

Digital Literacy to Digital Fluency Among Parents in Mediating Adolescents' Online Safety

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ABSTRACT

Adolescents are known to be more digitally literate and proficient in technology mechanism than their parents. Nevertheless, it is questionable that adolescents can distinguish either its usage holds positive or negative implications towards them. Hence, adolescents need their parents to supervise and mediate their online activities. This research examined digital literacy knowledge and skills by identifying the differences based on Malaysian parent's demographic factors. Besides, this research intended to create awareness among parents to be aware of their digital literacy and mediate their adolescents' safe Internet use. The study involved 384 parents of adolescents aged 13 to 17 from Klang Valley area in Malaysia. It adopted the digital literacy scale and Internet skills scale to measure parents' digital literacy knowledge and skills using the Internet and devices by employing a quantitative questionnaire method. The researcher then analysed the data through descriptive analysis on parents' device usage, Internet usage among parents and parental monitoring on adolescents' Internet use. Furthermore, this research attended an Interdependent t-test and One-way ANOVA to recognise parents' digital literacy level of differences based on gender, age group, Internet use experiences and professional background. The conclusion reported no significant difference between parents' digital literacy according to gender. Nonetheless, factors such as age group, Internet use experience and professional background constituted significant differences with parents' digital literacy. The study found that parents are lack in skills component. Therefore, this study suggested that parents today need to enhance their capability and equip themselves with digital fluency to cope with the mercurial technology context in mediating adolescent online safety.

Keywords: Digital Literacy; Digital Fluency; Parental Mediation; Adolescents; Online Safety

INTRODUCTION

The introduction of digital technologies in society has revolutionised the way people live and work. In line with the country's aspiration towards embracing Industrial Revolution 4.0 technologies, young generations as the future leaders need to be educated and exposed to technology. The Internet, for example, affords the young generations opportunity to use it for practical purposes. However, the Internet also exposes adolescents to risks threatening their

safety (Livingstone et al., 2018). Intended opportunities are, nevertheless, access to education, awareness of global issues, entertainment, and social networks. Online risks entail exposure to inappropriate information, sexual content, privacy invasion, and meeting strangers that can harm adolescents.

Consequently, the latest technologies and adolescent activities on the Internet pose challenges for parents today (Livingstone & Byrne, 2018). The nature of the devices which is mobile and handy enables children and adolescents to browse the digital world without limitation of place, time and direction. Besides that, various digital communication platforms such as WhatsApp call and video call allows users to communicate with other people at any time (Awang Yusof et al., 2021). Additionally, the wireless Internet services also let adolescents browse the Internet privately in their bedroom. Therefore, parents may not be able to monitor their adolescent's Internet use constantly.

Therefore, adolescents are susceptible to multiple risks, such as not understanding online privacy issues. Other predicaments involved are cyberbullying, Problematic Internet Use, sexual content, harmful online challenges and online strangers which may cause negative effect without parents mediation (Mohamed Hassan & Mohamad Salleh, 2022). In fact, a novel case published in the media reported a 16-year-old who allegedly committed suicide by jumping off a three-storey shop lot building following netizens' vote for the teenager to 'die'. The female adolescent attended a poll online through her Instagram account, asking the netizens to decide. Nevertheless, irresponsible netizens' feedback caused the adolescent to end her life tragically (Dawum, 2019).

Despite the moral panics foregrounded in the media headlines that prompt worry to society, one should emphasise online safety awareness. It is because technology use such as digital devices and the Internet is inevitable in this digital climate. Furthermore, young generations now must have the knowledge and skills of digital technology. Accordingly, following this situation, it is clear that the family is a social institution that plays a quintessential part in ensuring that children use digital technology responsibly for personal safety. Parents need to be involved because adolescent needs to be watched and educated about safety while surfing the Internet.

Therefore, digital literacy is one of the essential mechanisms for parents to mediate their adolescent Internet use. Parents today need to own the knowledge and skills to guide their adolescent Internet activities as their children are born in the world of Internet technologies (Cetinkaya, 2019). Digital literacy refers to individuals' capability to have the knowledge and intelligence to use digital technology (Eshet-Alkalai & Chajut, 2009). This idea later developed, which proposes that digital literacy not only addresses the ability to operate a device. It also includes various skills in performing tasks in a digital environment. Lack of parental digital literacy pose the young user with online dangers that are harmful to them (Hidayat & Listiawati, 2018). Concurrently, parents need to ensure that their children are correctly adopting technology. Meanwhile, most of the prior studies on digital literacy tend to focus on developed countries, especially in the west, and rarely administered in developing countries. Besides, most studies on digital literacy concentrate on children. Thus, the studies that measure the capacity of digital literacy among parents are still lack. While the the study on digital literacy in Malaysia are limited to the scope of academic needs, higher learning institution students and younger children. What is more, a research conducted in Malaysia also indicated that parents do not have sufficient knowledge on parental control tools including not knowing how to use it (Mohd Mahudin & Janon, 2021). This indicate that a study is required to identify parents digital literacy in mediating adolescents online safety in Malaysia. Besides that, the issue on digital fluency is also important and need to be highlighted.

Therefore, this research addressed this gap by examining parents' in the context of demographic factors that influence Malaysian parents' digital literacy knowledge and skills. In addition, this paper intended to understand parents' Internet use patterns and the devices which reflecting their literacy capability. It inculcated the demographic factor as the basic assumption to extend the literacy into digital fluency proficiency. Hence, this research promoted adolescents' safe online engagement and reduced the chances of online risks.

Considering these concerns, this study aims to answer the following research questions:

- a) What are the basic digital literacy patterns among parents?
- b) What is the digital literacy level of differences according to parents gender?
- c) What is the trend in digital literacy level of differences according to parents age group, Internet experiences and professional background?

LITERATURE REVIEWS

Digital Literacy in the digital environment

The accelerated advancement of technology in the digital age has motivated individuals to develop various skills to cope with the digital environment. Indeed, information literacy and media literacy are essential skills. As technology introduces the internet, wireless internet connections, and portable digital devices, literacy needs to evolve in the digital context. Literacy is known as Digital Literacy which defined by Paul Gilster in 1997. Digital literacy refers to the ability of individuals to have the knowledge and intelligence to use digital technology. The idea later developed that proposes digital literacy as the ability to operate a device and includes a wide range of skills in performing tasks in the digital environment. Bawden (2008) described these criteria as knowledge and skills in using the Internet and digital games, using databases to search information, building and sharing content on the Internet, interacting in chatrooms and communicating on social networks.

Today, digital literacy is a survival skill when it comes to using digital-based applications in everyday life. The components of digital literacy encompass literacy on equipment such as computers, knowledge of usage, system efficiency and attitude towards the use of digital tools and systems. Besides, digital literacy involves the ability to use an application or operate a device or digital applications. Furthermore, it also refers to having the literacy to distinguish between good or bad consequences on users. Although users have the skills to use technology, it is still insufficient for safety matters. Prior research confirmed that children and adolescents are susceptible to risks such as paedophilia, online bullying, content with violent element and Internet addiction. Most adolescents learn how to use the Internet, social media, and devices independently or through friends. In other words, adolescents gain digital technology skills through experience using technology (Segatto & Dal Ben, 2013). This situation supports the concept that children experiment independently and learn by trial and error when using the Internet (Mascheroni et al., 2018).

Digital literacy necessitates children, adolescents, and parents to be aware of using digital devices, and they must employ the Internet sensibly and securely. Parents as digital immigrants did not grow up with new technology such as social media compared to their adolescents. Hence, parents struggle to cope with the digital revolutions. They grapple due to the difficulty to supervise their adolescents' Internet activities. Moreover, some parents may not understand the current technology services' technical aspect (Livingstone & Byrne, 2018). Moreover, some children are more knowledgeable and skilful than their parents on the technology medium. Nevertheless, the skills acquired may not be absolute as adolescents are still learning to assess the advantages or disadvantages of the content they view. Consequently,

family, especially parents, should mediate the adolescents' safety in using digital applications and equipment types. For this purpose, parents should equip themselves with digital literacy. Many parents render technology facilities such as smartphones and computers for their adolescents to use the Internet. However, they might neglect their involvement when their adolescents engage online. Subsequently, this causes adolescents to use digital technology without apprehending the possible adverse effects through the Internet.

Hence, parents who are aware of the probabilities of opportunities and risks that the Internet offer will equip themselves with digital literacy.. In this research, the focus of digital literacy referred to the ability of digital literacy among parents. Therefore, parents perform an imperative role as a reference source for adolescents safely using digital technology.

Parents Internet use and mediation

In these digital surroundings, parents need to move forward by adopting the technology as part of their daily activities. In Malaysia, online activities serve social purposes. These activities include using the Internet for communication and social networking. It too covers online reading sources for news, magazines and e-books, online shopping, watching online videos and online gaming. Meanwhile, smartphones, laptop and desktop computers the elemental devices used to access the Internet (MCMC, 2020)

Electronic communications now influence the interaction patterns between parents and children. In digitally connected families, messaging applications, social media, and video and voice calls complement parent-child communication (Lim, 2018). Concurrently, it encourages parents to mediate their children online activities. Thus, mediation in digital platform facilitates the role of digital parenting for parents in the digital landscape. Digital parenting involves parent engagement and mediation in governing their children use of digital media and consolidate the medium in parenting practices (Mascheroni et al., 2018).

Technologically literate parents will actively engage in online activities with their children. Parents who pay attention to their children's Internet use help reduce cyberbullying cases whether the child is a victim or a bully. A study identified that parental mediation works to ensure children are positively using the Internet. When children know the purpose of using the Internet, it will benefit them (Daud et al., 2014).

The digital lifestyles of digital society pose a different challenge. This situation requires the community and policymakers' attention to enable society to behave consistently with technological developments. However, the knowledge about the methods of preventing and handling internet abuse is still low. The awareness of parental control among Malaysian parents is 53.3 per cent as of 2020 (MCMC, 2020). Meanwhile, parents are the primary source to educate children and adolescents about using the Internet prudently and responsibly. Hence, parents need to be effective and skilful to mediate their children and adolescents' safe Internet use.

Adolescents' Online Safety

The awareness of online safety starts since online media gained popularity among society, including among children and adolescents. It occurs after gadgets such as tablets and smartphones become available to adolescents. Furthermore, the Internet was developed with the assumption that the users are adults (Unicef, 2017). Hence, children and adolescents tend to be neglected by the Internet service planner, designer and marketer, causing and exposing them to Internet risks (Livingstone & Mariya, 2019).

To address online safety issues, the terms involved refer to online opportunities and online risks. The Internet should serve as a platform for adolescents to gain various benefits, especially for learning, communication and participation (Livingstone et al., 2017). The use of

the Internet for good causes is an opportunity online. Adolescents should use the Internet as an opportunity platform to develop themselves and the community around them (Livingstone & Haddon, 2009). For instance, they can use it for learning and knowledge purposes, involve in activities with the community, and build creativity and self-identity in social networks. Thus, adolescents should have the knowledge and skills about their purpose of using the Internet. The benefit stops them from misusing the platform that exposes them to risks.

Furthermore, the Internet also exposes adolescents to online risks. These risks are the expression of sexual desire and pornographic content. Additionally, the risks too include cyberbullying and Internet addiction. Besides, these risks that threaten adolescents' safety also comprise commercial factors through inappropriate advertising, spam, and gambling. Other risks are aggressive behaviour, including bullying, blackmailing and stalked by strangers. Additionally, the Internet can impose a risk by exposing negative values such as racial, cultural conflict, including hedonism, suicide, and anorexia. Meantime, research in the Malaysia context identified that Malaysian parents are concerned about the influence of foreign culture instilled on the Internet such as Hallyu, Weeaboo and western content, adverse actions, violence, pornography, and hate, which can be inapt and contradicting Malaysian and religious values (Hansaram, 2019).

Nonetheless, international bodies, the commission, and telecommunications companies attended many efforts to generate awareness on the importance of online safety. In Malaysia, CyberSecurity Malaysia is a national cybersecurity specialist agency under the Ministry of Science, Technology and Innovation (MOSTI), Malaysian Communications and Multimedia Commission (MCMC), an agency under the Ministry of Communication and Multimedia and National Cyber Security Agency (NACSA), Ministry of Education are among the organisations which foster online safety awareness and practices among internet users. Besides the government ministries and agencies, private companies such as DiGi Telecommunications dan Google also collaborate to cultivate safety practices in the digital realm. Efforts such as Cyber Security Awareness for Everyone (CyberSAFE), CyberParenting, Klik dengan Bijak, Safety Net, DiGi CyberSAFE in Schools, Google Safety Center also emphasize online safety awareness among children, adolescents and the society as a whole.

Concurrently, about 60 per cent of the sexual attack case reported to Royal Malaysia Police, also known as PDRM, in 2017 involved children. At the same time, 50 per cent of secondary school children interacted through social media without being monitored by their parents. Further, 94 per cent of children in Malaysia are susceptible to online pornography (CyberSAFE Parenting, 2019). The recorded percentage noted that children and adolescents are vulnerable to online risks. The young generations claim that they can protect themselves by taking precautions when online. Nevertheless, they may not know the ideal way to manage such encounters due to immaturity and insufficient online safety knowledge.

Meanwhile, Malaysia introduced some laws to regulate Internet use. These include the Communications and Multimedia Act 1998 (Act 588), the Computer Crimes Act 1997 (Act 563), the Sedition Act 1948 (Act 15), the Defamation Act 1957 (Act 286), the Penal Code (Act 574), the Evidence Act 1950 (Act 56). Malaysia, too, added other laws relating to the prevention of cybercrime activities. It concerns the Communications and Multimedia Commission Act 1998, the Digital Signature Act 1997 and the Telemedicine Act 1997. In 2016, the government instituted the Cyber Court on September 1, 2016, due to the increasing cybercrime cases in Malaysia (Pitchan et al., 2017). This law is entirely applicable to the use of the cyber world. Nevertheless, there is no law explicitly formulated for children and adolescent audience concerning issues in cyberspace.

The international outline, too, presented various guidelines by organisations around the world. The organisations are the National Crime Prevention Council (NCPC), Camden

Safeguarding Children Board (CSCB), internetmatters.org, the National Society for the Prevention of Cruelty to Children (NSPCC), NetNanny, Net Aware, Ofcom, Kent Safeguarding Children Board, UK Council for Child Internet Safety, Get Safe Online, SafeWise, Children's Safety Network, Unicef and more. It proves that online safety is an urgent issue and a concern worldwide since more children and adolescents are engaging with digital technologies. Although the government and organisations exert initiatives, the role of mediating children and adolescents to use the Internet safely is at the parents' end. Therefore, parents today need to enhance their knowledge and skills to support their children and adolescent online activities.

The Importance of Digital Fluency among Parents

Today, every Internet user such as a child, adolescents, adults or the elderly, all live in the digital environment. Children and adolescents are growing up in digital surroundings while adults and the elderly are coping and adapting to modern technologies. Therefore, apart from being digitally literate, adults, particularly parents, should be digitally fluent. Digital fluency refers to re-evaluating knowledge and producing information to explicit creatively and accordingly in the digital environment. It consists of knowledge, skills and attitude in using digital technology (Wang et al., 2013).

Therefore, digital fluency is beyond and broader than digital literacy. In other definition, it also relates to the capacity to benefit the technology to produce new knowledge, challenges and problems along with context with critical thinking, complex problem solving, social intelligence to deal with new challenges. Moreover, digital fluency demands impeccable communication skills, new media literacy and cognitive load management to highlight the issues and concerns faced in the current and future situation (Sparrow, 2018).

Digital literacy and digital fluency interrelate. Since the process is a continuum (Lalonde, 2019), a simple analogy can compare to language context. For example, a literate person can speak, read and listen to comprehend the new language. A fluent person can generate something in the language, such as a story, conversation, and many more (Sparrow, 2018). Therefore, these relate to the context of the digital terms in which digital literacy refers to the comprehension of how to use the technology tools. In comparison, digital fluency attribute to generate something new with the tools used. Therefore, in a parental setting, a literate parent may be able of using and constructing appliances and understanding when to use the tools for distinct purposes, although they may encounter difficulties in adapting to the technology.

Besides, a digital fluent parent may use the tool positively and recognise the process and differences in the technology used. A digital fluent parent can also probe the technology differences and note that the differences may influence the use, making adjustments to fit the technology accordingly. CyberSAFE inspires #FasihDigital to foster digital fluency among Malaysian Internet users to read and accept technology in conjunction with Safer Internet Day 2020. The exercise targeted school children, youth, and adults to appreciate five elements: cyber safety, communication, critical thinking, creativity and cooperation as the knowledge and skills to be a proficient digital citizen ("Ministry targets school children", 2020). Therefore, this research endeavoured to emphasise digital fluency as a continuum of digital literacy among parents.

RESEARCH FRAMEWORK

Figure 1 shows the elements involved in this study. Parents' demographic factors included gender, age group, internet use experience and professional background. The factors measured to identify the differences that might have a significant contribution to parents digital literacy.

Further, this study then proposed growing digital fluency as parental strategies in mediating adolescents' Internet use.

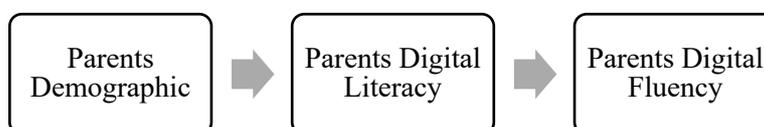


FIGURE 1. Research Framework

METHOD

Sample and procedure

The study conducted a quantitative method through questionnaire survey. Samples involved 384 parents of adolescents age 13 to 17 years old. The samples comprises of 191 males (49.7%) and 193 females (50.3%). Both parents and adolescents are Internet users, and each respondent represented one family. Since Internet penetration in Malaysia primarily concentrates in the urban area (Wok et al., 2016), the current study focused on parents living in Klang Valley, which involves Kuala Lumpur and several parts of Selangor, Malaysia. Moreover, the selection of this location was also due to the high concentration of Internet users among Malaysians. It is evident based on the report that Selangor has a 60 per cent in high-speed internet penetration rate in this country. It is in line with the state government's vision for a Smart State by 2025 ("Seluruh rakyat Selangor", 2019).

The sampling technique was purposive sampling as the respondents were selected based on the required characteristics for the study (Awang, 2017). The purpose of the sampling was to enable the researcher to determine the appropriate and specific respondents with the study's objective. The respondents were Internet applications and digital devices such as smartphones and computer users. The respondents of this study consisted of male and female from different age group and professional backgrounds.

Research Instrument

The research developed a questionnaire as its instrument. The questionnaire comprises of demographic and digital literacy components to identify the parental digital literacy credentials. There are 28 items for both components. For this study, the variable concentrated were parental digital literacy. All of these items were measured on a 7-point Likert scale self-report questionnaire. The response scale was from strongly disagree (1) to strongly agree (7).

Parental digital literacy was assessed using items adapted from Digital Literacy Scale (Rodriguez-de-Dios et al., 2018) and Internet Skills (van Deursen et al., 2014). From the six digital skills assessment commonly used, this study focused on two dimension only. The dimensions involved the knowledge and skills on the use of the Internet and devices. The items then were adapted to fit with the context of parental digital literacy towards adolescents' Internet use. The items were adapted into the context of Malaysia. A reliability test was conducted on the digital literacy items. The Cronbach's Alpha showed that the items were 0.966. A value that is more than 0.70 indicated that the items are measurable and reliable (Hair et al., 2014). Meanwhile, the mean value for the items ranged from 4.72 to 4.96.

Data Collection and Analysis

Following the instrument's employment, data were collected in Shah Alam, Klang, Bangi, Petaling Jaya, and Kuala Lumpur. In assuring respondents' criteria, the researcher confirmed the respondents' family background, including their Internet usage. Finally, obtained their consent to answer the questionnaire.

This study conducted a descriptive and inferential analysis using the Statistical Package for Social Science (SPSS). This study's inferential analysis is Independent t-test and One-way ANOVA to compare groups (Pallant, 2016) in the demographic elements. An Independent t-test was investigated on parental digital literacy according to gender. While One-way ANOVA is to gauge the parents' digital literacy level differences based on age group, Internet use experiences and professional background. The frequency and percentage analysis on other demographic variables such as parents' device usage, Internet usage among parents and parental monitoring on adolescents' Internet use at home, were also examined to study the parents' digital use background.

RESEARCH FINDINGS

Research findings were divided into three parts according to the research questions. The first part presented the respondents' digital literacy score and basic literacy patterns. The latter encompassed parents' device usage, Internet use and monitoring practices. Secondly presented digital literacy level of differences according to parents' gender. The third highlighted the digital literacy level of differences according to parents' age group, Internet experiences and professional background.

Parents Digital Literacy

As shown in Table 1, the highest mean scores for parental digital literacy is the type of parents' literacy to know the type of information that their adolescents are allowed or not allowed to share on the Internet. This item is under the knowledge construct of the digital literacy scale. ($M = 4.96$). While for skills construct, the parents have skills in searching the Internet content for their adolescents. ($M = 4.80$) Meanwhile the lowest mean score overall is parents to arrange privacy settings in the applications such as in the social media that their adolescents use. ($M = 4.72$). This study found that parents pose knowledge aspect with regard to their digital literacy as compared to literacy in skills.

TABLE 1. Mean distribution and standard deviation for Parents' Digital Literacy

Items	Mean	SD
1. I have knowledge in interpreting the content that my children browsed from the Internet.	4.76	1.21
2. I know the type of information that my children are allowed or not allowed to share on the Internet..	4.96	1.18
3. I am mindful when my children give their opinion or comment on the Internet.	4.95	1.13
4. If my children obtained a new friend from the Internet, I will check the person's profile.	4.75	1.25
5. I know how to access the files that my children downloaded from the Internet.	4.76	1.30
6. I am able to connect the device with wireless network for my children to use the Internet.	4.79	1.23
7. I have skills in searching the Internet content for my children's use.	4.80	1.29

8. I am able to arrange privacy settings in the applications that my children use on the Internet.	4.72	1.32
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Parents devices usage

Table 2 shows that smartphones ranked as the highest usage for parents with 96.4 per cent. Followed by laptop (55.2 per cent), tablets (24.0 per cent) and personal computers (20.6 per cent). The popularity of smartphones as the device's usage among parents is due to smartphones' portable feature and comprises various applications that support them to use the internet more effectively. Besides the device's feasibility, the high percentage also indicated that most parents were literate to use the digital devices.

TABLE 2. Frequency and percentage on parents devices usage

Item	Frequency	Percent
Smartphones	370	96.4
Laptop	212	55.2
Tablets	92	24.0
Personal Computer	79	20.6

Internet usage among parents

Table 3 indicates the parents' engagements with the Internet. Most parents were active in using social media as part of their Internet activities, with 76.3 per cent. Short messages referred to instant messaging through applications such as WhatsApp or Telegram. It shows that 68 per cent of the parents were using instant messaging as a method of communication. Furthermore, parents tended to refer to the Internet for news (66.1 per cent). At the same time, blogs only represented 12.5 per cent. Internet usage was another proof that indicated that most of the parents were active user of social media and other Internet applications. The Internet usage patterns shows that parents have literacy to use Internet applications through digital devices. From the analysis, although social media is a popular activity, however not all parents in this study are using the social media.

TABLE 3. Frequency and percentage on Internet usage among parents

Item	Frequency	Percent
Social Media	293	76.3
Short Messages	261	68
News	254	66.1
Chatting	232	60.4
Websites	214	55.7
Sharing of Information	191	49.7
Online shopping	172	44.8
Music	128	33.3
Film/Drama	113	29.4
Internet TV	93	24.2
Gaming	64	16.7
Blogs	48	12.5

Parental monitoring

Furthermore, Table 4 shows that most of the respondents monitored their adolescents' Internet usage. About 71.9 per cent compared to 28.1 per cent of parents indicated that they did not monitor their adolescent Internet use. This percentage shows that parents were aware of the importance of monitoring their adolescents' Internet use. It then made them aware of the importance of being digitally literate to mediate their adolescents' safety in the digital environment. This findings indicate that there are parents who do not monitor their adolescents online activity as highlighted in MCMC 2020 report that 42.6% parents are not aware about parental control for child online safety.

TABLE 4. Frequency and percentage on parental monitoring

Item	Frequency	Percent
Yes	276	71.9
No	108	28.1

Inferential Analysis

In this study, the inferential analysis used was the independent t-test and one-way ANOVA. An Independent t-test is to identify the differences in the mean value. Concurrently, one-way ANOVA was to identify a difference in the mean score significant at parents' digital literacy involving three demographic factors. In this research, the independent t-test was conducted to identify differences in parental digital knowledge and skills as part of digital literacy according to gender.

Parents' digital literacy based on gender

As shown in Table 5, there were no significant differences in digital knowledge and skills among parents based on gender $t = .518$ and $\text{sig} = .605$ ($p > 0.05$). Simultaneously, the mean value was $M = 4.78$ (male) and $M = 4.83$ (female), which was not much difference although females manifest higher mean score as compared to males. Therefore, the digital knowledge and skills among parents were not influenced by gender. Thus, the null hypothesis that there were no differences in parental digital knowledge and skills based on gender could not be rejected because of the sig. value was higher than 0.05. It confirmed that both parents had knowledge and skills on the Internet and digital devices use. The findings confirm the earlier results that both parents utilise digital devices such as smartphones and computers for Internet activities. Another factor that might influence digital knowledge and skills was the demographic background such as living in the city, education level and occupation background.

TABLE 5. Independent t-test for Parents' Digital Literacy based on gender

Gender	N	Mean	Std deviation	t	df	Sig.
Male	191	4.78	1.099	.518	.382	.605
Female	193	4.83	1.141			

Parents digital literacy based on age

One-way ANOVA was conducted to find the differences in parents' digital literacy with their age. Table 6 shows the results of the age category, which comprises three age groups. The table presents differences in parents' digital literacy based on age with $F = 17.370$ with $p < 0.001$. Meanwhile, the Scheffe Post-hoc test shows that age category contributed to the significant differences in parents' digital literacy from 30 to 39 years. Accordingly, the results suggested that today's younger parents are more digital-savvy due to the exposure to updated innovation compared to other age groups.

TABLE 6. One-way ANOVA for differences on level of parents digital literacy based on age

Variable	Category	Mean	Std. deviation	F	Sig.
Age	30-39 years	5.17	1.082	17.370	.000
	40-49 years	4.99	1.129		
	50-59 years	4.35	.974		

Parents digital literacy based on Internet experience

Another inferential analysis employed in this study was the One-way ANOVA to identify digital literacy differences with parents' Internet experience. The term Internet experience referred to how long they have been using the Internet. Table 7 shows differences in parents' digital literacy level based on their Internet experience ($F = 3.559$). In addition, the p-value for the category was $p = .007$ ($p < 0.001$). Meanwhile, Scheffe posthoc test was conducted to examine which Internet experiences category were different and contributed to these differences. The results revealed that significant parental digital literacy differences were contributed by Internet experience of more than ten years. Thus, these results indicated significant differences in parental digital literacy among respondents based on varying Internet use experiences. This result strengthened the assumption that the more parents had a longer experience using the Internet, they would be more familiar with and have literacy in using digital technology.

TABLE 7. One-way ANOVA for differences on level of parents digital literacy based on Internet Experience

Variable	Category	Mean	Std. deviation	F	Sig.
Internet Experience	Less 1 year	4.29	1.012	3.559	.007
	1 to 3 years	2.74	1.035		
	4 to 6 years	4.91	1.053		
	7 to 9 years	4.93	1.085		
	More 10 years	4.95	1.312		

Parents digital literacy based on profession background

Table 8 shows a One-way ANOVA analysis of parents' digital literacy differences based on their professional sectors. The profession comprised parents working in the public sectors, private sectors, self-employed, not working, pension, and other sectors, namely Non-Governmental Organisation (NGO). The results indicated differences in parents' digital literacy level based on their profession with $F = 1.406$. While p-value was $p = .221$ ($p > 0.05$). Scheffe post-hoc test results showed significant differences contributed by the category of parents working in the private sector. Therefore, the results revealed differences in parental digital literacy among the parents based on their professional background. This factor might be due to the parents working in the private sector and younger age groups who were more technology-savvy than other respondents from other age groups.

TABLE 8. One-way ANOVA for differences on level of parents digital literacy based on Profession background

Variable	Category	Mean	Std. deviation	F	Sig.
Profession	Public sector	4.77	.982	1.406	.221
	Private sector	4.98	1.113		
	Self-employment	4.74	1.324		
	Not working	4.48	1.206		
	Pension	4.65	.997		
	Others	4.33	1.077		

Significant at the level 0.05

DISCUSSION

The Internet is a vital platform for adolescents and parents' daily life nowadays. Moreover, based on Livingstone et al. (2017) analysis, the Internet exposes the young to opportunities and risks. However, parents' involvement by possessing literacy in the digital aspects is imperative. Therefore, this study and its findings help determine parents' awareness and proficiency in digital literacy towards their adolescents' online usage and exposure.

Firstly, parents in this study obtained highest score in knowledge component of knowing the type of information to share online as part of safety measures. While the lowest is the skills of arranging privacy settings in the device or applications which their adolescents use. Opposing the results, a study on digital literacy among parents in Poland highlighted knowledge about the copyrights as the weakest component (Tomczyk et al., 2019). This result also shows that parents in Malaysia is still lacking in technical practices towards mediating adolescents online activities due to lack of exposure to use monitoring tools (Mohd Mahudin & Janon, 2021). Other factors that influence the lack of literacy in skills aspect is due to the assumption that adolescents are more advanced and skillful in using the Internet applications and digital devices. This situation causes parents to take for granted of their adolescents capability instead of venturing the skills aspect on their own. In addition, parents might encounter difficulty to manage control settings since smartphones and computers are personal use. Thus parents confronted with limited exposure to handle the technical aspects of their adolescent's devices.

Next, most parents used smartphones for Internet browsing based on the findings on parents' devices usage. It occurred because most parents in the scope area could afford to own smartphones for communication or daily routine purposes. Thus they know how to use basic devices such as smartphones and laptops to browse the Internet. Besides, laptops' use was due to their portable feature, and most of the parents had a career either in the public or private sector and conducting their own business, which required them to own and use laptops. Overall, the parents in this study were up-to-date with the latest technology devices popular in society such as smartphones and laptops when using the Internet. It confirmed that the parents had literacy in using these digital devices. Nevertheless, the skills of using it might differ among the parents. The data is parallel with the MCMC 2020 report, indicating that smartphones, laptops, and desktop computers are the top devices used to access the internet.

In terms of Internet usage, overall, this study's findings reported that the pattern of Internet use among parents was for relationship, knowledge, information, and leisure. Among the highest frequency in parents' activities were social media, short messages, news, websites and online shopping. Social media such as Facebook is prevalent among Malaysians (Wok et al., 2016). Since the parents in this study used technology devices and an active social media user, most parents monitored their adolescents' Internet use. However, this monitoring is on

physical observation or through online surveillance. Only a small number did not monitor their adolescents. It might be due to the trust of their adolescents, or their offspring are living in boarding school.

Meanwhile, in terms of gender, both parents living in the Klang Valley area possessed average digital literacy level. The results exhibited slight differences in gender aspect. Therefore the differences were subtle to conclude that gender factor determine parents' digital literacy level (Tomczyk & Potyrala, 2021). Instead, the difference were influenced by the respondents tendency in digital technology use (Rizal et al., 2021). Thus this study indicate that both male and female respondents digital literacy are according to their exposure in using the digital technology.

Further, this study revealed that younger age group parents were more digitally literate. It happened because the user in the age 30s is engaging more with the Internet activities than older age group users (Ofcom, 2019). As for parents' experience in using the Internet, the findings confirmed that parents with seven years and above experience were more literate digitally due to their exposure to digital technology such as Internet applications and digital devices. Hence, digital literacy is not about age factor but due to experience that contribute to digital skills (Eshet-Alkalai & Chajut, 2009). Meanwhile, parents' occupation was another factor for parents' digital literacy knowledge and skills due to the frequent use of digital technology as part of their job description. However, these findings might not necessarily be the main determining factor. This study exhibited that living in big cities also contributed to digital literacy level among parents (Tomczyk & Potyrala, 2021).

Overall, the parents in this study pose knowledge characteristics on digital literacy. Although lacking in some skills but the results positively indicated that they could use technology devices such as smartphones, laptops, tablets, and personal computers. Also, they could connect the devices to the networks either for their use or their adolescents. Besides that, the parents were aware of searching for contents, information, downloads, request from other users, privacy matters. This manifest that parents nowadays are becoming aware of the need for skills in digital literacy (Romero, 2014). Thus, it empowers them to guide their adolescents in technology use. Therefore, this study proposed digital fluency be developed among parents as the continuum of digital literacy credentials.

CONCLUSION

The emergence of the internet produced the digital society across age and gender. Adolescents are avid users of the internet. Although some adolescents tend to be more digitally literate with the current updates, they are immature to distinguish cyberspace's positive or negative implications. Adolescents necessitate guidance, primarily from parents or caregivers. Ergo, despite being digital immigrant, parents need to equip themselves with knowledge and skills about the technology aspect to align with their Internet use needs. Parents' digital literacy and digital fluency will allow them to pay closer attention to their adolescents' internet activity, hence working as a mediation strategy to ensure the adolescents' online safety. This research afforded an idea of parents' digital literacy and digital fluency in monitoring their adolescents' internet use in the urban area. Although parents own smartphones or other digital devices, they were not fully literate on the technical aspects. Some might only use the basic functionality of the device and applications. Furthermore, the level of knowledge, skills, and practices of digital literacy and digital fluency among parents may be influenced by demographic factors such as age, level of education and occupation background. Therefore, due to the research population's limitations, the research could not be generalised to parents in the scope area. Additionally, more items need to be included in the instrument. Thus, future research is recommended to

expand digital literacy and digital fluency by comparing parents and their adolescents' digital literacy knowledge, skills, and practices. Predominantly, the internet is to facilitate human lives. It should be used positively as an opportunity platform hence dodging the risks, particularly towards young users. Today's parents are growing digital natives. In the future, digital natives will be parents. As technology tends to evolve, so is parenting in the future.

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