents (74.7%) are Malays, with 24.7%) Indian and the least is Chinese (0.6%). The proportions according to the age groups are slight more for the 10-12 years old group (36.0%) compared to 7-9 aged groups (35.1%) and the 13-15 years old group which made up the rest of the respondents (28.9%). In terms of siblings, more than half the number of the respondents (54.9%) has 1-3 siblings, followed those having 4-6 siblings (34.7%) while the rest is made up of either without any sibling at all (3.6%) or more than 7 siblings (6.8%).

e-Bangi Faculty of Social Sciences and Humanities Universiti Kebangsaan Malaysia
Journal of Social Sciences and Humanities
Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

Table 2: Demographic Characteristics of the Respondents

Demographic Information (*N* = 308)	**Category**	**Frequency**	**Percentage**
Gender	Male	156	50.6
	Female	152	49.4
Ethnicity	Malay	230	74.7
	Chinese	2	0.6
	Indian	76	24.7
Age	7-9 years old	108	35.1
	10-12 years old	111	36.0
	13-15 years old	89	28.9
No. of siblings	None	11	3.6
	1-3 siblings	169	54.9
	4-6 siblings	107	34.7
	More than 7 siblings	21	6.8

Level of Skills Acquired

Digital Media Literacy skills are classified into five: (a) informational and operational skills, (b) safety and security skills, (c) communication skills and participation, (d) content creation and innovation skills, (e) problem solving skills. The overall 5 digital media literacy skills are presented in Table 2.

Table 3: Digital Media Skills Statistics

Section	**Digital Media Skills Acqired (*N* = 308)**	**Mean**	**Median**	**Mode**	**SD**	**Range**	**Min**	**Max**	**No. of Items**
4a	Informational and operational skills (IOS)	4.279	4	6	2.311	9	0	9	9
4b	Safety and security skills (SSS)	6.672	7	7	1.807	9	2	11	11
4c	Communication skills and participation (CSP)	7.023	7	8	1.848	7	3	10	10
4d	Content creation and innovation skills (CCIS)	2.205	1.5	0	2.313	9	0	9	10
4e	Problem solving skills (PSS)	4.685	5	6	2.485	10	0	10	10

(a) Informational and Operational Skills

Nine items for informational and operational skills were asked to the respondents. Surprisingly, there are respondents who did not acquire any of the skills at all (6.2%) while there were respondents who attained a maximum number of skills of 9 (1.3%). Half the number of the respondents has acquired 4 skills. On the whole, the mean is 4.279 (*SD* = 2.311).
This indicates that the school children know certain skills. The 4 skills are that:

e-Bangi Faculty of Social Sciences and Humanities Universiti Kebangsaan Malaysia
Journal of Social Sciences and Humanities
Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

i. They know how to use digital devices like smart phones, iPad and laptops (85.4%);
ii. They know how to download applications and software through sources such as GOOGLE Playstore and APPLE Appstore (eg: game apps) (80.8%);
iii. They know how to surf the Internet using impact changers (browsers) and search engines like safari, chrome, google, yahoo etc. (61.0%); and
iv. They know which information that they can and cannot share on the Internet (54.5%).

(b) Safety and Security Skills

The 11 items asked pertaining for safety and security skills have a range of 9 as the maximum number of skills acquired is 11 (1.6%) while the lowest is 2 (1.3%). Half the number of respondents has acquired 7 skills with the mean of 6.672 (*SD* = 1.807). The top 7 skills that the respondents have acquired are:

i. They know that they are **not** supposed to share their personal information with other people online (92.5%);
ii. They know that they are **not** supposed to answer messages from strangers (88.3%);
iii. They know that they are supposed to report to their parents / authority if they get threatened on the Internet (88.0%);
iv. They know that they are **not** supposed to cheat and give dangerous comments in the social media because it is against the rules and regulations (cyber laws) (77.3%);
v. They know that they are **not** supposed to let their friends being bullied on the Internet even though there is nothing that can be done (70.8%);
vi. They know how to use privacy settings to maintain personal safety / stay away from unwanted acquaintances (e.g., text spam, e-mail) (69.2%); and
vii. They know that they are **not** supposed to download anything that they like just because everything on the Internet is free (67.2%);

The findings indicate that the school children know how to be safe and secured from being harmed.

(c) Communication Skills and Participation

Out of the 10 items asked for communication skills and participation, half the number of the respondents has acquired 7 skills even though the highest number of skills acquired is 10 (7.1%) with the minimum number of 3 (7.8%). Half the number of respondents has 7 communication skills and participation with the mean of 7.023 (*SD* = 1.848). Hence, the 7 skills acquired are that:

i. They know that they are **not** supposed to have pretended to be someone else when using the Internet / social media (96.1%);
ii. They know that they are **not** supposed to have an argument with an unknown person on the Internet (95.8%);
iii. They know that they are **not** supposed to quarrel with their friends on the Internet (86.4%);
iv. They understand that they have to show respect to other people on the Internet (85.7%);

Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

v. Even though they do not agree with someone on the Internet, they will restrain themselves from using negative tone (79.2%);
vi. They have no problem interacting with people of different backgrounds / nationalities / religions / cultures (76.9%); and
vii. They will not share pictures or information about other people without their permission (72.1%).

The findings indicate that the school children have a substantial number of communication skills and participation that are allowable.

(d) Content Creation and Innovation Skills

Not all the 10 items skills in content creation and innovation skills are acquired. The highest being 9 skills (1.0%) while there are those who do not have any of the skills at all (35.7%). Half the number of the respondents has only 2 acquired content creation and innovation skills. They are:

i. They can change the wallpaper of a digital device to make it more attractive (50.0%) and
ii. They know how to produce YouTube / Tiktok videos (31.5%).

Basically, the children need to learn and acquire more knowledge and skills in terms of content creation and innovation for their future advancement.

(e) Problem Solving Skills

There are extreme results found regarding problem solving skills. There are respondents who know all the skills (1.0%) while the others do not have the skills at all (6.8%). However, half the number of respondents knows 5 skills. The mean number of problem-solving skills acquired is 4.685 (*SD* = 2.485).

The 5 problem solving skills acquired are:

i. They can use suitable technology and programs to complete their school assignments (70.3%);
ii. They can control the use of the Internet because they know it is pricey (63.6%);
iii. They will make sure that the information they receive is true and valid before sharing it on the Internet (62.3%);
iv. They can control the use of digital media and the Internet because they know it may affect their mental and physical health (57.8%); and
v. They know the appropriate information for their age (53.2%).

The results indicate that there are more skills that the school children need to know and to acquire for them to equip themselves as to be able to be keep abreast with the development of the digital world.

e-Bangi Faculty of Social Sciences and Humanities Universiti Kebangsaan Malaysia
Journal of Social Sciences and Humanities
Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

Hypothesis Testing

Relationship between Problem Solving Skills in Digital Media Literacy and Selected Skills

Table 3 shows the relationship between problem solving skills (PSS) in digital media literacy with selected variables: (a) informational and operational skills (IOS), (b) safety and security skills (SSS), (c) communication skills and participation (CSDP), and (d) content creation and innovation skills (CCDIS). Results show that there exists a strong positive relationship between problem solving skills with informational and operational skills (r = .650, p = .000). The relationship between problem solving skills with the rest of the variables are moderate. Specifically, their relationship is moderate positive with safety and security skills (r = .463, p = .000), communication skills and participation (r = .485, p = .000), and content creation and innovation skills (r = .569, p = .000). The relationships among the independent variables are also positive and significant. Hence, all the hypotheses: H1: There is a positive relationship between informational and operational skills with problem solving skills; H2: There is a positive relationship between safety and security skills with problem solving skills; H3: There is a positive relationship between communication skills and participation with problem solving skills; and H4: There is a positive relationship between content creation and innovation skills with problem solving skills are supported. This implies that more skills that the children have acquired, the higher is their problem-solving skills. Therefore, all the independent variables are able predict the outcome of the dependent variable.

Table 4: Correlations between Problem Solving Skills in Digital Media and Selected Skills

Variable	(PSS)	(IOS)	(SSS)	(CSP)	(CCIS)
Problem Solving Skills (PSS)	1				
Informational and Operational Skills (IOS)	r = .650, p = .000	1			
Safety and Security Skills (SSS)	r = .463, p = .000	r = .379, p = .000	1		
Communication Skills and Participation (CSP)	r = .485, p = .000	r = .438, p = .000	r = .424, p = .000	1	
Content Creation and Innovation Skills (CCIS)	r = .569, p = .000	r = .640, p = .000	r = .311, p = .000	r = .370, p = .000	1

Table 4 shows that all the selected independent variables in terms of skills are predictors to problem solving skills with the following sequence: (a) informational and operational skills (β = .371; t = 6.833, p =.000), (b) content creation and innovation skills (β = .213; t = 4.110, p = .000), (c) safety and security skills (β = .187; t = 4.155, p =.000), and (d) communication skills and participation (β = .165; t = 3.557, p =.000). Therefore, the equation for problem solving skills is stated as (y) = -.786 + .399 informational and operational skills + .257 safety and security skills + .222 communication skills and participation + .229 content creation and innovation skills. All the identified skills are included in the equation.

The results are further supported by the Analysis of Variance (ANOVA) with F = 84.954, $df1$ = 4, $df2$ = 303, p = 000; R = .727, R^2 = .529, R^2 *Adj.* = .522. Overall all the four predictors are able to explain for 52.2% for problem solving skills.

e-Bangi Faculty of Social Sciences and Humanities Universiti Kebangsaan Malaysia
Journal of Social Sciences and Humanities
Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

Table 5: Regression Analysis for Problem Solving Skills in Digital Media and Selected Skills

Model	Variable	Unstandardized Coefficient		Standardized Coefficient	*t*	*p*
		B	***SE***	***β***		
1	(Constant)	-.796	.456		-1.747	.082
	Informational and Operational Skills (IOS)	.399	.058	.371	6.833	.000
	Safety and Security Skills (SSS)	.257	.062	.187	4.155	.000
	Communication Skills and Participation (CSP)	.222	.062	.165	3.557	.000
	Content Creation and Innovation Skills (CCIS)	.229	.056	.213	4.110	.000

F = 84.954, *df1* = 4, *df2* = 303, *p* = .000*; R* = .727, R^2 = .529, R^2 *Adj.* = .522

DISCUSSION

The children have basic digital skills in the sense that they understand how to use digital devices such as smartphones and laptop computers. They even know how to search the Internet and download software and applications. Security wise, the 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, not to respond to strangers online, and not to share personal information. 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. They comprehend the idea of consideration and appropriate conduct. However, the children performed poorly in the dimensions of content production and digital creativity. Most children are unable to produce materials for use on the Internet. They can only change the wallpaper on their mobile and make TikTok videos. This notable lack of content development and creativity demonstrates how children's digital experiences are very limited, 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. The children claim to have problem-solving abilities such as the ability to recognize appropriate programs to complete school assignments. The children are also mindful of the real-world costs of digital use in the sense that they understand the need to limit their Internet usage for health and economic reasons. 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.

The correlation and ANOVA tests conducted further showed that while the children have all the basic skills, they still lack in the ability to solve digital problems. Overall, the areas measured can only contribute to 52.2% of the problem-solving skills. The children still need to

Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

increase their skills especially content creation and digital innovation skills to be able to solve digital problem effectively.

CONCLUSION

In sum, 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. UNICEF (2017) even noted that digital media 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.

Limitations of the Study and Suggestions for Future Research

The main issue that affected the research project is the imposed Movement Control Order (MCO) as well as the threat of COVID-19 infection. The challenge was the inability to conduct the survey physically at the locality. Since the survey questionnaire is focused on children, it was decided that the data collection process be conducted by survey enumerators at the respective PPRs. However due to the increasing numbers in COVID cases, the team decided that it will be too dangerous for the enumerators as well as the children of the PPR if the survey was done physically. After much deliberation, we decided to conduct phone interviews instead. This was a real challenge because it is tedious and time consuming. Some respondents below the age of 10 had issue to fully comprehend the questions and this required the enumerators to do some coaching and motivating.

In addition, the sample only came from PPRs in the Klang Valley area and may not truly represent the conditions of all B-40 children that live in both urban and rural areas. Also, as all participating children were from 7 to 15 years of age and come from the B-40 level, the research does not provide any insights about children of other ages and socioeconomic background. It has to be expected that the use of ICT and patterns of interaction change during childhood and adolescence.

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.

Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

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Vol. 19. No.1 (2022). 31-46. ISSN: 1823-884x

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