

**Digital Forensic Analyst: Social Science Integration in Cybersecurity**

Octavia Wade

Old Dominion University

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Professor Diwakar Yalpi

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## **Introduction**

Careers in cybersecurity are slowly increasing throughout the social sciences world. It helps professionals understand the behavior of humans, assess risk, and protect individuals and organizations. One cybersecurity career that I have strong interest in that also intersects with criminal justice is a Digital Forensic Analyst. In this career, professionals collect, analyze, and preserve digital evidence for criminal cases. In my paper, I will discuss how digital forensic analysts use social science principles, how these key concepts apply to the work they do, and how they interact with marginalized groups and society.

### **Social Science Principles in Digital Forensics**

Social science is vital to digital forensics because digital crime is human. Kävrestad (2020) defines cybercriminal as “the study of causation of crimes that only occurs in the cyberspace world and other impacts like in the physical space.” These digital forensic analysts rely on these frameworks to understand why offenders commit these online crimes and the effects it has on victims.

Hacker motives also contribute to social science research. Kävrestad (2020) explains the motivations of hackers are often due to “curiosity, the desire for power, and recognition from their peers.” When the analysts evaluate logs or communication trails, they learn behavioral patterns and interpret intent.

Fraud psychology can give out further information on this line of work. Pavithran and Pavithran (2025) found that romance fraud offenders engage with “emotional manipulation that are design to build trust and dependency.” Digital forensic analysts also study message histories and financial transactions to trace any manipulation.

Victim psychology is also very crucial. Cyber victims experience emotions such as fear, anxiety, and a sense of violation from the following attacks (Kävrestad, 2020). Professional analysts must interview victims with cultural sensitivities; this helps them determine the victim's emotional state and trauma.

#### **Social Norms and Deviance**

Deviance plays a huge role in behavior that can violate social norms. For instance, unauthorized access or misuse of privileged information. Pavithran and Pavithran (2025) stated that “online deviance is shaped by the anonymity and reduced social cues of cyberspace.” Digital forensic analysts rely on understanding what determines whether unusual digital behavior for suspicious activity or criminal activity.

#### ***Cybercrime Definitions***

The legal definition determines the constitutionality of cybercrime. For example, cybersecurity laws must be formatted clearly, adaptive, and informative to the technological realities (*Digital Forensics*, n.d.).

#### **Subcultures**

It is important to understand cyber subcultures, especially as a forensic analyst. (20) highlights how “hackers' subculture can build on secrecy, technical mastery, and resistance to authorities.” It is frequent for analysts to interpret the slang that hackers use, the usernames, and social network to gain the identify offenders.

#### ***Deterrence Theory***

Analysts' work is supported by deterrence. As Kävrestad (2020) talked about “consistent of enforcement sends out message to catch a potential offender due to cybercrimes having

consequences.” This provides forensics analysts with evidence that is required to prosecute offenders.

### ***Marginalization and Digital Forensics***

Cybercrime can have a huge disproportionate impact on marginalized groups. It is found in romance fraud victims are often suffer from long-term emotional and financial harm, especially when it comes to women and older adults (Conference of International Investigators (CII 2021), 2021). However, it is important for digital forensic analysts to stay aware of cultural and demographic when being assisted to these victims.

### ***Career Connection to Society***

In our society today, digital forensic analysts serves the community by help solving crimes, such as, cyberstalking, child exploitation, and fraud. Their incredible work gives off a positive influences on the public policy. Kävrestad (2020) talks about how cybersecurity experts shapes the legal and regulatory reforms by revealing the vulnerabilities and attacks patterns from the offenders. They do these investigations because this helps improve in areas like in cybersecurity, protecting privacy, and proper safety from the digital world.

### ***Conclusion***

Overall, social science relies heavily on digital forensic analysts. They are important to social science because they help understand the motives behind the offenders' crimes, responding to victims, and the cyber subcultures. The work of digital forensic analysts helps supports criminal justice by protecting marginalized individuals, and make improvement towards public policy. By combining criminology, sociology, psychology, and law, digital forensic analysts ensures that justice is being enforced in the digital world.

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