Article Review #1: Perceived Security Risks and Cybersecurity Compliance Attitude: Role of Personality Traits and Cybersecurity Behavior

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Introduction/BLUF

Researchers in the article are bridging the probable connection between the big five personality characteristics (agreeableness, conscientiousness, extraversion, neuroticism, and openness) to cybersecurity behavior, perceived security risk, and attitude towards compliance. The findings from the empirical research show that personality traits do in fact influence cyber behaviors and compliance willingness. The authors push for organizations to consider personality profiles for security positions.

Relation/Connection to Social Science Principles

Within the introduction, the authors mention the previous use of empirical methods to chart the relation between personality traits and cybersecurity behaviors by other researchers. The authors continue to use empirical methods to capture evidence for their research. This shows a relation to one of the seven principles discussed in class. Another principle that is incorporated is relativism. Authors, Ghaleb and Sattarov, use quantitative evidence gathering to reinforce the relation between personality traits and cybersecurity behavior. As stated by Ghaleb and Sattarov, "Both cybersecurity behavior (r= 0.678) and compliance attitude (r = 0.625) have moderate to strong associations with Big Five Personality Traits, justifying their use empirically in predictive modeling" (43). A third principle that is relevant is objectivity. Data was collected from 259 employees who work in the cybersecurity field. Multiple measurement tools were reused from previous empirical studies. Findings were based on calculations and objective values.

Research Question /Hypothesis/ Independent Variable/Dependent Variable

The main research question is do the big five personality characteristics affect individual's cybersecurity behavior and compliance attitude. The first hypothesis is, "The big five personality traits have a significant influence on cybersecurity behavior". The independent variables are agreeableness, conscientiousness, extraversion, neuroticism, and openness. The dependent variable is "cybersecurity behavior". The second hypothesis is, "The big five personality traits have a significant influence on cybersecurity compliance attitude". The independent variables are the same in the first hypothesis. The dependent variable is "cybersecurity compliance attitude". The third hypothesis is, "Cybersecurity behavior significantly mediates the relationship between big five personality traits and the cybersecurity compliance attitude". Independent variables are "the personality traits". Mediator variable is "cybersecurity behavior", and the dependent variable is "cybersecurity compliance attitude". The fourth hypothesis is, "Perceived security and privacy risk significantly moderates the relationship between big five personality traits and cybersecurity behavior". Independent variables are "the personality traits". Moderator variable is "perceived security and privacy risk", and the dependent variable is "cybersecurity behavior". The fifth and final hypothesis is, "Perceived Security and Privacy Risk significantly moderates the relationship between Cybersecurity Behavior and Cybersecurity Compliance Attitude". Independent variable is "cybersecurity behavior." Moderator variable is "perceived security and privacy risk", and the dependent variable is "cybersecurity compliance attitude".

Types of Research Methods used

Ghaleb and Sattarov took a quantitative research approach. The data was collected from 259 participants. Scales from previously validated empirical studies were adopted. This study is classified as an experiment.

Types of Data Analysis used

The data analysis portion utilized structural equation modeling (SEM) and a statistical software called STATA. A confirmatory factor analysis (CFA) was performed to check reliability of the model and then the SEM method was used to assess relationships between variables.

Connections to other Course Concepts

This experiment focused on fields of study that lie within the social science spectrum, rather than the STEM field. Two disciplines that are observed are Psychology and Sociology. Human behavior was the primary topic of concern. Determination, as one of the seven principles, does present itself through the hypotheses, but it is much more difficult to prove causality with human behavior versus in the STEM field.

Connections to the Concerns or contributions of Marginalized Groups

I did not find any discussion about marginalized groups within this article. All individuals who participated in this experiment were employed personnel throughout a diverse spectrum of departments.

Overall societal contributions of the study/Conclusion

In conclusion, this article demonstrated the unavoidable human conditions that take part in cybersecurity operations. The results showed a logical connection between personality traits, cybersecurity behaviors, and compliance. Psychology and sociology were recognized together

with cybersecurity, developing an interdisciplinary relationship. This study can be utilized in organizations to support the employment of preferred personnel for roles and to train personnel according to their personality traits. Overall, this article sheds light onto areas of cybersecurity that require further interdisciplinary exploration.

Works Cited

Ghaleb, Mohanad Mohammed Sufyan, and Abdisamat Sattarov. "Perceived Security Risks and Cybersecurity Compliance Attitude: Role of Personality Traits and Cybersecurity Behavior." *International Journal of Cyber Criminology*, vol. 19, no. 1, Jan.-June 2025, pp. 27-53, cybercrimejournal.com/menuscript/index.php/cybercrimejournal/article/view/438/124.