

Kayla Thompson

Professor Aslan

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## **The Role of Social Science Research in the Career of Cyber Security Analysts Career**

Cyber Security analysts play a critical role in protecting sensitive data and our network systems from cyber attacks. In our interconnected world, cyber security attacks are becoming increasingly advanced and the demand for cybersecurity professionals are in dire need. While cybersecurity professionals with a technical background are essential, the importance of social science research and principles cannot be stressed enough.

### **Human Behavior in Cybersecurity**

A fundamental aspect of Cybersecurity is understanding human behavior as many cyber attacks exploit human vulnerabilities. Social science research provides valuable insights into human psychology, rationality, behaviors, biological, and environmental factors which cybersecurity analysts enhance for better security measures. Cybersecurity analysts often study behavior to detect and prevent security threats, by understanding how individuals interact with technology<sup>1</sup> and how they compromise security systems they can develop better policies and implement better protection. This relates to Sigmund Freud's Psychodynamic theory stating that early experiences in life influence behavior. According to The Link, "91% of targeted spear attacks involve spear phishing emails, or emails that are personalized to the recipient". Cyber

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<sup>1</sup> Columbia Southern University How Human Behavior Affects Cybersecurity. How attackers use personalized phishing attacks to capture individuals' data.

Security analysts jobs especially in D.C. for the government are the largest vulnerabilities on any network and can do irreparable damage leading to catastrophic events in America.

### **Compliance and Policy Development**

Cybersecurity analysts professionals often work with policymakers and regulatory bodies to develop and enforce policies. By applying concepts like risk perception, decisions theory, and threat modeling, cybersecurity analysts can better understand and prioritize potential threats.

Cybersecurity candidates must be loyal (civic duty) to the ideals of the country and organization that they belong to. The sensitivity and secrecy of the data must be entrusted and never leaked to unauthorized persons, which is why many government agencies require clearances to be able to work for them. The Risk Triangle by Luke Irwin highlights the CIA triad of confidentiality, integrity, and availability ensuring that these three elements of the CIA triad are addressed and does not constitute security. These can be hard to obtain, but are needed for national security.<sup>2</sup>

### **How this Affects Marginalized Groups**

The application of social science principles in cybersecurity analysts jobs has implications for marginalized groups minorities are socioeconomically disadvantaged groups that are often affected by digital surveillance and privacy infringements. Social science research shows how surveillance technologies and data can exonerate existing inequalities. Cybersecurity analysts have to consider the potential impact of security on marginalized groups' privacy. This relates to cyber criminal subculture committing different types of cyber offenses. Many of the patterns noticed appear to be teams of people, individuals can easily communicate through email, criminals can interact with people from a safe physical distance through the internet that can be

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<sup>2</sup> CISA Cybersecurity & Infrastructure Security Agency skills and social science

sex offenders or worse. This can be minimized by cybersecurity analysts by implementing policies or security protocols to allow privacy rights to marginalized groups especially during trials to prove their innocence<sup>3</sup>.

### Conclusion

Overall true principles of social science provide sober security analysts with valuable insight into human sociology like human behavior, compliance, policy development, and how it affects marginalized groups. By integrating social science practices into their jobs they can develop more effective protocols and inclusivity to better protect peoples data and personal information.

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<sup>3</sup> Systemic Racism Is a Cybersecurity threat.

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