Maternal Digital Competencies as a Prerequisite for Effective Digital Parenting among Malaysian Mothers

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Abstract

In addition to childbearing and managing the family, the rise of digital technologies also requires mothers to parent their children digitally. However, are mothers competent enough to monitor or even mediate their children's digital media use? Unfortunately, very few studies still look into maternal digital parenting competencies. Therefore, this study attempts to map maternal digital parenting competencies using the digital competence framework. 432 Malaysian mothers from different demographic backgrounds were surveyed. The study found that Malaysian mothers are moderately competent in informational and operational skills, communication and participation skills, security and safety skills, and are relatively weak in content creation and innovation skills, and problem-solving skills. The findings suggest a necessity to initiate programmes and assistance that can help Malaysian mothers become digitally competent to effectively parent their children and contribute to the nation's digital future.

Keywords: Maternal digital competencies, digital skills, digital parenting, Malaysian mothers, children

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Introduction

Children nowadays are considered digital by default. Their everyday life is shaped and influenced by technology. Young children can readily use digital media without proper education and training. Such heavy digital influence has made parenting more complicated because of the changes in the daily lives of families. Digital media simultaneously brings new learning opportunities and risks for children and families. Because children and adolescents are susceptible to digital risks, parents are expected to mediate their children's digital life. However, many parents are still unsure how to best digitally parent their children. Parents, mostly, adopting restrictive styles that will ultimately limit children's ability to maximise the opportunities that come with digital technologies.

Instead of teaching children to become fearful of technology, it is ideal that children be taught to become resilient, where they can self-regulate their internet and social media use and are likely to seek out opportunities online. Children must be empowered to use the internet and social media to acquire knowledge, learn new skills, take advantage of digital technologies, express and develop their identities, build and maintain social ties, and follow and participate in news and conversations linked to their communities and current events.

While parental strategies of restriction and monitoring are still essential to shield children from potential harm, they could have the unintended adverse effect of undermining resilience and constructive engagement online. Thus, parents, too, need to be adequately informed about the best way to encourage their children to become digitally savvy while protecting them from harmful usage. For this to happen, parents must be digitally literate. While it would be impossible to expect every parent to be more digitally advanced than their children, it is a necessity that parents have some level of digital competency so that they are not disconnected from their children's digital environment.

As such, this study is interested in understanding the level of digital competency among Malaysian parents, focusing specifically on mothers who are the primary child caregiver by convention and tradition. Despite the one providing the majority of the childbearing responsibility, studies have shown that there is a gendered bias when it comes to digital access and competency. As a result, women are mostly behind, which can pose a significant risk to how mothers can positively influence their children's digital experience. Therefore, this study aims to identify the mother's current state of digital competency so that all relevant parties can

provide informed support and assist mothers in their digital adoption. Using the Digcomp digital competency framework (Carretero et al., 2017), this study asks:

1. How competent are Malaysian mothers in digital informational and operational skills?
2. How competent are Malaysian mothers in digital security and safety skills?
3. How competent are Malaysian mothers in digital communication and participation skills?
4. How competent are Malaysian mothers in digital content creation and innovation skills?
5. How competent are Malaysian mothers in problem-solving skills?

Literature Review

Digital parenting

Theories of modernity that featured four factors of significant societal changes by Slany and Suwada (2021) remarked that socio-cultural and economic changes superseded technological ones, making the most impact on parenthood of today. However, the Polish sociologist's remark underplays the presence of technology as evident in their subsequent analysis of parenting as work, i.e., human productive activities regarding their needs. Ironically, every productive endeavour constitutes action, tools, knowledge, and materials, all of which are fundamental elements that, together, define technology (Pfaffenberger, 1990). Therefore, contrary to Suwada's intended to claim, technology is implicated and ever-present in virtually all human endeavour, including parenting and its cultural extension, parenthood. As such, today's analysis of modern parenting merits a look into the technological aspects with as much magnitude as others.

None was evermore imperative in society today than that digital technology. It is because our modern experience of globalised capitalism is deeply intertwined with it. According to the British media historian Charlie Gere (2008), 19th-century capitalism generated the digital cultural context fertile for the growth of technology, and the Cold War that ended with the triumph of capitalist nations on the global map delivered the form of technical culture we inherit today. By the 21st century, this digital culture progressed to a point where participation in digital production became more democratic, and the fine line between authoritative hierarchy and hegemony gradually deteriorated. The most crucial point Gere made here is that digital culture pervaded and redefined people's personal and social lives. It could not have been more accurate if one considered the ongoing phenomena of the COVID-19 pandemic and its technological impact.

In the context of family life, especially within the urbanising society, digital culture predicates family in such a way that multiple media and communication platforms "deeply and richly connect them." (Sun, 2018, p.32). Sun described that an individual's primary and secondary activities involve a lot of media consumption and utilities. As with other activities, a relationship of power between parents and their children involving digital technology would exist. This relation scales with children's development into adulthood, where, as they age, the autonomy would increase, parental supervision would cease, and self-accountability would be empowered. Such a relation is aptly termed digital parenting.

Parenting in a digitally cultured society is found to be in two forms: restrictive and enabling (Livingstone & Byrne, 2018). These forms depend upon how parents manage the risks and opportunities of digital usage. Restrictive digital parents limit their children's technology usage, enabling parents to encourage it. The significance of Livingstone and Byrne (2018) 's assertion about this kind of parenting lies in the fact that parents selectively execute them, and the said parent's digital skills influence this execution in the first place. Thus, it follows that the parental digital figure matters very much in determining the opportunities for children's development.

Mother's digital competencies

Suwada (2021) argued that family is still a gendered domain, where the division of labour based on gender is most conspicuous. Parenting is predicated upon three classes of work: domestic, care, and productive. The traditional family institution, in its ideology, maintained a gendered differential association with these works where motherhood pertains to unpaid domestic and care labour, and fatherhood is about paid productive jobs. Women, as such, are primarily regarded in terms of motherhood roles, of which domestic and caregiving serve as her main domain.

This is unsurprising given the prevalence of 21st-century motherhood, which according to Valerie Heffernan and Gay Wilgus (2018), generally regulates women's experience in the family. Digital culture played an essential role in disseminating the convention of a particular motherhood notion through its portrayal in the media. Women in this portrayal are usually white, able-bodied, fertile, and are always cordially receptive to the idea of mothering. As such, women of diverse experiences that lay outside the normative view of motherhood portrayed are obscured. However, Heffernan and Wilgus (2018) have noticed the recent changes in media portrayal from a unique, exclusive presentation of traditional

white mothers to the more diverse ones like single moms or ethnically variant women.

This change is in tandem with the evolution of digital culture itself. As charted by Charlie Gere (2008), digital technology enabled the hegemony of a particular discourse through one-way media presentation in its early phase. Media consumption, as such, rendered individual audiences relatively passive and receptive. In the later phase, however, the changing nature of this technology that allowed people to produce their content, especially the internet and social media, erodes the hegemony of the singular discourse. As a result, this gives way to the emergence of a globalised, participative culture of individualism (Gere, 2008). This global, participative culture sets the context of change in the notion of 21st-century motherhood mentioned above.

Indeed, digital culture allowed individual mothers to participate, contribute and even manage the discourse of motherhood. New mothers in the USA and UK rely on digital technology to find information about mothering, establish connections with other mothers, and form communities (Gibson & Hanson, 2013; Bales et al., 2017). In Asian countries like Iran, mothers regulate and critically evaluate internet use before educating their children on managing digital activities (Asgari Esmaeili et al., 2020). These studies indicate the potentiality that digital technology offers for mothering. This potentiality, when realised, contains a crucial socio-political impact on society, as demonstrated by Lynn Schofield Clark and Maria José Brites (2018). Their study showcased how the mother's deliberate support in using their children's digital technology for political purposes influences the latter's civil upbringing as they grow up. Contrariwise, digital technology can be mishandled where, and it could also bring forth negative consequences, as shown through the study on Japanese mother's problematic use of the internet is associated with abuse of their children (Haga et al., 2019).

It justifies a critical evaluation of mothers' digital competencies, one Nur W. Rahayu and Sri Haningsih (2021) lamented lacking, especially in developing countries. Rahayu and Hanangsih studied maternal competencies in Indonesia, applying the DigCompEdu framework to evaluate the level of competencies among mothers in digital parenting resources, activities, children's empowerment, and facilitation in children's digital competencies. These researchers posit that internet access does not necessarily equate with decent digital skills among mothers. Their study discovered that most mothers showcased novice, rudimentary at best, digital skills in many areas, and only a few were competent, proactive users of the technology. In line with Rahayu and Haningsih, recognising the critical

implication of evaluating maternal digital competencies, this study undertook the same effort to investigate Malaysian mothers. It rests on the premise that children's digital resilience cannot be cultivated without proper digital parenting and that no digital parenting is plausible without proper digital competencies.

Digital parenting in Malaysia

Suwada's assertion about the gendered nature of family holds in the Malaysian context, which also seems to engender digital parenting. Though the gender of parents does not seem to impact their mediation strategies differentially, Nor Diana and Nazariah (2019) noted the greater use of digital technology by male children as compared to their female counterparts. Nor Diana and Nazariah attributed this to the patriarchal value of treating boys with greater tolerance and less control than girls. In another study by Ayrasah and his colleagues (2021), mothers, more than fathers, were regarded as the primary figure in managing their children's online learning during the COVID-19 pandemic. The explanation offered is that mothers are the central authority figure of domestic matters in the family house.

Gender inequality alone cannot characterise the nature of Malaysian digital parenting, and even when solely analysed, it must be approached with nuance. It is because patriarchy manifests differently across different communities. Since Malaysia is a country with citizens of diverse ethnicities, gender would also factor differently depending on the social groups concerned. It is in line with Charles Hirschman (2016)'s observation on the Malay culture that contains more excellent egalitarian values compared to the Chinese ethnicities concerning kinship and gender desirability of children. Concerning the relationship between ethnicity and parenting, Sakineh Mofrad & Ikechukwu Uba (2014) found that the three majority ethnic groups in Malaysia, which are the Malays, Chinese and Indian, differ in terms of parenting style preference that ranges from authoritarian, too permissive and too authoritative.

Notwithstanding the ethnic differential approach to parenting, current literature suggests that Malaysian research on digital parenting emphasises the commonality of digital parenting that applies to different groups across Malaysian society. A study by Ka Vian and Zhooriati (2021) about parents' responses towards their children's media usage, for instance, while only having respondents of Chinese demographic background, characterises its findings in a more neutral term where ethnic and cultural influence is not addressed. Similarly, Mohamed et al. (2022)'s study of Malaysian parents' mediation strategies bypasses ethnic

categorisation by generalising the criteria of its sample and, thus, did not consider ethnicity as a factor that can influence digital parenting.

This generalised approach has the advantage of postulating the general nature of the digital parenting experience that is true for all Malaysians. As a result, the researchers can map the broad mediation strategies that predicate Malaysian digital parenting. For example, Ka Vian and Zhooriati(2021) classified digital parenting into three kinds: temporal restriction, which limits the time for children's use of digital devices. Access restriction regulates the content and devices children can use, and finally, active mediation, where parents establish a discourse about digital usage and participate with them.

Nor Diana and Nazariah (2019) elaborate upon this even further, adding other strategies like monitoring where children's digital usage is observed, co-use where parents and their children are conjoined, and technical mediation where parent explains the procedure related to operating the digital devices. While parents widely prefer active mediation and restrictive methods, they adopt different strategies depending on their particular situations. The researchers further commented that technical mediation is the least favoured digital parenting approach, which has to do with parents' scarcity of knowledge regarding the utility of digital technology itself.

This particular study then is conducted within the context of Malaysian digital parenting outlined above. Nevertheless, unfortunately, in so far as the digital competencies of parents are concerned, it has yet to be conducted in Malaysia, not least in the same way Rahayu and Sri Haningsih (2021) did in Indonesia. It is worth mentioning here, however, that a study on the relationship between poverty and digital literacy among children living at *Pusat Perumahan Rakyat* did include an evaluation of their digital competencies, spelling out the importance of digital parenting (Mohamed et al., 2021). Thus, this study is a continuation of the endeavour to advance digital parenting among Malaysians.

Theoretical framework

Competence frameworks are conceptualisations 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. In addition, several digital literacy competence frameworks have been developed by international organisations, national or sub-national organisations, and commercial private sector actors.

Having analysed this plethora of digital literacy competence frameworks, this study adopted the Digital Competence Framework for Citizens (DigComp) developed by the European Commission (Carretero et al., 2017) because it had 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. Also, they have an international scope and therefore take into account some needed degree of adaptability to different contexts and cultures. These frameworks measure competencies in digital literacy through five skill dimensions, which are: 1) Informational and operational, 2) Safety and Security, 3) Communication and digital participation, 4) Content creation and digital innovation, and 5) Problem-solving.

Methodology

The research population is Malaysian parents with children aged 7 to 12 years old. The survey questionnaire would require a sample set representative of the Malaysian population. Thus, stratified sampling procedures were conducted in which respondents were selected based on specific demographic characteristics of the average Malaysian parents, such as age, ethnicity, and educational background. Data were collected from all the states in peninsular Malaysia and Wilayah Persekutuan Kuala Lumpur. The demographic breakdown of the respondents can be found in Table 1, in the next section.

Thirteen survey enumerators were hired and trained to conduct the survey. First, they were carefully informed about the research objectives and process. Then, they were equipped with a manual detailing the survey procedure. A mock survey was also conducted, so the enumerators become familiar with the style needed for the survey. In addition, the enumerators were informed about the ethical way to approach the respondents. Finally, the enumerators must respect the respondents' privacy and intention to complete the survey.

Findings

Demographic characteristics of mothers

A total of 432 mothers were selected from 654 Malaysian parents who participated in a digital parenting study to explore their level of digital competencies. Most (44.4%) mothers were between 41 and 50 years old, followed by 40.7% aged between 31 and 40 years old, while the rest were less represented (Table 1). 91.4 per cent mothers are married, while the remaining are divorced

and widowed. More than half the number of them (55.3%) have 3-5 children, followed by those having 1-2 children (36.6%), while the rest (8.1%) have six and more children. More than three-quarters of the mothers (77.1%) are Malays, followed by 14.8% Chinese, and the rest (8.1%) are Indians and others.

All the states in Peninsular Malaysia are well represented, with the highest number coming from Selangor (18.7%). Almost three-quarters of the respondents are working (72.9%), followed by homemakers (13.2%). In comparison, the rest (13.8%) is either unemployed (8.6%), self-employed (4.9%), or student (0.2%), in which they are less represented. There is an almost equal number of those having Secondary education/SPM/ STPM (37.5%) and those with a bachelor's degree (37.0%), followed by Diploma holders (20.8%), while the rest have Masters/Ph.D.

Table 1: Demographic Characteristics of Mothers Participated in the Study

Demographic Characteristics	Category	Frequency	Percentage
Age (years old)	20 - 30	30	6.9
	31 – 40	176	40.7
	41 – 50	192	44.4
	51 and above	34	7.9
	Total	**432**	**100.0**
Age (years old)	Married	395	91.4
	Divorced	19	4.4
	Widowed	18	4.2
	Total	**432**	**100.0**
Number of children	1-2 children	158	36.6
	3-5 children	239	55.3
	6-8 children	33	7.6
	9 children and above	2	0.5
	Total	**432**	**100.0**
Number of children	Malay/Bumiputera	333	77.1
	Chinese	64	14.8
	Indian	31	7.2
	Others (specify: Indonesian)	4	0.9
	Total	**432**	**100.0**
State of residence	Perlis	35	5.4
	Kedah	50	7.6
	Pulau Pinang	49	7.5

	Perak	50	7.6
	Selangor	122	18.7
	Kuala Lumpur /Putrajaya	52	8.0
	Negeri Sembilan	51	7.8
	Melaka	52	8.0
	Johor	52	8.0
	Pahang	50	7.6
	Terengganu	45	6.9
	Kelantan	46	7.0
	Total	**432**	**100.0**
Employment status	Employed	315	72.9
	Homemaker	57	13.2
	Self-employed	37	8.6
	Unemployed	21	4.9
	Student	1	0.2
	Total	432	100.0
Highest completed education	Secondary education/SPM/ STPM	162	37.5
	Diploma	90	20.8
	Bachelor degree	160	37.0
	Master/Ph.D.	20	4.6
	Total	**432**	**100.0**
Total household income	RM2,000 and below	78	18.1
	RM2,001 – RM5,000	181	41.9
	RM5,001 – RM10,000	132	30.6
	RM10,001 – RM15,000	31	7.2
	RM15,001 and above	10	2.3
	Total	**432**	**100.0**

Regarding family income, 41.9% have a family income between RM2001-RM 5000, 30.6% of them with income of RM5001-RM10000, and those with income less than RM2000 (18.1%) while the rest (9.5%) have RM10001 and more. In sum, the mothers in the study are aged between 31-50 years old, married, having 3-5 children, Malays, from Selangor, employed, with school education or degree, and they belong to either the B40 or M40 group.

Maternal digital competencies

The mothers are looked at in their digital competencies (Table 2). The maternal digital competencies are explored in terms of five (5) dimensions, namely, (a) informational and operational skills, (b) safety and security skills, (c) communication and participation skills, (d) content creation and innovation skills, and (e) problem-solving skills. Each dimension has three (3) items measured using a 5-point scale, where one = very low (1-20%), 2 = low (21-40%), 3 = average (41-60%), 4 = high (61-80%), and 5 = very high (81-100%). The results were tested using a one-sample *t*-test with a test value of 3.0 to gauge their level of digital competency skills.

Informational and operational skills

Results show that the mothers have a moderate level of information and operation skills, with all items having positive and significant values with an overall percentage of 70.1%. Specifically, the mothers have the skills required for they know how to download/upload and classify information and content for future reference (70.8%); they know how to find and manage information using different software, apps, and devices (67.5%); and they use computer software (e.g., Microsoft Word, Microsoft PowerPoint, Google Docs) to complete office tasks (69.4%). The results are supported by the overall mean value of 3.506 (*SD* = 1.149) and *t* = 9.152 (*p* = .000). Therefore, the level of digital competencies for the information and operation skills dimension is moderate. This meant that the mothers in this study could conduct basic operations, especially in gathering and sharing data and information. However, many still need help efficiently using office software such as Microsoft Word and PowerPoint because they do not use them in everyday activities since not many are professionals or work in office environments.

Table 2: One Sample *t*-test for Maternal Digital Skills

No	Maternal Digital Skills	*M**	*SD*	%	*t***	*p*
1.	I know how to download/upload and classify information and content for future reference.	3.539	1.153	70.8	9.720	.000
2.	I know how to find and manage information using different software, apps, and devices.	3.375	1.085	67.5	7.185	.000

3.	I use computer software (e.g., Microsoft Word, Microsoft PowerPoint, Google Docs) to complete office tasks.	3.472	1.343	69.4	7.307	.000
	Overall Informational and Operational Skills	*3.506*	*1.149*	*70.1*	*9.152*	*.000*
4.	I am aware of intellectual property and copyright restrictions when using digital content.	3.472	1.343	69.4	7.307	.000
5.	I know how to use privacy settings to keep myself safe online.	3.507	1.081	70.1	9.744	.000
6.	I know how to report abuse and threats online.	3.292	1.137	65.8	5.331	.000
	Overall Communication and Participation Skills	*3.350*	*1.025*	*67.0*	*7.085*	*.000*
7.	I use the Internet to share my skills or knowledge with others.	3.176	1.194	63.5	3.062	.002
8.	All my online activities will leave digital footprints that are mostly traceable back to me.	3.067	1.179	61.3	1.183	.237
9.	I can interact with people from different backgrounds and respect different perspectives when online.	3.442	1.114	68.8	8.252	.000
	Overall Communication and Participation Skills	*3.425*	*1.046*	*68.5*	*8.438*	*.000*
10.	I know how to edit electronic sources (text, graphics, audio, video).	2.919	1.153	58.4	-1.415	.158
11.	I know how to publish and share my work using suitable software/programs/application.	2.901	1.081	58.0	-1.795	.073
12.	I am able to make knowledge representations (examples: mind maps, diagrams) using digital media.	2.736	1.158	54.7	-4.737	.000
	Overall Content Recreation and Innovation Skills	*2.828*	*1.056*	*56.6*	*-3.393*	*.001*

13.	I use digital media a lot in my daily life activities to improve my quality of life.	3.273	1.123	65.5	5.054	.000
14.	I can resolve technical issues or decide what to do when certain digital devices fail.	2.931	1.138	58.6	-1.269	.208
15.	I can control my internet usage because I know the costs that will be incurred.	3.375	1.110	67.5	7.020	.000
	Overall Problem-Solving Skills	*3.324*	*0.910*	*66.5*	*7.400*	*.000*
	Overall Mother's Digital Competency and Skills (N = 432)	3.457	0.924	69.1	10.284	.000

* On a 5-point scale where 1=very low (1-20%), 2=low (21-40%), 3=average (41-60%), 4=high (61-80%), and 5=very high (81-100%).

** Test value = 3

Safety and security skills

The mothers also have a moderate level of safety and security skills (67.0%). Specifically, they are aware of intellectual property and copyright restrictions when using digital content (68.1%), they know how to use privacy settings to keep themselves safe online (70.1%), and they know how to report abuse and threats online (65.8%). The overall mean is 3.350 ($SD = 1.025$) with $t = 7.085$ ($p = .000$), which is significant. It indicates that the mothers are knowledgeable about safety and security skills. The mothers are well informed about safety and security issues, but they need to be savvier regarding technically staying safe. The most they can do is set privacy settings. However, many still need to be made aware of the legal aspects of online safety, such as the risk of challenging intellectual property laws, what to do, and where to get help if faced with safety and security threats.

Communication and participation skills

The mothers also have positive communication and participation skills (68.5%). They can use the internet to share their skills or knowledge with others (63.5%), and they can interact with people from different backgrounds and respect different perspectives when online (68.8%). However, they need to be made aware that all their online activities will leave digital footprints that are mostly traceable

back to them (61.3%). Nonetheless, the overall skills are positive and significant, with a mean of 3.425 (*SD* = 1.046) with *t* = 8.4385 (*p* = .000). This implies that the mothers are moderate in their level of communication and participation skills. Similar to the other skills, the mothers in this study can moderately communicate and participate. When asked about their communication practices, the mothers claim that they know how to interact online and adopt general ethics such as respect and honesty. However, they need to be surer about the repercussions of online activities and the technical implications, such as how online participation leads to the creation of digital footprints and online reputation.

Content creation and innovation skills

As for content creation and innovation skills, the mothers admitted that they could not do most of the items identified (56.6%) with *t* = -3.393 (*p* = .001), which is significantly weak in all three items. Specifically, 58.4% of them admitted that they know little about how to edit electronic sources (text, graphics, audio, video); 58.0% of them also agreed that they know little of how to publish and share their work using suitable software/programs/application; and 54.7% of them claimed that they are less able to make knowledge representations (e.g., mind maps, diagrams) using digital media. All the results for the items and the overall mean are significant yet negative. It indicates that the mothers are weak in content recreation and innovation skills. While content creation and innovation are considered a high level and require proper training, they are rapidly becoming required skills. Children are now actively doing schoolwork online and are creating content daily via social media. As such, mothers must now take the initiative to learn the basics of content creation to assist their children while also being able to monitor what their children are doing online.

Problem solving skills

Regarding problem-solving skills, the mothers are more positive in evaluating their acquired skills. 66.5% of the mothers claimed that they could do all three items accordingly. Specifically, they do use digital media a lot in their daily life activities to improve their quality of life (65.5%); they can resolve less technical issues or decide what to do when specific digital devices fail (58.6%), but they can control their internet usage because they know the costs that will be incurred (67.5%). Overall, the mothers are moderately skilful in their problem-solving skills, with a mean of 3.324 (*SD* = 0.910) and *t* = 7.400 (*p* = .000). While the mothers can incorporate digital use in their everyday life, they still lack in technical aspects of the usage. These findings suggest that the mothers are not equipped to resolve technical issues. This further suggests that mothers need the support, training, and

education to become digitally competent to enable their children's digital experience effectively.

Overall maternal digital competencies

Overall maternal digital skills for all 15 items within the five (5) dimensions are significant and positive, with an overall percentage of 69.1%. This is supported by the overall mean of 3.457 (*SD* = 0.924) and *t* = 10.284 (*p* = .000). The mothers are the most competent in safety and security skills, followed by informational and operational skills, communication and participation skills, and problem-solving skills. At the same time, the least are content creation and innovation skills (Figure 1). The highest competent item is for the item "I know how to download/upload and classify information and content for future reference," while the lowest is " I am able to make knowledge representations (examples: mind maps, diagrams) using digital media." Hence, overall, the mothers do have a moderate level of digital competencies. However, they need to catch up regarding the technical aspects of digital usage. For example, while they know the importance of staying safe and ethical conduct, they need to know how to set privacy and other security settings. At the same time, while they can use the internet to solve some of their daily issues, they would not know what to do if their devices or applications broke down.
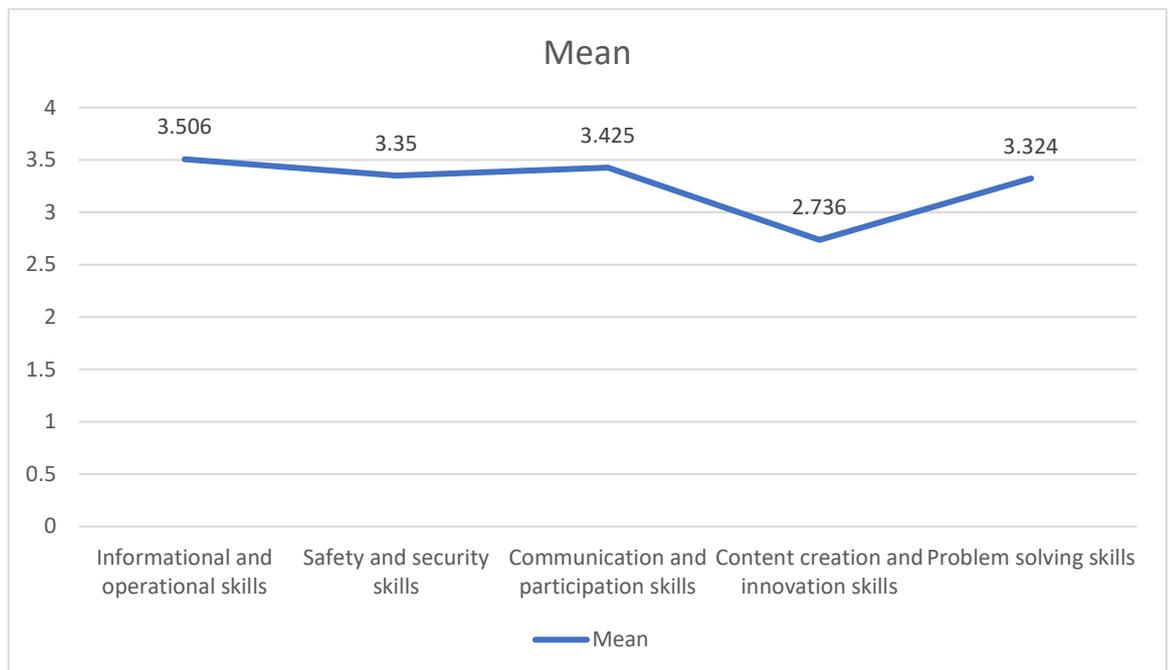

Figure 1: Overall Mean for Digital Competency Skills

Discussion

Malaysian mothers are digitally able because they have basic technical skills, understand the concept of being safe and secure online, and know how to communicate ethically with others. However, they need to catch up on innovation and content creation. In this sense, they are consumers and not users of digital technologies. In the age where children are producing YouTube videos well before they get into formal education, mothers must also be aware of the importance and challenges of content creation and innovation. While not all mothers need to create content for social media and the likes, they still need to understand how the content creation and digital innovation work so that they can make sense of what their children are doing online, especially when a majority of educational and leisure activities now require the content creation and that children who can innovate often have better opportunities in the digital future digitally. Therefore, any initiatives to help Malaysian mothers become better digital parents must consider content creation as a vital need.

Mothers must at least be able to write, edit, and be innovative enough to support their children's digital experience. For instance, a mother should at least be able to produce videos or use some image editing applications so that they can help with their children's schoolwork. In addition, content creation can promote the concept of digital mothering through blogging, sharing on social media, and documenting daily lives on YouTube can help mothers cope with the stress of daily domestic life while engaging with other mothers and building solid social support. Indeed, as Bales et al. (2017) shows in their study of UK mothers, the digital platform enables the creation of motherhood discourses where mothers find, share, and affirm information and values that empower their mothering experiences. Mothers can tap into the financial potential of online content creation if done well enough. This is congruent with the fact that "*ICTs enable women entrepreneurs to participate more actively in the market economy, to be more competitive and to use the digital economy for social and personal success, especially for those living in rural or remote areas*" (Economic Commission for Latin America and the Caribbean, 2013, p.52). This, of course, may have its negative impacts, significantly when mothers cannot differentiate their personal and public persona. That is why mothers' digital competency must be holistic to understand the logic of digital use wherein they are good at creating content. They must also be well informed about the risks and consequences of sharing online and the safety and security practices they must adopt to protect themselves and their families from digital threats.

When mothers become digitally competent, they can challenge the gender bias of digital technologies. For one, they will be examples to their children who will grow up understanding that digital use is inherent in everyday lives, including that of their mothers and that there are no gendered dimensions when it comes to adopting and using digital technologies. Just like other necessities such as food and shelter, there is no distinction between how digital technology should be afforded to boys and girls. As shown by Clark and José Brites (2018), a politically empowered daughter that can brave the digital frontier of the misogynistic narrative is nurtured by a politically empowering and digitally competent mother. In the long run, mothers' digital competency will constitute the key to mitigating the gender inequality and divide that afflicts digital technology. With regards to the digital gender disparity, Economic Commission for Latin America and the Caribbean, ECLAC (2013) commented that "*women are working in small enterprises and men are employed and building their careers in large companies where the job benefits and working conditions tend to be better*" (p.52). ECLAC then affirmed that digital technology is the right instrument for women to strategize their position within the market competition, which can elevate their position equal to their male counterparts. This is in line with Sorgner (2019)'s recommendation to provide digital technology education for women so that such a gender gap can be reduced.

Most importantly, a mother's digital competency is a vital precedent to effective digital parenting because digitally competent mothers can support their children's digital experience due to their familiarity and involvement in the digital world. Digitally comfortable mothers will have a more positive view of the digital world and will be less likely to restrict their children's digital use. Diezman et al. (2011) study finding is relevant here because they found that mothers with a pessimistic view of digital technology tend to control and limit their children's digital experience, rendering hindrance to the latter's growth in digital resilience. Contrariwise, Bunford et al. (2021) research indicated that parents' positive perception of digital devices predicts their children's more significant usage, which also entails greater interaction.

In addition, competent digital mothers will be able to create a shared digital experience with their children through conversations and activities that both mother and child are familiar with. This can create a form of co-dependency where parenting and digital use can be a two-way relationship where mothers mediate their children's digital use and learn from their children. This supportive and reciprocal environment further tells children they have parental support, which gives them the confidence to navigate the digital world diligently. The children will

be able to reap the benefits from their digital experience by taking risks and chances because they know that they are not alone in their digital endeavours. If they make mistakes online, they will learn from it and not be fearful as they have parents ready to back them up. It calls for future research on positive digital parenting and, mainly, its impact on reciprocal relationships.

Conclusion

Mothers are responsible for nurturing and guiding their children into becoming able and productive individuals. The influence of digital technologies on children's lives has made it more challenging for mothers as they not only have to fulfil their traditional motherly roles, but they now need also to mediate their children's digital experiences. Just like there is no one best way to parent a child, there is also no one ideal approach to digital parenting. Families from different cultures, contexts, and lived experiences require unique ways of dealing with the significant influence of digital technologies in their children's lives.

However, at the most basic, mothers must have some level of digital competency, so they are not disconnected from their children's digital environment. Fortunately, this study found that Malaysian mothers are moderately competent when it comes to using digital technologies. Therefore, they are not left behind in adoption and are aware of the technical aspects of digital use. However, basic digital skills may not be enough for mothers to keep track of the rapid changes in their children's digital experience. Therefore, mothers' digital skills must continue to evolve together with that of their children. This can be realised if parents in general and mothers more specifically are willing to be educated about digital parenting and can accept that they have the responsibility to keep abreast with developments in digital technologies and hence can consider learning about digital parenting as a life-long educational process.

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