C24 Personality Characteristics of Computer Hackers: A Systematic Review and Meta-Analysis

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After attending this presentation, attendees will have a better understanding regarding personality characteristics of computer hackers.

This presentation will impact the forensic science community by increasing understanding of the personality characteristics of computer hackers through a systematic review and meta-analysis.

According to Symantec™, there was a 23% increase in the number of data breaches as well as an all-time high of 24 discovered zero-day vulnerabilities, with a combined 295 days passing until vendors released patches for the top five zero-days in 2014.[1] In addition, small- to medium-sized organizations were the victims of 60% of all targeted attacks. Verizon® reported an estimated 79,790 security incidents and 2,122 confirmed data breaches in 2014, and 55% of insider incidents involved abuse of privileges.[2] Regarding software security, Veracode™ reported that the government sector only remediates 27% of application vulnerabilities and 80% of healthcare sector applications suffer from cryptographic issues.[3] Finally, Abellera reports that the 16 critical infrastructure sectors in the United States (c.f., Presidential Policy Directive 21) are constantly defending against cyber-attacks.[4]

It is clear that escalating cyber threats and vulnerabilities are a serious concern for both small and large organizations as well as the private sector and general public. For the past decade, empirical studies exist that focus on the human element of computer crime; that is, trying to understand the personality characteristics of computer hackers.[5-7] Studies suggest that not only are there personality differences between computer criminals and non-criminals, but there are personality differences between different types of hackers, such as virus writers and identity thieves; however, researchers have yet to combine the results of these studies in order to better understand the overall relationship between computer criminal behavior and personality.[6,7]

After a decade of research, enough studies exist for a systematic review of the literature in order to conduct a meta-analysis.[8] A meta-analysis is a statistical approach to combining the results of multiple studies in order to understand the estimates of the effect or relationship under investigation. The specific goal of the current study is to conduct a meta-analysis of the literature, by including published and unpublished studies, to improve the overall understanding of the personality characteristics associated with computer criminal behavior. The systematic review of the literature will include unpublished works in order to account for publication bias, which should also result in a more accurate representation of the overall effect size estimate.

The results will be discussed in addition to the limitations of the study, final conclusions, and suggestions for future research.

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Computer Hackers, Personality, Meta-Analysis