

Cat 4 Resource Development

Group 4-034

# Cyberspace: A Dangerous Place

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## **ABSTRACT**

Our project—Cyberspace: A Dangerous Place contains interactive, user-friendly resources which engage primary school students and help them raise awareness about the danger when surfing the internet, as well as increase their level of understanding on the topic of cyber wellness.

We provide comprehensive tips and tricks in our website coupled with information-rich statistics and infographics to help students absorb information easily. There is also an interactive module which is a simulation of a real environment in the cyberspace and allows students to make decisions in the program.

In the ever-revolutionising world where many are switching to digital mediums, the threats of the internet would only get more prevalent. Our group believes the it is not 'if', but 'when', they face these situations. Thus, it is our duty to promote a healthy internet life, and to always help students to stay vigilant in face of cyber threats.

## **1 INTRODUCTION**

### **1.1 Rationale**

From our experience, observation and research, to improve students' awareness of cyber wellness, what schools provide is not enough. Students may not even pay attention during talks. This has been shown from our own survey and research done to assess the skill level of the students in cyber wellness.

We believe that actions speak louder than words. The current school system, which mainly provides simple talks to the students is ineffective at teaching students cyber wellness. Students may not actually listen during such talks, or still do not really know the real danger of cyber insecurity.

Thus, we aim to solve this problem in Singapore among primary school students, and put forth an interesting yet effective resource to enrich the students.

## 1.2 Objectives

Our vision is to actionable, impactful programmes which can engage primary school students in a bid to improve the cyber wellness climate. We plan to make the module interesting and engaging, and help raise attention about cyber wellness more effectively.

## 1.3 Target Audience

Our target audience was Primary School students.

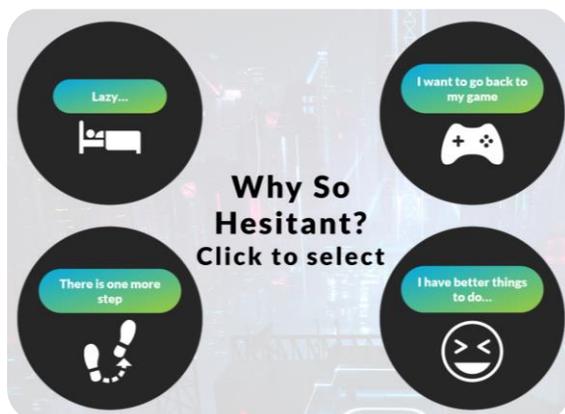
Our group believes that the root of the problem for the lack of cyber wellness certainly occurs in the Golden Age where students are gaining access to their mobile devices, the start of their internet journey. Thus, instead of targeting our peers and other secondary school students, we felt the need to help students start young and be aware of the dangers of the internet.

## 1.4 Resources

For our project work, we have curated an **interactive module** as well as a **website**. Through these 2 resources, we have incorporated the main parts of cyber wellness—cyber bullying, online scams, inappropriate content and fake news.

### Interactive Module

Our interactive module is like a “choose your own path” simulation, where the viewer is firstly placed into a situation, and then made to choose between a few options, which will determine the outcome. The situations are made to be as realistic as possible, so as to simulate a real-life environment, so that the viewer will know the real consequence of his/her choice.



Users are able to make choices in the interactive module

## Website

Our website contains comprehensive tips and tricks and in-depth information-rich statistics and infographics to help students absorb information easily in-depth information and statistics about all the dangers of the internet, as well as how to act when students have encountered them.

All the information about how to avoid the different dangers is put inside the interactive module, and enhanced with more detailed explanations as well as examples. It acts as a convenient and easy-accessible reference site for students to learn and act in the case that they face some dangers of the internet.

Link to website: <https://sites.google.com/student.hci.edu.sg/cyberspace-adangerousplace/hme>



Infographic in website to educate students on the surface web, deep web and dark web.

## 2 Review

We have identified several other resources that are somewhat similar to our module, but lack in certain areas in comparison with the resources we are pushing out.

1) School websites (Beta Ministry of Education. (n.d.). Retrieved August 19, 2020, from <https://beta.moe.gov.sg/programmes/cyber-wellness/>) This is one such government website that teaches students cyber wellness. However, it does not specify all the different cyber threats. It also does not directly explain the dangers, but instead provides links for the students to go search themselves, which may be inconvenient for some of them. Our website only targets the student population, and we have all the information compiled under one website for their convenience.

2) School talks (assembly): Schools often hold talks to educate their students on cyber wellness. However, the students often do not listen during such talks, as they find it boring. Moreover, the students are unable to refer to the talk after it is finished, and if they did not understand something, they cannot go back to look at it. Our module, however, allows students to refer to it whenever they need it, and our interactive module allows them to play it as many times as they want, allowing them to have fun while learning.

In conclusion, we believe that the resources that we are pushing out are not only more engaging and interactive, but also more convenient for the students to refer to.

### 3 METHODOLOGY

#### 3.1 Needs Analysis

We have identified many existing literatures which showcase the prevalence of the lack of cyber wellness among primary school students, and proof the need for us to take action in order to educate the students.

Article 1:

#### **1 in 5 children involved in online sexual behaviors: Survey**

<https://www.straitstimes.com/singapore/most-children-exposed-to-online-dangers-survey>

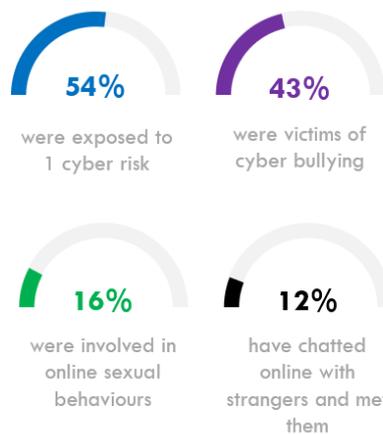
JUL 2, 2019

Source: Straits times

## Key Takeaways:

Most children aged 8-12 are active on social media

In Singapore, 85% of children poll **have social media accounts**



Article 2

**Students in Singapore alerted to cyber bullying in revised cyber wellness curriculum**

<https://www.straitstimes.com/singapore/education/students-in-singapore-alerted-to-cyber-bullying-in-revised-cyber-wellness>

SEP 20, 2014

Source: Straits times

## Key Takeaways:

According to a survey released in July 2014 by Touch Cyber Wellness, which promotes online safety among children, one in three secondary school students and one in five primary school pupils have reported that they were **victims of cyber bullying**.



**1** in **5** primary school students



**1** in **3** secondary school students

## Article 3

### 3 in 4 youngsters say they have been bullied online

<https://www.channelnewsasia.com/news/cnainsider/3-in-4-teens-singapore-cyberbullying-bullied-online-survey-10001480>

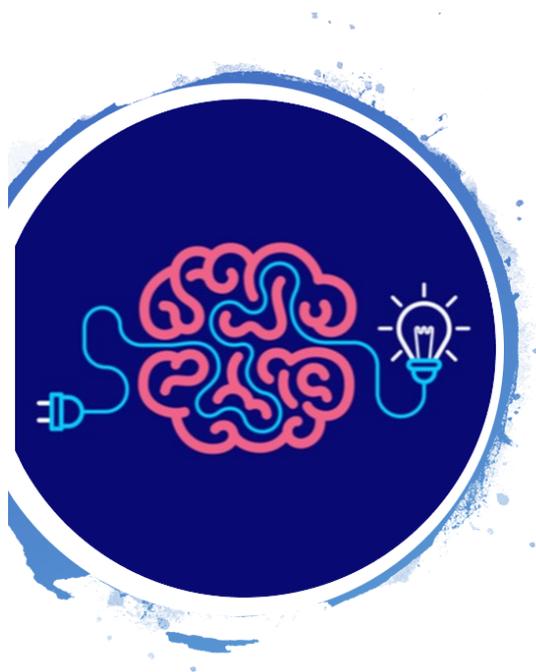
01 March, 2018

Source: CNA

## Key Takeaways:

Cyberbullying among the young is spreading like a virus here, and it is being underpinned by a culture of silence and inaction.

In the latest survey of the issue, **three-quarters** of the children and teenagers in Singapore said they had been **bullied online**, and almost all of the victims did not inform their parents.



## Conclusion

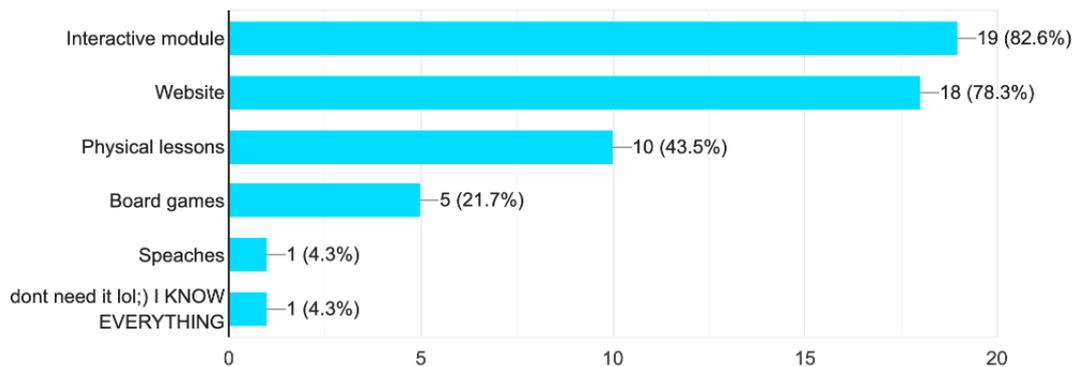
- An alarming number of **primary school students** being **exposed** to **social media**
- A **lack of enforcement** on cyber wellness.
- We need to ensure that primary school students can use the internet safely, and not fall into the harmful traps of evil doers.

Hence, in the face of so much cyber insecurity, we feel that it is to impact people, and thus our project is an absolutely necessary to help **prepare primary school students** face the **large** and **dangerous** cyber world.

Furthermore, before we decided on what resources to create, we created a short survey to ask students on what teaching methods appealed to them the most. As seen, an interactive module and website seemed more attractive and interesting to the students, and we decided to use this to decide what resources we were to push out.

Which teaching methods appeal to you the most?

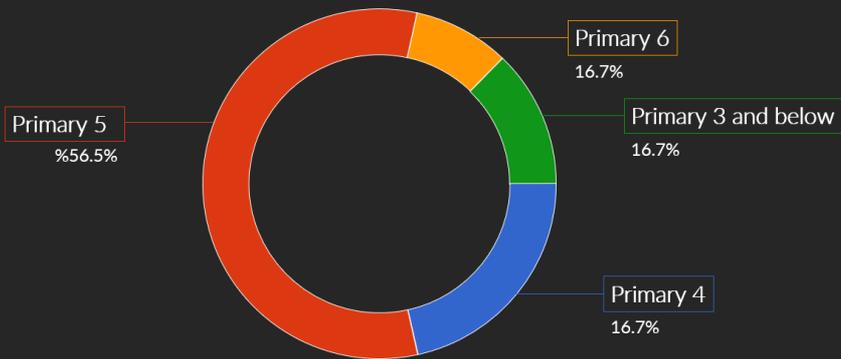
23 responses



A needs analysis was conducted to ascertain the relevance of our project. A questionnaire was constructed to test primary school students on the different dangers of the internet. This acted as a method to gauge how well the students are able to react in the face of online dangers, and to test how well they are able to grasp the idea of Cyber Wellness. After these students had taken part in our need's analysis, they would then test out the interactive module.

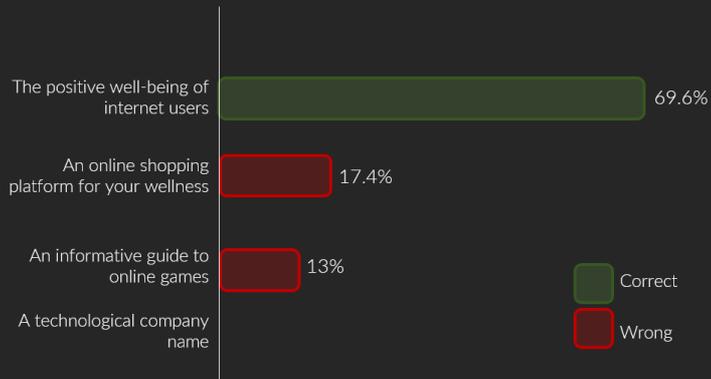
We have collected a total of around 23 responses, mostly from our friends and relatives and the statistics are presented below. As seen below, many students lack sufficient information on the topic.

## Age distribution



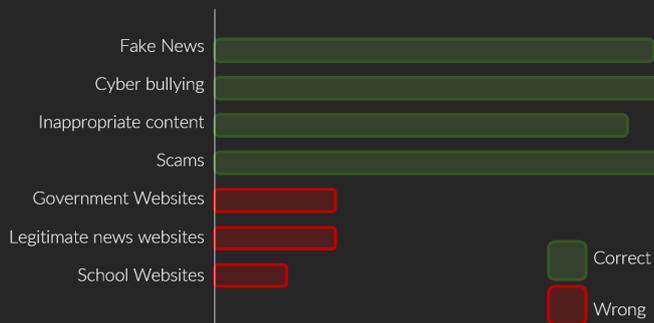
## Do you know what is Cyber Wellness?

PRE-TEST



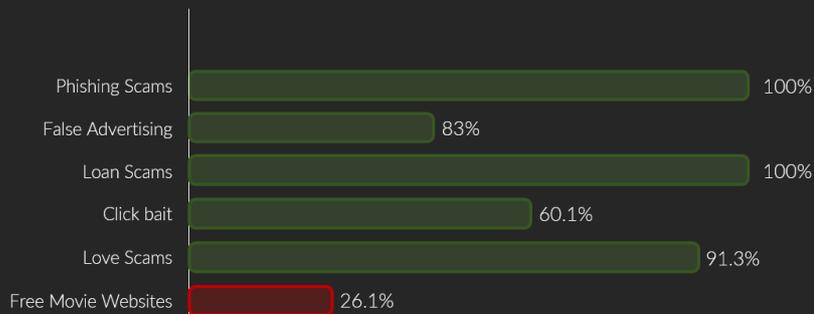
## What are some of the dangers of the internet?

PRE-TEST



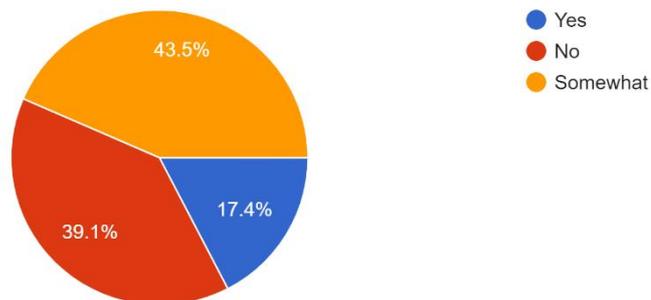
## What could be fake news?

PRE-TEST



Do you know how to protect yourself against such cyber threats?

23 responses



### **3.2 Pilot Test**

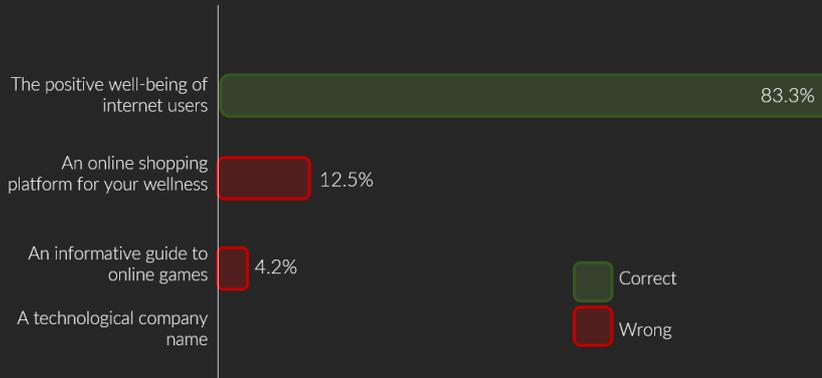
A pilot test was administered to the same 23 primary school students who had taken part in our need's analysis survey. After that, they were asked to go through our interactive module and our website, in order to gain a deeper understanding on cyber wellness. After which, they were then sent a post-test survey in order to see how much they have learnt from our resources. In the post-test, we put the same questions in order

Note: When students did the needs analysis survey, they were not made aware of their results and only got to know of them after the post-test.

Below are the post-test results. As seen, students had a significant improvement in their level of understanding and were able to answer a greater percentage of questions correctly.

## Do you know what is Cyber Wellness?

### POST-TEST



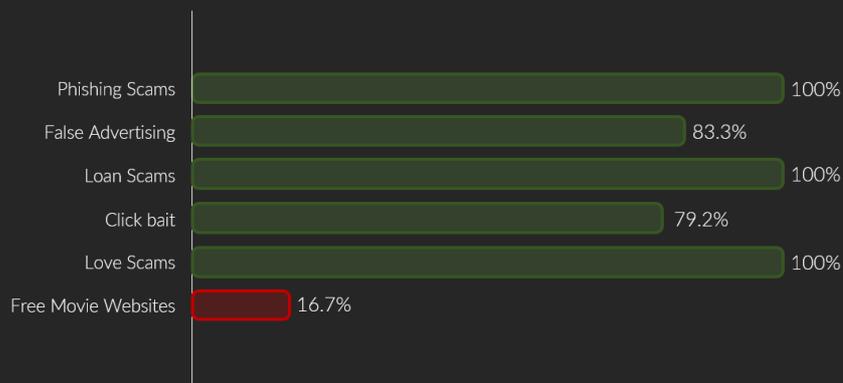
## What are some of the dangers of the internet?

### POST-TEST



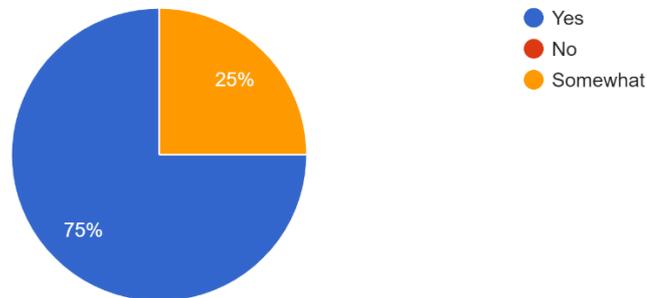
## What could be fake news?

### POST-TEST



Do you now know how to protect yourself against such cyber threats after attempting the interactive module?

24 responses



#### 4 OUTCOME AND DISCUSSION

At the end of the project, we hope to have achieved our goal of allowing more primary school students to have a much better knowledge of cyber wellness, not through the conventional way of getting students to go through a talk, or letting them go to government websites, but through a fun and interactive way, where they get to experience first-hand the different cyber threats.

However, such a project does have its limitations. We must be able to coordinate well with the schools we decide to partner with. Due to the Covid-19 situation, we have faced rejections 2 Primary Schools. Instead of carrying on with our plan of holding our pilot test in the Primary school, we managed to quickly adapt to the situation, and instead send our interactive module and survey results to our friends and family members. Despite the challenges faces, we still managed to attain many positive responses.

Another limitation we faced was time. It often took a long time for us to reach out to the schools to confirm our partnership, so we could not talk to them in detail, and could only briefly explain our plan to them.

In order for our project to move forward in the future, we believe that we should have a physical interaction with students, just like we had planned at the start of the year. This would truly allow us to interact with students and help them to learn using games and carnivals.

## 6 CONCLUSION



### GROUP REFLECTIONS

Through this project work, our group has definitely learnt a lot. It ranges from knowing more about cyberspace itself, to its dangers. When we first started, not everybody was well equipped with the knowledge about the dangers of the internet. However, through countless hours of research, we are sure that our knowledge on the subject has increased by leaps and bounds. For some of us, we have also learnt things like soft skills; the ability to communicate with each other, resolving conflicts, etc. For some of us, we have also learnt technical skills, like how to use PowerPoint to a fuller potential. There was once, where we actually quarrelled for hours over one PowerPoint slide due to our attention to detail, but we came to a consensus, resolving the issue. One other challenge we faced was communication with the schools. It often took a long time for us to communicate with the school, and to arrange for the testing of our interactive module. We got around this by getting our friends and family to do it for us, and adapted to the situation. This project has helped us learn many essential life skills, it helped us realise that the key to a successful teamwork, is communication. We definitely learnt how to communicate and manage conflicts better, and through this, we also grew together, as a team.

1500 words

## 6 REFERENCES

N.A.