Cybersecurity Analyst Career Review

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Cybersecurity analysts are the backbone of the cybersecurity industry, performing various tasks for their respective employers. In addition to configuring firewalls and monitoring networks, these professionals must deeply understand the human and societal factors that underlie cyber threats. Social science research provides crucial frameworks and tools for understanding user behavior and building a more equitable cybersecurity workforce. Using key social science principles learned in the course, this report examines how they are essential to cybersecurity analysts' everyday responsibilities.

Social science is central to understanding how people adopt security behaviors, and cybersecurity analysts must serve in multiple roles in their respective positions. Haney and Lutters (2021) define these cybersecurity advocates as professionals for whom “promoting, educating and encouraging adoption of security are major components of their jobs, part of their personal identity and integral to their career advancement” (p. 1). Analysts assuming this advocacy role must leverage interpersonal skills, such as empathy, trust-building, and cultural awareness, to influence security behaviors among diverse audiences. These inherent competencies are informed by social science and are usually absent from traditional technical and collegiate education.

Analysts also contribute to shaping the cybersecurity workforce, which remains deeply imbalanced regarding gender and representation. Giboney et al. (2023) argue that women face unique, evolving barriers throughout their career lifespan: “adult women are concerned that they will be undervalued in a male-dominated field, and mid-career women are concerned about being harassed in a male-dominated field” (p. 1). These insights stem directly from sociological theories about organizational behavior, gender roles, and career development. By understanding

these barriers, cybersecurity analysts in leadership roles can advocate for systemic reforms, equitable mentorship opportunities, and inclusive hiring practices to upper management.

In a global study, Withanaarachchi and Vithana (2022) found that multiple social factors shape women's entry into cybersecurity careers. They state, "female self-efficacy on their capabilities, family, organisational culture, mentors and role models act as antecedents for women's perceived motivation to select cybersecurity as a career option" (p. 1). Cybersecurity analysts with a social science lens recognize how these motivational barriers operate in practice. They can use this knowledge to support workplace policies that elevate women, challenge bias in performance evaluations, and promote mentorship networks. These actions not only improve organizational equity but also strengthen the cybersecurity workforce at large by attracting and retaining diverse talent.

Cybersecurity analysts are not just defenders of systems but also educators, advocates, and community builders. Their success increasingly depends on applying social science principles in their daily routines, whether interpreting human behavior, building trust in security protocols, or supporting marginalized colleagues. Haney and Lutters emphasize that "while soft skills may be valuable for all security professionals, they appear to be essential for advocates" (p. 4). Likewise, addressing systemic barriers identified by Giboney et al. and Withanaarachchi and Vithana requires analysts to be aware of the broader social landscape in which cybersecurity exists. Social science, therefore, is not peripheral but central to the evolving role of cybersecurity professionals.

References

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