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Parents Situational Awareness Of Cybersecurity

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Abstract –
Using survey results from 872 parents of students in the 17 and under age range, this study aims to assess the level of parental knowledge of cyber security in order to protect their children. Using statistical software called SPSS, a quantitative data analysis was carried out and the results were interpreted based on the distribution of locations. Descriptive data and generic respondent profile were combined as part of the analytical process. Any research findings would advise a greater focus on the Cyber Parenting Model to identify the elements that influence internet safety at home. Parents understanding of cyber security would increase with early exposure to parental awareness.

Keywords - Cybersecurity awareness, education, parenting, and eSafety are some related terms.

I. Introduction

Governmental organisations, business sectors, and non-governmental organisations (NGOs) in Malaysia, including the Ministry of Women, Family, and Community Development (MWFCD), the Malaysian Communications and Multimedia Commission (MCMC), Cyber Security Malaysia (CSM), and Digi Telecommunication Sdn. Bhd., have carried out national-level campaigns to raise awareness of cyber safety (Digi). The government's provision of this informative medium is crucial for considerably increasing awareness among the target populations, particularly among students and parents. In 2016, more than 800 events were carried out under the MCMC's Click Wisely initiative, reaching a growing audience of 1.7 million. Knowing little about their children's internet activities is a sign that parents are still uninformed about the hazards to their online safety. Children who are unaware of the potential technical limitations of their parents may regard this as an apparent disadvantage. Only 4 out of 10 parents are aware of their children's online searches when it comes to screen time. Parents frequently have no idea that their kids are accessing inappropriate websites without permission or being exposed to them, putting the kids at risk for cyber security.

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Ii. Method

A. General Strategy

The quantitative methods used in this descriptive study were modified from Creswell's design framework. Parent respondents from all throughout Malaysia were surveyed to get the data. The four main parts of this study are broken down into the following four categories: the preliminary study, the pilot research for validity and reliability, the real study/discovery, and the conclusion.

Table 1 Research Design Phase

No	Phase	Objective/Activities	Output
	Preliminary study	To identify issues and problems	Problem statement
		Determine the purpose of the study	Research objective
		Determine the scope of the study	Scope of the research
		Review the results of relevant research from previous researchers, involving model theory, factors influencing cyber safety	A comprehensive literary study on children's Internet use at home
		Design research instruments	Study instrument is developed
	Pilot research	Verify and finalize the research instrument	Reliable research instrument
	Actual study / discovery	Implement an online survey and analyze collection data using SPSS	Data collection from survey respondent profiling and descriptive statistics results.
	Conclusion	Write final reports	Conclusion of research, future direction and final direction and final report

B. Questionnaire creation

8 fundamental closed-ended questions concerning parental knowledge of children's cyber security dangers are included in this study. The participation of parents in a responsible party-organized awareness campaign and their degree of satisfaction with it are under scrutiny. Other inquiries include the respondents' children's understanding of cyber security, awareness of what the kids are doing, good usage of the internet at home, and the challenge of regulating kids' Internet use.

The Likert Scale approach is used in six questions from the same section. The scales for the answers are: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. Respondents are required to mark the list of corresponding answers for one item in this section, which asks respondents to choose between answering 1 = Yes or 2 = No.

C. Distribution, Sampling, and Target Respondents

In order for an adequate analysis to be conducted and to transmit the proper degree of accuracy and validity for the research's benefit, a total of 384 parents - representing 5,074,612 parents of school-age children in Malaysia - make up the simple sampling.

D. Fieldwork

Before beginning fieldwork, a pilot study was carried out to gauge the sophistication of the respondents, evaluate the flow of the questionnaire, and determine any potential technical concerns relating to the SurveyMonkey platform. The pilot research included a total of 47 pupils. While the online survey is distributed through SurveyMonkey, questionnaire forms are personally handed to parents by the schools.

Iii. Important Results And Discussion

In Malaysia, this study intends to investigate the level of parental knowledge regarding the risks that children face from cyberspace. Only 872 of the 1426 forms that were given to responders were filled out, finished, and sent back to the researchers. Using SPSS

statistical software, the quantitative data were gathered, processed in two phases, and their interpretation was based on the distribution of the data positions. General respondent profiling and descriptive statistical analysis were the two phases.

A. Education Program

Only 274 (31.4%) of the 872 respondents who were monitored had participated in cyber security awareness programmes, while the remainder 598 (68.6%) had never done so. 171 (62.4%) of the 274 participants expressed satisfaction with the information-sharing sessions led by CSM, MCMC, and NGOs. The facts supplied allegedly left 86 (31.4%) respondents less happy, while 17 (6.2%) expressed general displeasure.

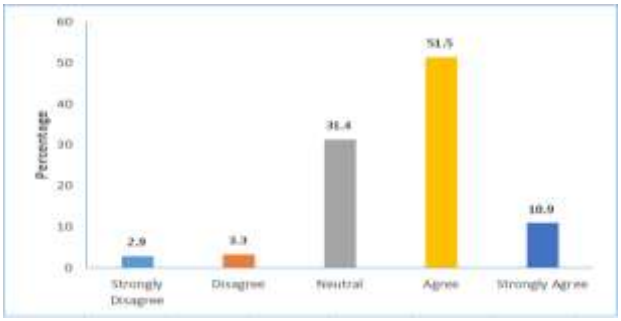
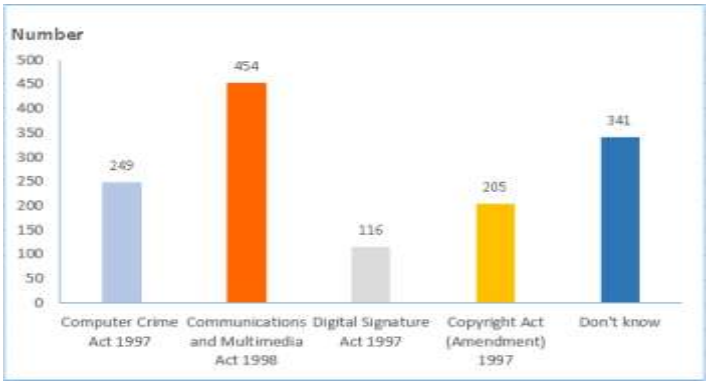


Fig. 1. Respondent satisfaction towards cyber security awareness programs

B. Knowledge of Cyber Laws

Out of the 872 people polled, 249 acknowledged knowledge of the Computer Crime Act 1997, while 454 acknowledged knowledge of the Communications and Multimedia Act 1998. The remaining 116 respondents were aware of the Digital Signature Act of 1997; 205 were aware of the Copyright Act (Amendment) of 1997; nonetheless, 341 respondents (or 39.10%) were unaware of Malaysia's cyber legislation. The cyber law that parents were most familiar with was the Communications and Multimedia Act of 1998.

Fig. 2. Level of parental awareness on cyber laws



C. Cybersecurity Situational Awareness Level

Table Ii Cyber Security Situational Awarness

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	%	%	%	%	%
I am aware of the potential of online threats	2.2	2.6	14.7	61.6	18.9
I am aware of what my child is Accessing	1.8	4.8	27.8	50.3	15.3

I know that my child knows how to use the Internet the right way	1.5	9.5	34.7	45.2	9.1
I realize how difficult it is to control my child's Internet usage	1.9	6.9	24.8	45.1	21.3
I'm a role model for my children in helping them use mobile devices and the Internet positively	0.9	3.7	19.7	55.4	20.3
I exercise self- discipline when using mobile devices and the Internet	0.7	3.6	22.7	51.6	21.4

Based on Table II, 80.5% of respondents indicated that they were aware of the risks that may exist for their kids online. A select minority also failed to see the dangers that cyberspace may pose to their children. Up to 65.6% of respondents said they knew what their child was doing online. This may have motivated parents to keep an eye on their kids' online activities, including employing monitoring services, talking to them about online safety, and enabling them to interact with other kids on social media. A lack of knowledge and insufficient information may have contributed to the 34.4% of respondents who had limited knowledge of cyber security issues.

A 54.3% of those polled indicated they were confident that their kids could discriminate between good and negative online content. Children's contexts for learning about using the internet show a range of planned awareness programmes, such the Click Wisely and CyberSafe initiatives. The conversation about online activity between parents and their kids at home is the most significant of these. 66.4% of respondents said that it is challenging to monitor their children's online behaviour. However, because to modern technology advancements like parental control and home enforcements, as much as 33.6% reported little problem.

The 75.7% of respondents who knew they play a model role in guiding their kids to use mobile devices and the Internet responsibly were highlighted. Parental discipline regarding the use of mobile devices and the Internet, particularly while children are present, was cited by 73.0% of parents. This high number may reflect parents' understanding of their responsibility as good examples for their kids when it comes to using the internet at home.

Table Iii Mean Distribution And Standard Deviation For Parental Awarness

	Mean	**Standard deviation**	**Awareness Level**
I am aware of the potential of online threats	3.92	0.80	Medium
I am aware of what my child sees online	3.72	0.84	Medium
I know my child knows how to use the Internet the right way	3.51	0.84	Medium
I realize how difficult it is to control my child's Internet usage	3.77	0.93	Medium
I'm a role model to my children in the use of mobile devices and the Internet	3.90	0.79	Medium

I'm always disciplined in using mobile Devices and the Internet	3.90	0.80	Medium

According to the statistics in Table III, the average awareness score was at the moderate level. Additionally, it was shown that parental knowledge of potential online hazards to kids had the highest score, 3.92, and was followed by parental awareness of serving as good examples for home-use of the internet, 3.90.

Iv. Limitation Of The Research

The survey's data are viewed as restricted because they only pertained to parents of children attending public schools. This study excluded parents of children attending private, international, or special education schools and only provided data on a subset of parents. Future research should take these schools into account to design a national module for cyber parenting in Malaysia with a more thorough scope than an open one.

V. Conclusion

These results clearly imply that parental cyber security knowledge is still at a reasonable level. The lack of organization-specific initiatives, the scarcity of information-sharing opportunities, and the uneven level of understanding of cyber security in Malaysia were all highlighted. Parents should get more of this information from authorities and NGOs. Several expansions of this survey might provide some insightful information about the parents' current understanding of cyber security in Malaysia.

It is envisaged that by applying the study's analytical framework to a sample of prior research, some public interest in new cyber security assessments would be generated, allowing for the development of useful parental awareness initiatives.

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