

WEB BROWSER SECURITY AND ITS CORRELATION WITH CYBERSECURITY AWARENESS AMONG MALAYSIAN UNIVERSITY STUDENTS

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Abstrak

University students, who commonly utilize digital technologies for their academic pursuits and daily activities, are increasingly prone to cyber threats. Existing literature highlights the lack of cybersecurity awareness among university students in Malaysia. To answer the research question, this research will examine the relationship between Web Browser Security and Cybersecurity Awareness. Data collection involves distributing an online questionnaire to university students in Malaysia. A simple linear regression analysis was conducted to address the research question. The results indicate that Web Browser Security was positively related to cybersecurity awareness. Implications from these results are further discussed.

Keywords: Web Browser Security, Cybersecurity, Cybersecurity Awareness, Cyber Threats

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INTRODUCTION

Though technology is crucial for students, inadequate awareness exposes them to cyber threats. According to studies by Haque et al., (2023) and A. A. Jillepalli, D. C. d. Leon, S. Steiner (2018), students' cybersecurity awareness is critical in the modern digital environment today. Studies conducted by Zwilling et al., (2022) and Zulkifli et al., (2020) show that internet users have sufficient awareness of cyber threats but typically implement only basic and common protective measures. Existing literature highlights a deficiency in cybersecurity awareness

among university students in Malaysia (Xiang & Hasbullah, 2023) (Hamzah, 2021). Students often commit security breaches and online misconduct because they lack knowledge and awareness about cybersecurity and the repercussions of cybercrime (Alharbi & Tassaddiq, 2021). Using a web browser while browsing the internet might lead to cyber security threats like phishing (de Leon et al., 2016). Despite asserting a rudimentary grasp of cybersecurity principles, many students lack the requisite knowledge and competencies to safeguard their information adequately (Kariryaa et al., 2021). This issue underscores the necessity for enhanced user education, training, and awareness programs.

LITERATURE REVIEW

Web Browser Security

Web browsers are a primary tool for accessing the internet, making them a critical point of interaction between users and potential online threats (Kaushik et al., 2021). Browsers often contain built-in security features such as pop-up blockers (G. Shipkovenski, T. Kalushkov, E. Petkov, n.d.), warnings for unsafe websites (Kraus et al., 2020), and tools for managing cookies (O. Kulyk, P. Mayer, 2018).

Cybersecurity Awareness

Cybersecurity awareness involves the knowledge and understanding that individuals and organizations possess regarding the protection of their information and systems from cyber threats. Therefore, various methods are necessary to prevent cyber threats, as demonstrated by the study conducted by Ansari et al., (2022) and Santosh Kumar et al., (2022).

Relationship Between Web Browser Security and Cybersecurity Awareness

As users engage with the security features and settings of their web browsers, they gain valuable knowledge and understanding of cybersecurity threats and best practices. This increased awareness helps them make more informed decisions about their online behaviors, ultimately leading to a safer and more secure digital experience. Research conducted by Razaque et al., (2021) indicates that Web Browser Security positively correlates with Cybersecurity Awareness, as the proposed Web-Based Blockchain-Enabled Cybersecurity Awareness (WBCA) System effectively enhances users' knowledge and skills to mitigate cybersecurity threats. The WBCA program educates users on essential web browser security practices. In addition study by van Oorschot & van Oorschot (2021) understanding the risks associated with browser-server interactions highlights the positive relationship between Web Browser Security and Cybersecurity Awareness. Study by Alqahtani (2022b) show that Web Browser Security is positively related to Cybersecurity Awareness.

H₁. Web Browser Security is positively related to Cybersecurity Awareness



Figure 1 : Research Model

METHODOLOGY

In this study, a quantitative research design was used to systematically gather and analyze numerical data from 142 respondents, enabling the exploration of relationships between variables and the testing of hypotheses. A four-item questionnaire, developed in alignment with existing literature, employed a multi-item Likert scale. The variables were measured using a 5-point Likert scale, ranging from 'Strongly Agree' (5) to 'Strongly Disagree' (1). The questionnaire was provided in Malay to ensure that respondents fully comprehended the meaning of each item.

DATA ANALYSIS

The proposed model was analyzed using SPSS software through a simple linear regression. With just one predictor, the model's explanatory power is low; R² values were only 0.264 in Web Browser Security and the coefficients are significant at $p < 0.01$, as demonstrated in Table 1.

Table 1: Hypothesis Testing

Hypothesis	Beta value	T value	P value	Remarks	R Square
Web Browser Security is positively related to Cybersecurity Awareness	.172	2.302	.023	Supported	0.264

DISCUSSION

The result supports the hypothesis that Web Browser Security is positively related to Cybersecurity Awareness. Therefore, students who practice better web browser security tend to have higher cybersecurity awareness, which is supported by Alqahtani (2022a) and Fazil et al., (2023).

CONCLUSION

This study offers important insights into cybersecurity awareness that can help security practitioners refine and improve strategies to advance and strengthen awareness and education among Malaysian university students. Universities should focus on incorporating more Web Browser Security topics into their cybersecurity awareness programs. The significant relationship between Web Browser Security and Cybersecurity Awareness warrants further exploration. Conduct more detailed studies to understand the specific aspects of web browser security that most influence cybersecurity awareness. This can help in designing more targeted interventions

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