



OUM Seminar Series

13 July 2017

Cyber Safety in Malaysia

Soon Seng Thah

Presentation Outline

- 1 Introduction**
- 2 Current Cyber Security Issues**
- 3 The Research Problem**
- 4 Research Questions**
- 5 Research Methodology**
- 6 Findings**
- 7 Recommendations & Conclusion**

Introduction

Cyber Security Malaysia

- Toward a safer and more secure cyberspace

MOE & DIGI Malaysia

- Collaborative initiative
- CSR

Policy Formulation

- Need to know cyber safety issues for policy formulation

Cyber Security Issues



DIGI
CyberSAFE™

The National Survey Report 2015

Growing Digital Resilience among Malaysian Schoolchildren on Staying Safe Online

- Research Consultants: Dr. Kuldip Kaur (LeapEd) & Dr. Soon Seng Thah (OUM)
- Reports for Malaysia, Thailand & Bangladesh and One Comparative Report

How does Malaysia fare in Cyber Security internationally?

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Thursday, 6 July 2017 | MYT 6:49 AM

Singapore, Malaysia US among top 10 cybersecurity countries

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Experience revolutionary watchmaking that commands daring, defies convention and embraces technology

Malaysia – Top 10 rank in CyberSecurity – UN International Telecommunication Union (ITU) as report in the Star Online, 6 July 2017

UN Survey reported by Reuters on 6 July 2017

Malaysia, Singapore top in cybersecurity, says UN survey

cybersecurity hacking

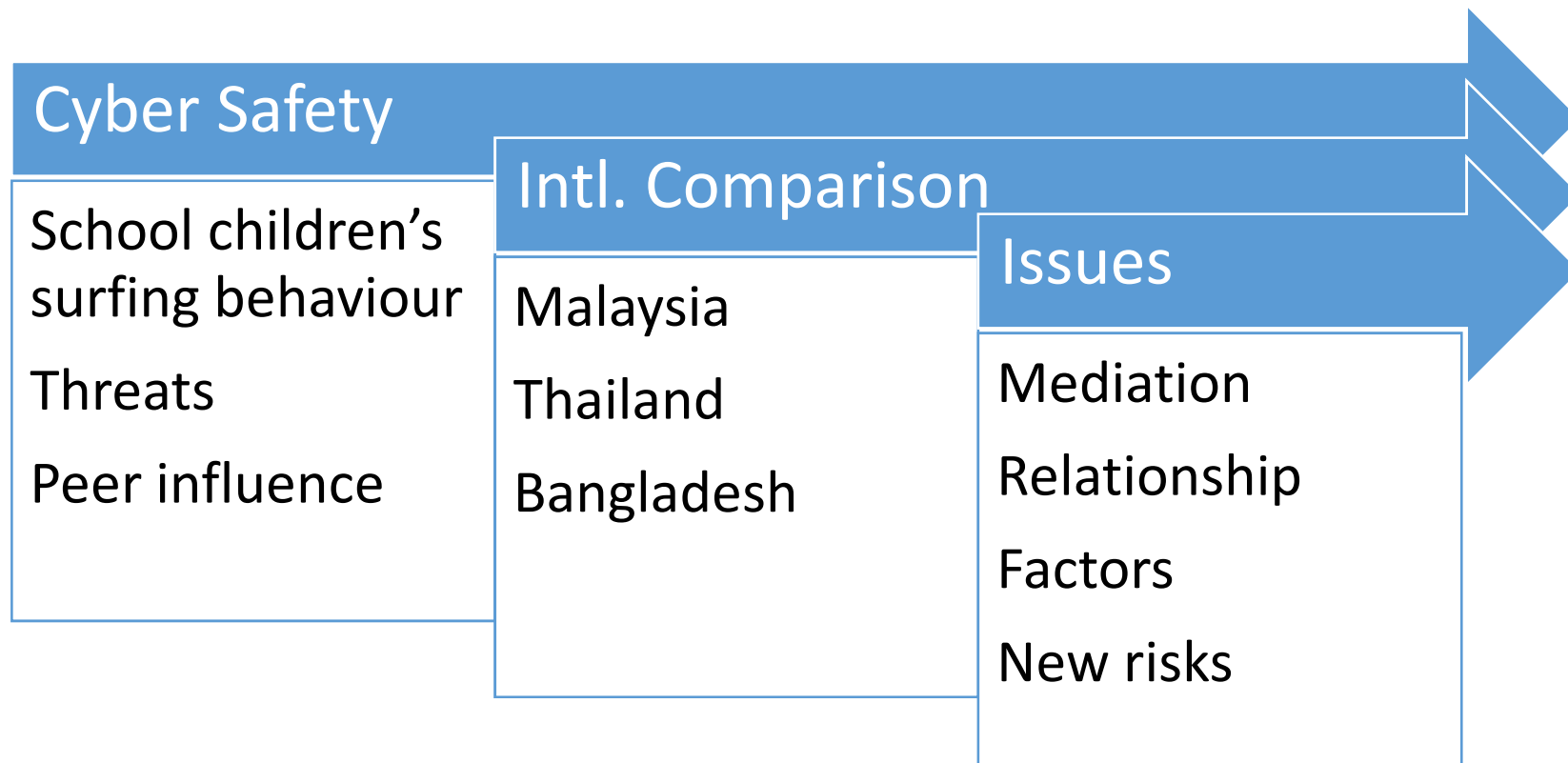
3 comments Reuters Published 6 Jul 2017, 9:05 am Updated 6 Jul 2017, 9:11 am

Malaysia, Singapore and United States are the three countries most committed to cybersecurity, according to a United Nations survey.

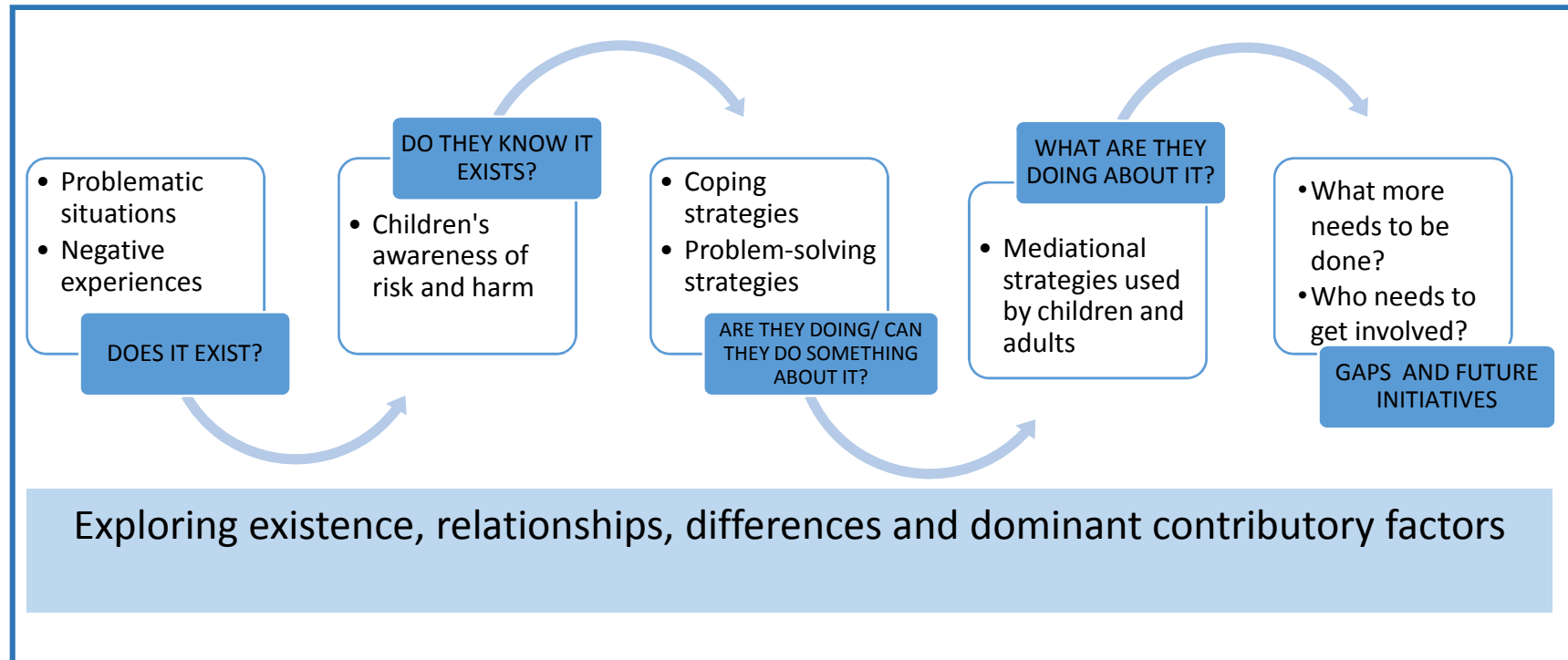
Malaysia scores 0.89 in the Global Cybersecurity Index (GCI), and is ranked no 3 behind Singapore (0.92) and United States (0.91).

Country	GCI Score	Legal	Technical	Organizational	Capacity Building	Cooperation
Singapore	0.92	0.95	0.96	0.88	0.97	0.87
United States	0.91	1	0.96	0.92	1	0.73
Malaysia	0.89	0.87	0.96	0.77	1	0.87
Oman	0.87	0.98	0.82	0.85	0.95	0.75
Estonia	0.84	0.99	0.82	0.85	0.94	0.64
Mauritius	0.82	0.85	0.96	0.74	0.91	0.70
Australia	0.82	0.94	0.96	0.86	0.94	0.44
Georgia	0.81	0.91	0.77	0.82	0.90	0.70
France	0.81	0.94	0.96	0.60	1	0.61

The Research Problem



Research Questions



Sampling

Step 1

- Zoning of 14 states in Malaysia using Jabatan Perangkaan Malaysia data

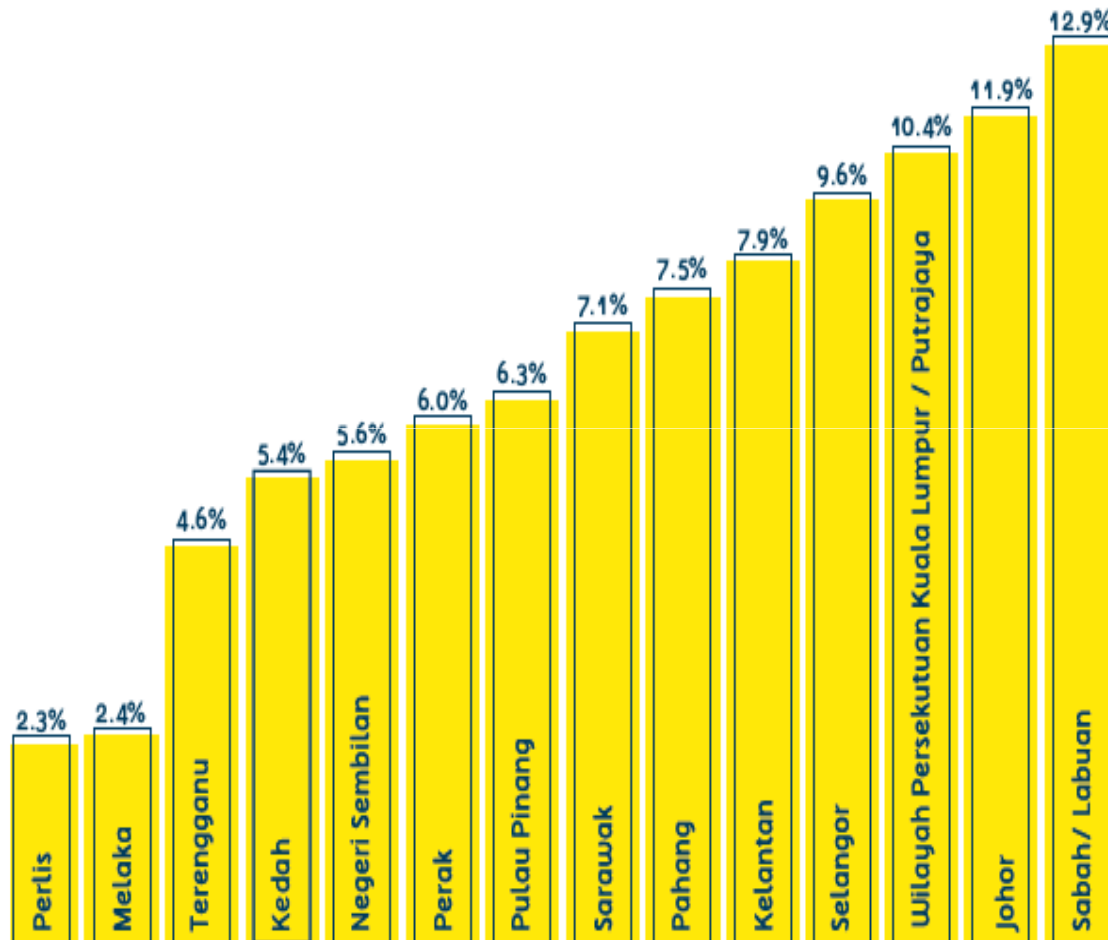
Step 2

- Proportional sampling by population
- Stratification by zone and gender

Step 3

- Selection of children within a zone

Sample by State



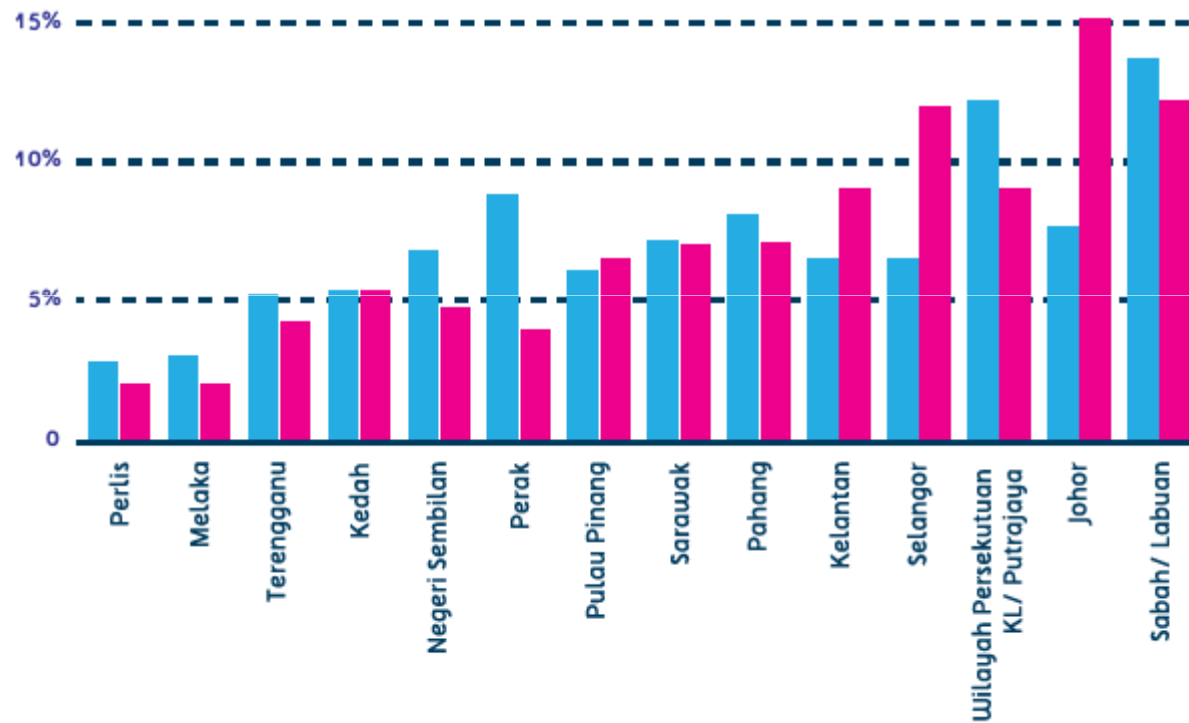
Location

A total of 18,279 students from 216 secondary schools from all 14 states in Malaysia participated in the survey. The distribution of respondents for each state is shown in Figure 2.

The largest number of respondents was from Sabah (2,354; 12.9%) and the smallest number of respondents was from Perlis (429; 2.3%).

Sample by Gender Distribution

Figure 3: Distribution of respondents by states and gender (n=18,279)



Gender

The distribution of respondents by state and gender is shown in Figure 3. The number of female respondents was slightly higher than male respondents as indicated by 57.2% (10,461) females compared to 42.8% (7,818) males. There were more female than male respondents in 9 of the 14 states, i.e. Kedah, Pulau Pinang, Selangor, Johor, Kelantan, Terengganu, Pahang, Sabah and Sarawak.

Constructs in Questionnaire



Existence of problematic situations & negative experiences



Peer Pressure



Parent-Child Gap



Sexting



Cyberbullying



Dealing with negative experience/Use of mediational strategies



New Risks

Data Analysis using SPSS Statistics

Exploratory Data Analysis

- Reliability of constructs
- Assumption checking

Descriptive Statistics

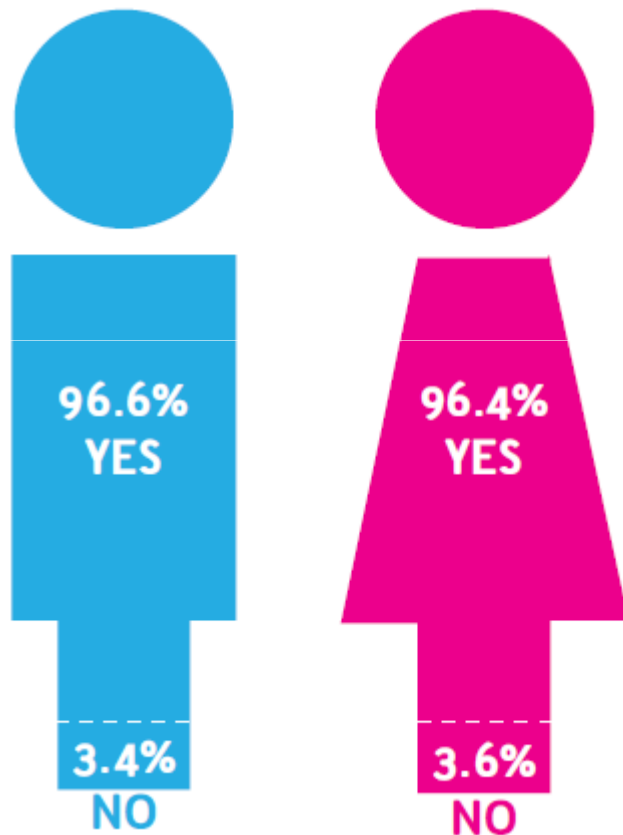
- Frequencies
- Measures of central tendency
- Graphical representations

Inferential Statistics

- T-test
- Oneway ANOVA
- Correlation
- Multiple Regression
- Factor Analysis

Findings

Internet Use by Gender

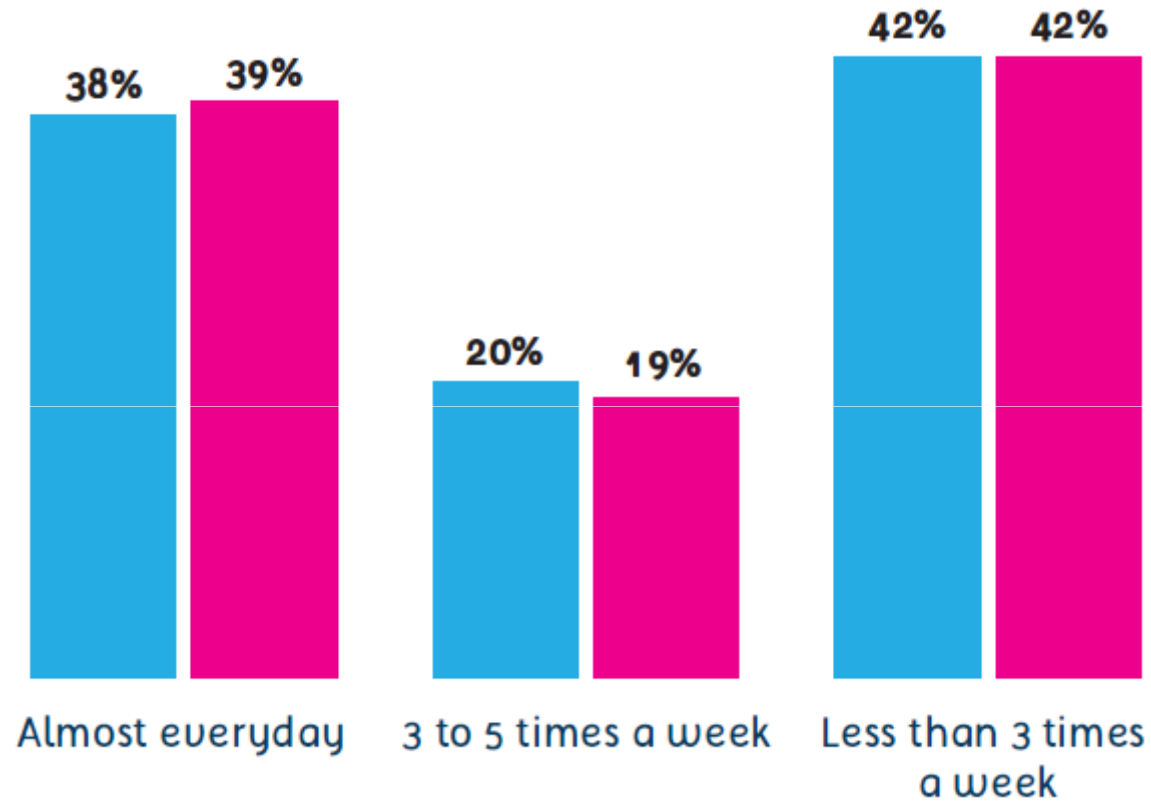


The survey revealed that 96.5% (17,640) of the respondents use the internet, with 58% of them indicating that they use the internet frequently.

A more detailed analysis of these results revealed that a majority of the respondents, i.e. 39% (7,084), use the internet everyday while 19.3% (3,523) of them use it 3 to 5 times a week. The rest of the respondents indicated that they seldom use the internet, i.e. less than 3 times a week.

The pattern of internet use was similar for males and females, as shown in Figure 5 and Figure 6.

Frequency of Internet Use by Gender



Children who use internet by state

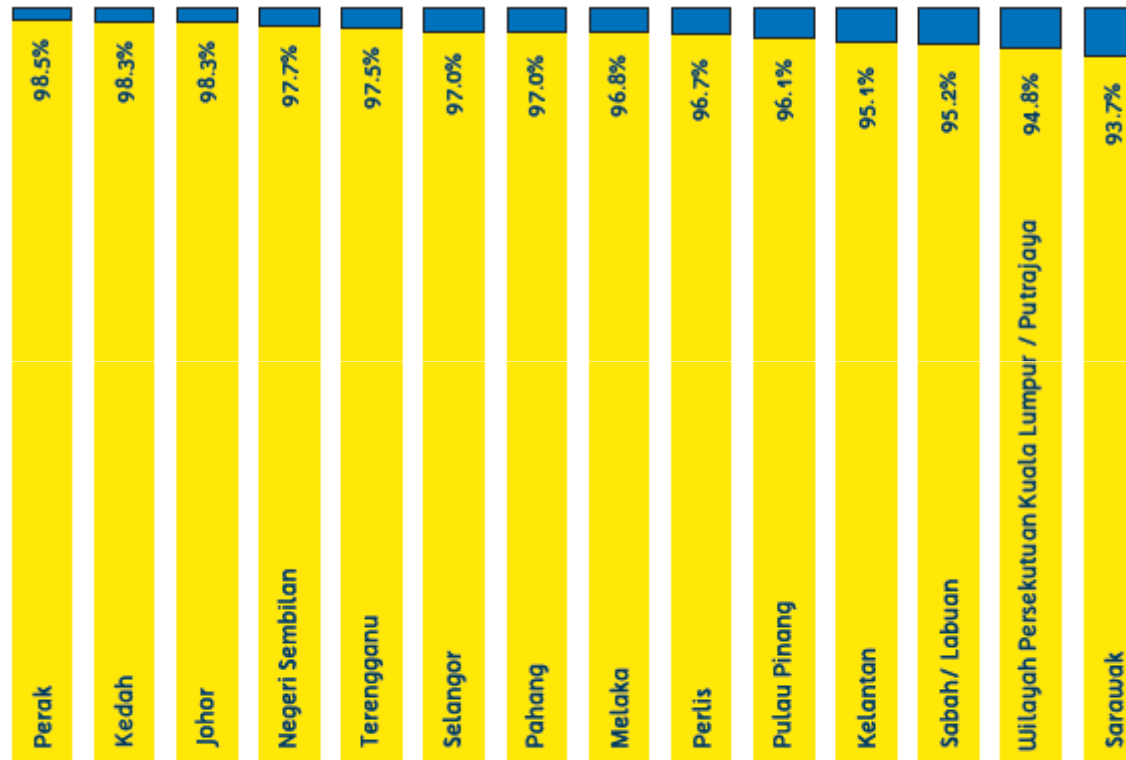


Figure 7: Percentage of children who use the internet in each state (n=18,729)

Parent-Child Relations



Parent-Child Relations

The study found that Malaysian school children express positive family values in relation to the use of the internet (Figure 8). On a scale of 1 to 5, there is a high likelihood that these children:

- A. Follow the rules about internet use which are set by their parents;
- B. Help their siblings when they are bullied through the internet; and
- C. Have parents who will help them if they are bullied through the internet.

It was also revealed on a scale of 1 to 5, it is unlikely that children:

- A. Lie to their parents about what they do on the internet;
- B. Visit online chat rooms if their parents disallow it;
- C. Hide their mobile devices from their parents; and
- D. Prevent their parents from seeing what they are doing online.

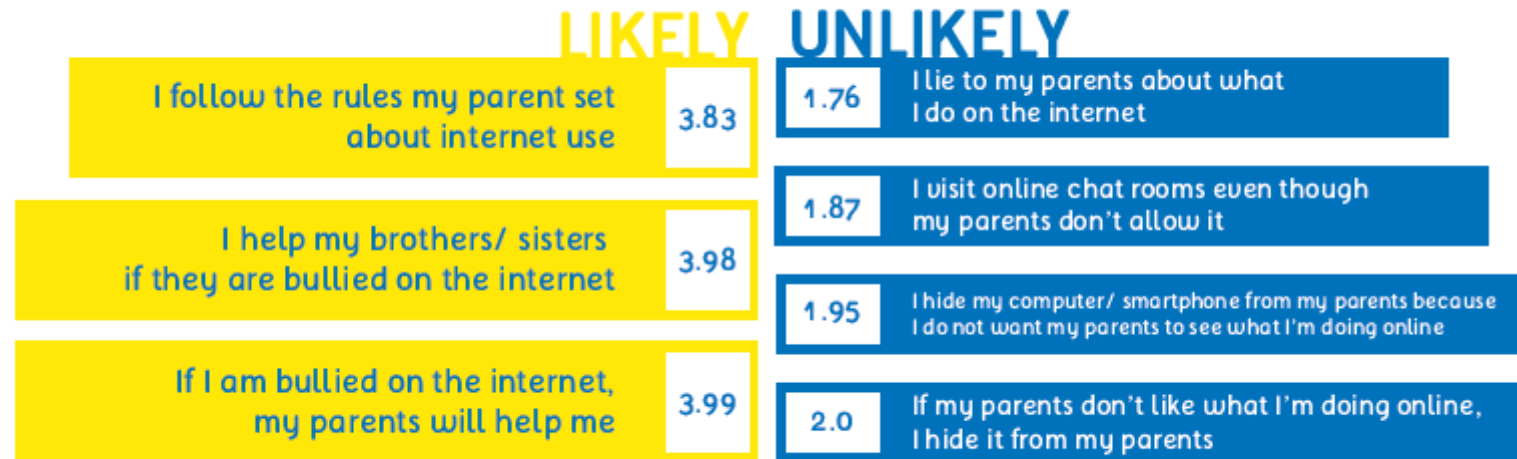


Figure 8: Parent-child relations

Influence & Perceptions of Friends

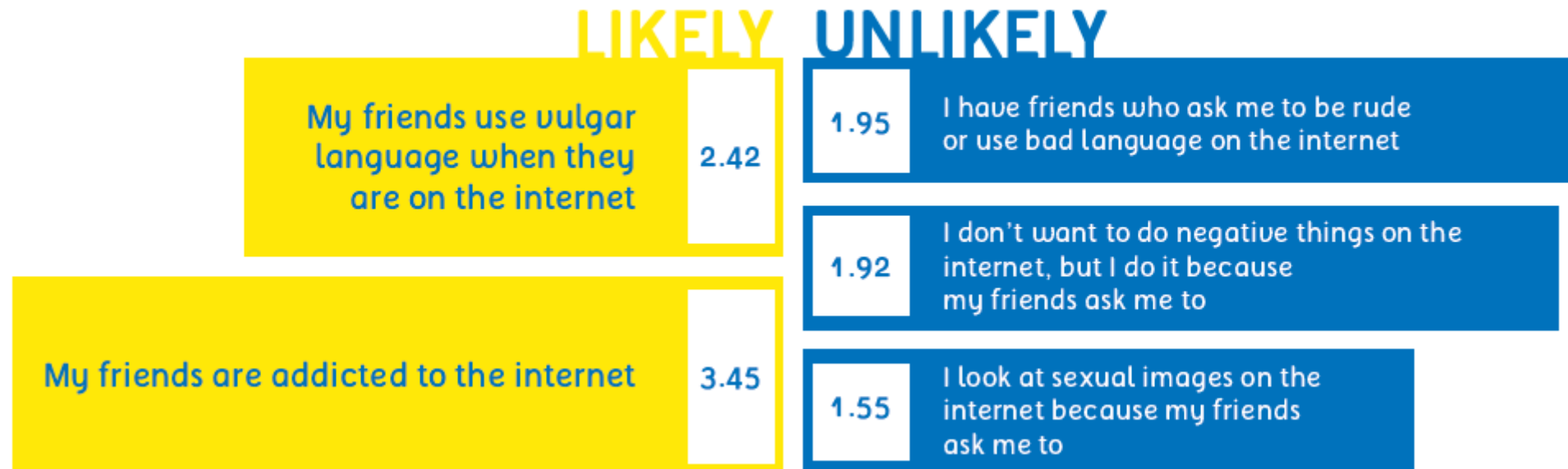


Influence And Perception Of Friends

There appears to be a perception among Malaysian school children that their peers are addicted to the internet, and that a number of them use inappropriate language on the internet (Figure 9). However, on a scale of 1 to 5, it is unlikely that these

children have friends who encourage peers to:

- A. Use bad language;
- B. Do negative things; and
- C. Look at sexual images on the internet.



Cyber Bullying



Cyber-Bullying

The study revealed that it is highly likely that Malaysian school children are uncomfortable about cyber-bullying (Figure 10). It is also likely that they have received hate mail or nasty messages. The results indicate too that if children are bullied on the internet, there is a likelihood that they will keep quiet and hope bullying will stop.

However, on a scale of 1 to 5, there is a high likelihood that children know they can get help for cyber-bullying from their school counsellors or a help centre.

On the other hand, it was found that there is a low likelihood that children have actually :

- A. Experienced some form of cyber-bullying;
- B. Had their personal information posted without permission
- C. Experienced online and offline bullying by the same person; and
- D. Felt that they can bully others because of online anonymity.



Likelihood of Cyber Bullying

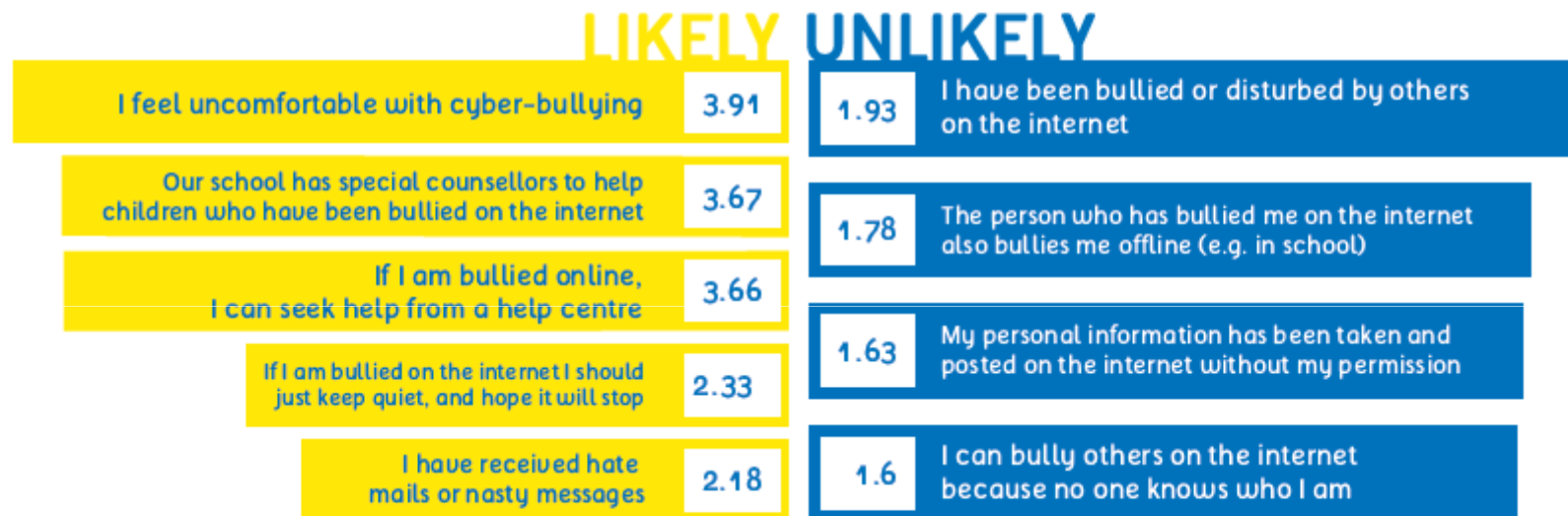


Figure 10: Cyber-bullying

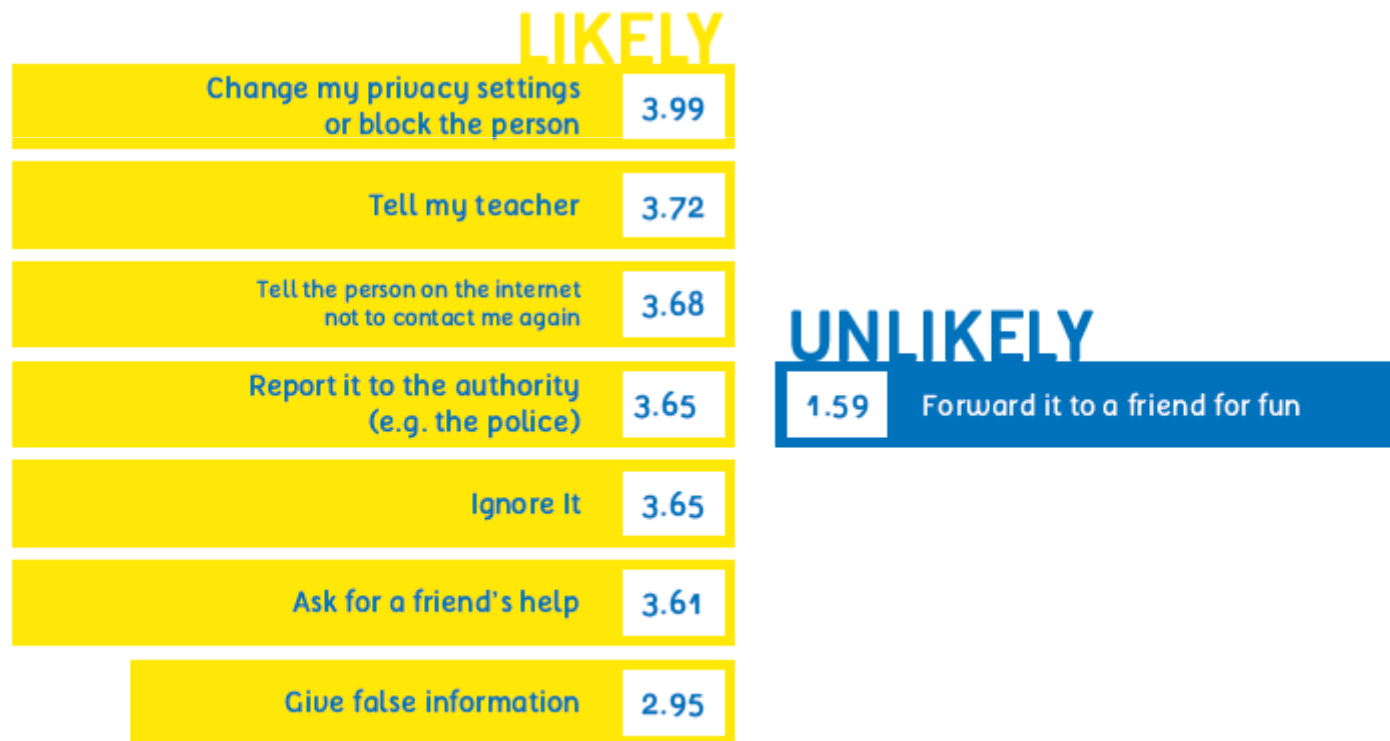
Reaction to Negative Experience



Reaction To Negative Experience

The survey results demonstrate that when it comes to problematic online situations, children are generally equipped with the right mediational strategies, and are likely to address online problems

with a range of solutions. However, on a scale of 1 to 5, it is highly unlikely that children would forward a negative experience to a peer for fun or humour (Figure 11).



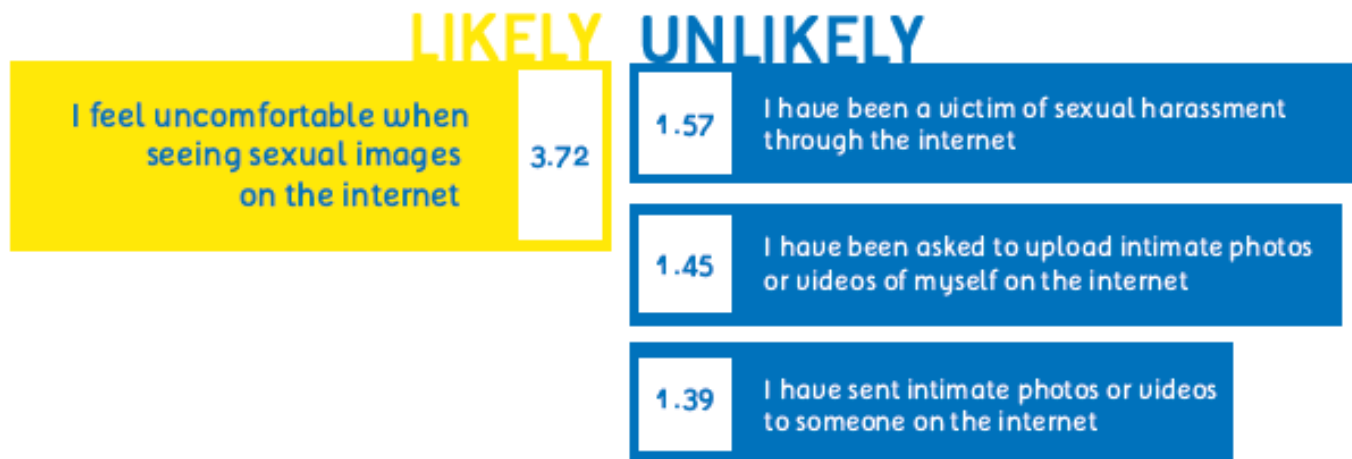
Sexual Experience



Sexual Experience

Most children appear to be uncomfortable about seeing sexual images on the internet (Figure 12). On a scale of 1 to 5, it is highly unlikely that children have been:

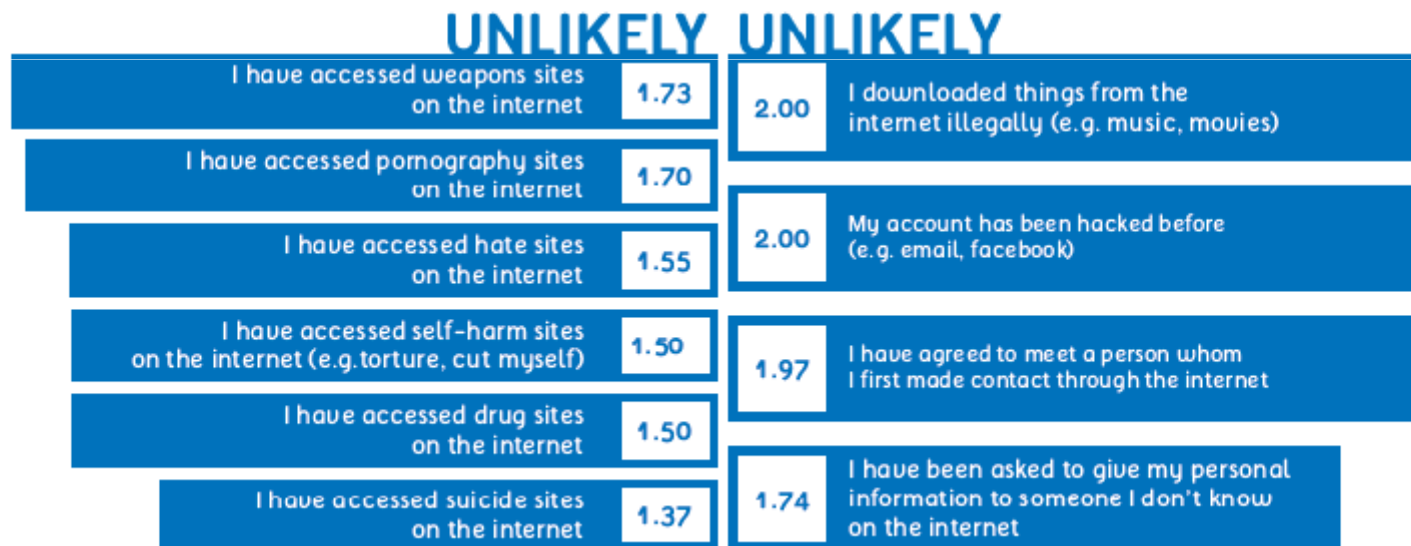
- A. Subjected to sexual harassment on the internet;
- B. Asked for intimate photographs or videos of themselves; or
- C. Sent such photographs or videos to someone over the internet.



New Risks

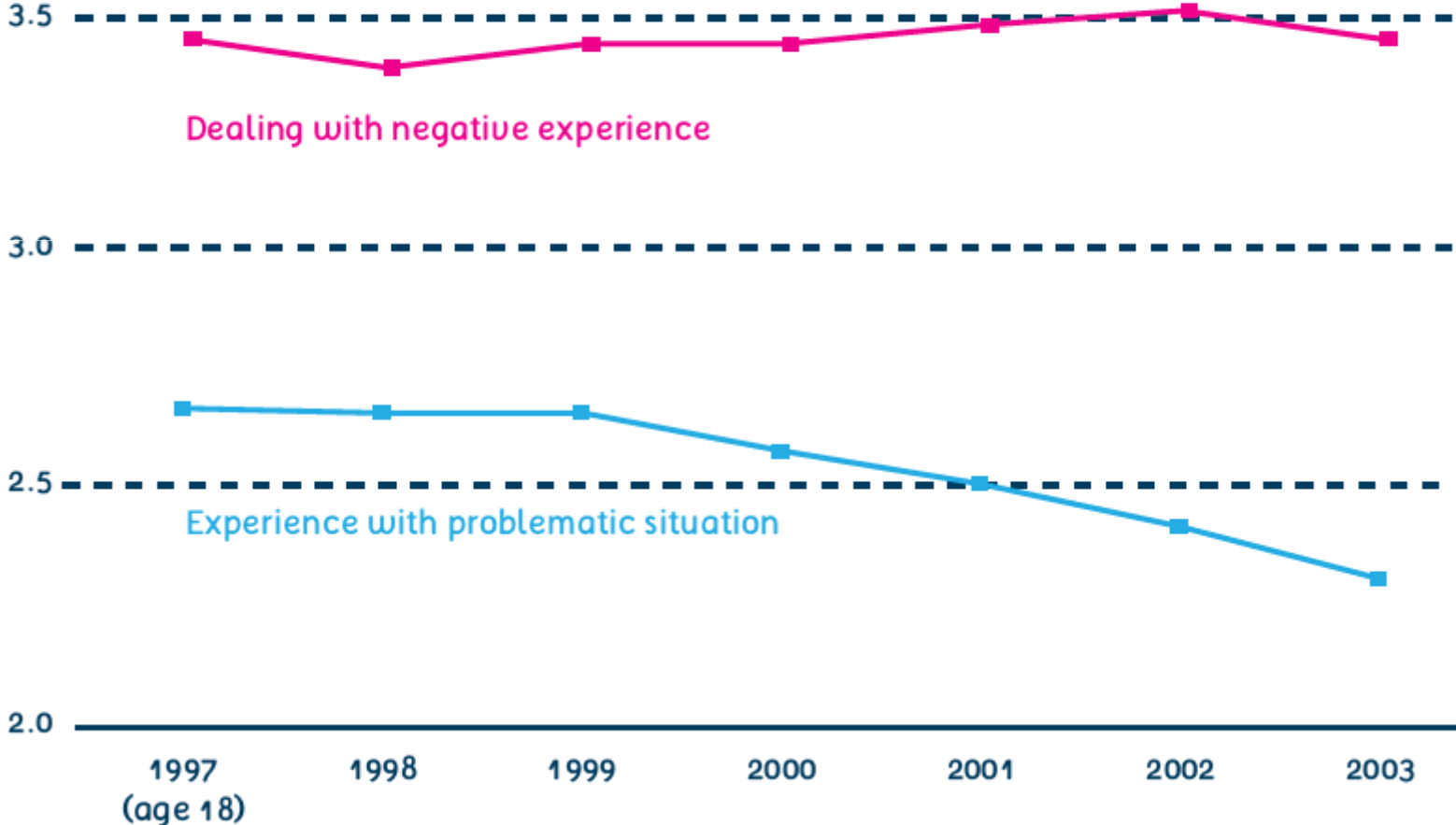
This study also examined how Malaysian school children are exposed to new risks over the internet, namely, accessing undesirable sites or engaging in undesirable behaviour (Figure 13).

On a scale of 1 to 5, it was found that it is highly unlikely that children have been exposed to such risks, or that they have responded poorly to such problematic situations.



Capacity to address problem situations

Figure 14: Comparison between experience with and capacity to address problematic situations based on age

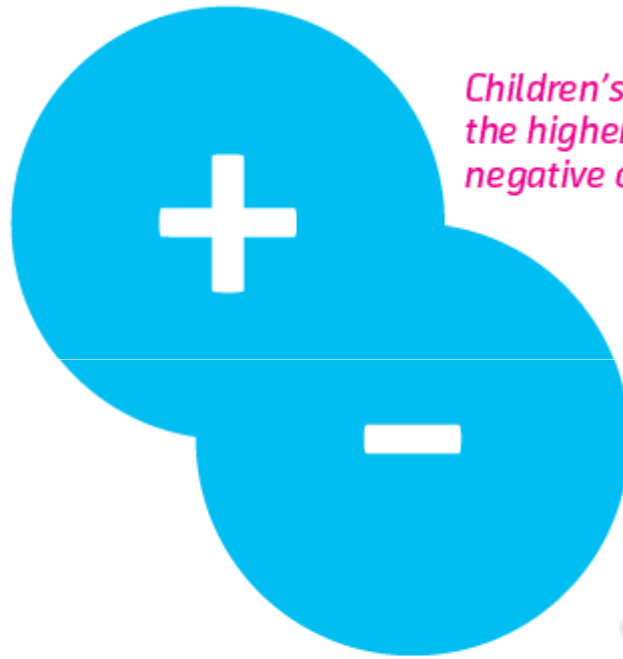


Gender & Experience with Problems

Figure 17: Experience with different problematic situations based on gender



Mediation Trends



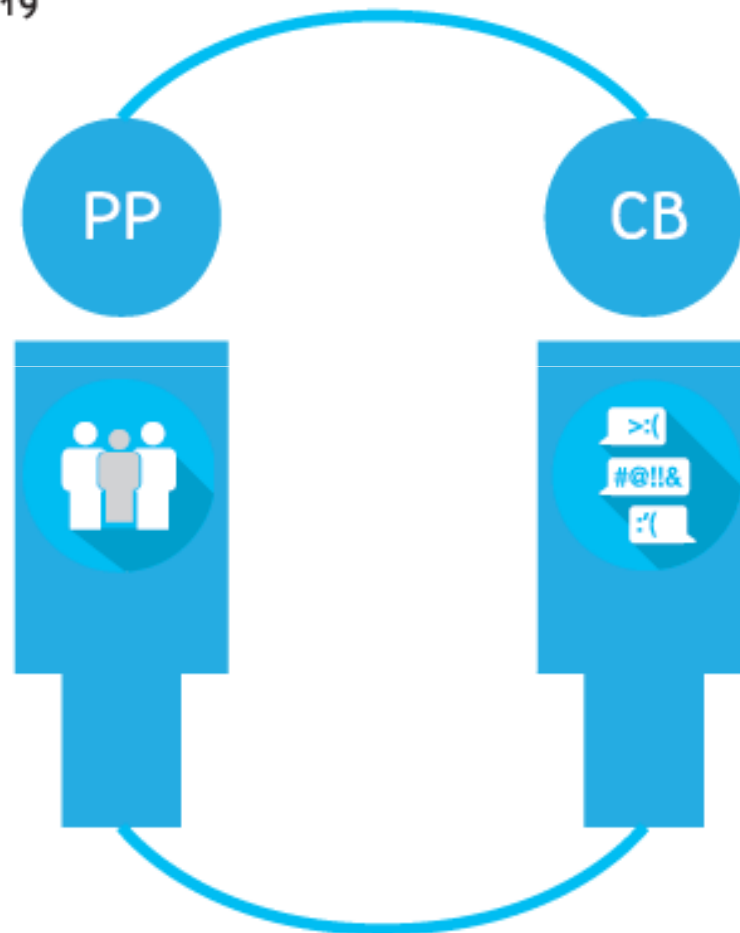
Children's responses demonstrate that the higher their capacity to mediate negative or problematic situations,

The lower the number of experiences with problematic situations are reported.



Correlation between Peer Pressure & Cyber Bullying

Figure 19

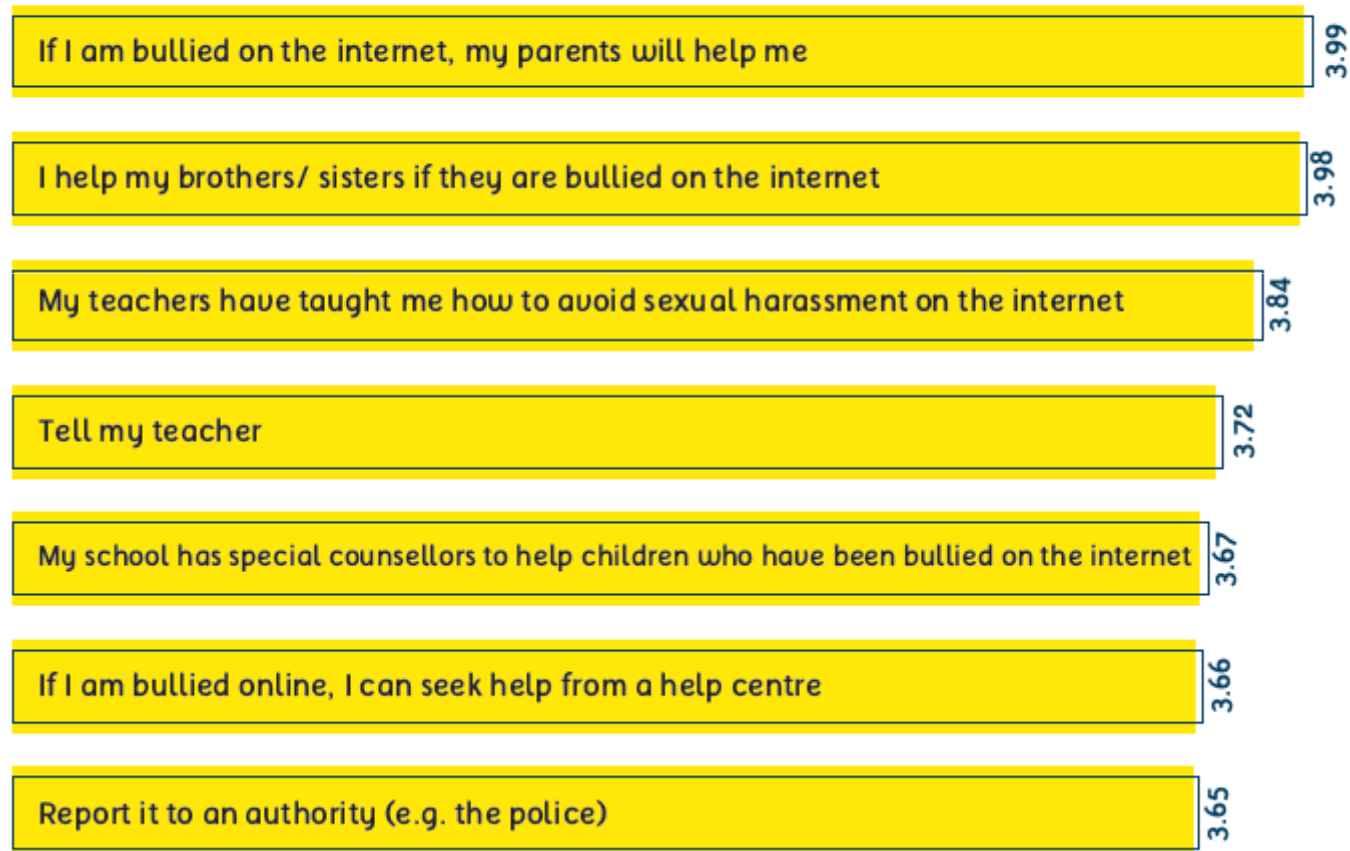


There also appears to be a strong correlation between peer pressure and cyber-bullying. Respondents who gave a high rating to experience with peer pressure did the same to cyber-bullying.

Factor 1 - Help from Significant Others

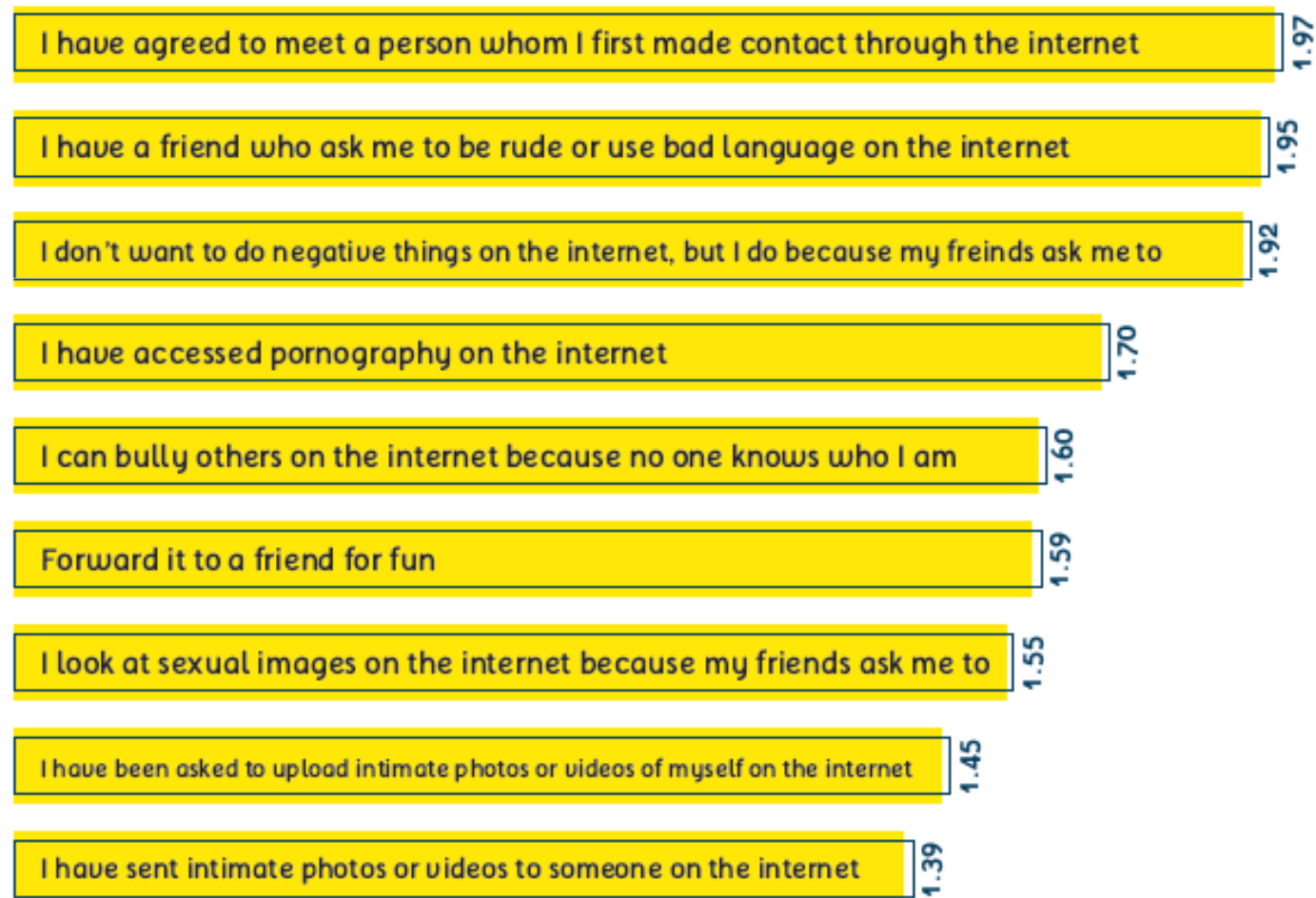
Figure 20

FACTOR 1: Help from significant others when problems arise



Factor 2 - Avoidance of Negative Things

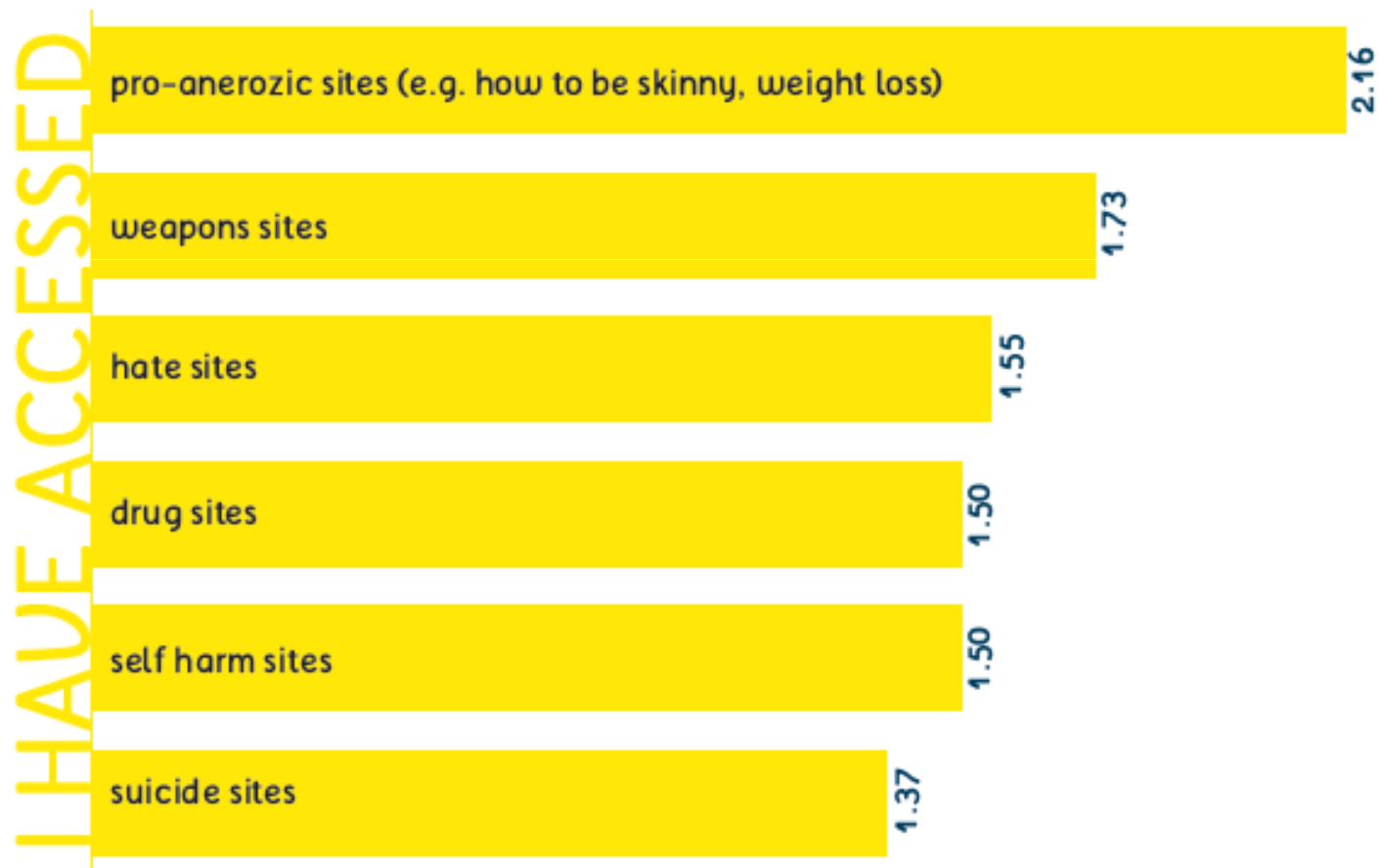
Figure 21
FACTOR 2: Avoidance of negative things while using the Internet



Factor 3 – Self-Control is a Necessity

Figure 22

FACTOR 3: Self control is necessary to access potentially risky sites



Recommendations & Conclusions

1

Dedicated policy and a structured curriculum on child online protection in schools

1. It is essential to create and incorporate a dedicated policy on child online protection to safeguard and build resilience among children.
2. Internet safety and digital education has to be part of a structured curriculum aimed at instilling fundamental principles of good online conduct and digital citizenship.
3. Key enablers such as policy makers, educators and support networks should be consistently equipped with best practice standards, and know-how in engaging children positively on the subject.



Recommendations & Conclusions



2

Role of parents and educators as advocates of good digital citizenship

1. It is recommended that proper guidance on good cyber behavior is imparted by parents and educators as children are introduced to the internet.
2. The advice and education about online risks should go hand-in-hand with advice and education about offline risks.
3. Use of real-life examples create relevance and provides authentic contexts in convincing children on the need to keep themselves safe online.

Recommendations & Conclusions



Responsibility of children to nurture their digital resilience

1. Open to acquire knowledge on the rapid development of online technology, and social media platforms, and their embedded safety features.
2. Develop the necessary skills to evaluate and minimize risks, and to reach out to appropriate reporting channels for mediation and mitigation.
3. Encourage children to maximize the full potential of being connected by actively contributing towards knowledge sharing, innovation and social progress.

Thank You
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