

## Criminological Analysis of Determinants of Cybercrime Technologies

Lola F. Tatarinova<sup>a</sup>, Karimzhan N. Shakirov<sup>b</sup> and Danila V. Tatarinov<sup>b</sup>

<sup>a</sup>"Turan" University, KAZAKHSTAN; <sup>b</sup>Al-Farabi Kazakh National University, KAZAKHSTAN.

### ABSTRACT

An important task, the government, particularly law enforcement officers and scientists, faces in the rapid development of information technologies, is to prevent crimes committed with their application. Comprehensive analysis of the criminological characteristics of computer crimes, which is the aim of this study, provides an opportunity to identify the motives of these crimes to determine the most effective ways to eliminate them, as well as to work out the best ways and investigation means of criminal cases in this category. One of the fundamental structural elements of the national security of any state in the period of cyberspace development is to protect all information resources and communication networks against criminal assault. A complete analysis of computer crimes requires the understanding of motivation of illegal intrusion into information systems in order to obtain the information, stored in them, as well as using the opportunities provided by these systems or disabling the whole system or its components. The statement above is confirmed by the global use of computer technologies, information and communication networks.

### KEYWORDS

Criminology; cyber security; information technologies; cryptography; criminological methods

### ARTICLE HISTORY

Received 15 September 2015  
Revised 10 November 2015  
Accepted 22 February 2016

## Introduction

Cybersecurity is possible through the methods of criminology.

The innovation of the article is an attempt to adapt the methods of criminological analysis to cyberspace. K. Driscoll (2016) notes, that cyberspace is an integral part of the encrypted system. Thus, the knowledge of cryptography helps to identify and prevent cybercrimes.

An important tool for protection against computer crimes is cyberhygiene – the improvement of the Internet culture, an integral part of which is the possession of the complex procedures applied by cybercriminals. Many works are written on the "phishing" methodology (Murashbekov, 2015, Leukfeldt, 2015a, Leukfeldt, 2015b,

**CORRESPONDENCE** Danila V. Tatarinova ✉ danila\_tatarinov@mail.ru

© 2016 Tatarinova, Shakirov and Tatarinov. Open Access terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>) apply. The license permits unrestricted use, distribution, and reproduction in any medium, on the condition that users give exact credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if they made any changes.

### Notes on contributors

Lola F. Tatarinova is PhD, Associate professor of Department of Jurisprudence and International Law, "Turan" University, Almaty, Kazakhstan.

Karimzhan N. Shakirov is Doctor of Jurisprudence, Professor of International Law, Al-Farabi Kazakh National University, Almaty, Kazakhstan.

Danila V. Tatarinov is PhD, Associate professor of International Law, Al-Farabi Kazakh National University, Almaty, Kazakhstan.

### References

- Al-Alosi, H. (2016) The role of bystanders in cyberbullying. *Precedent NSW Conference in the Sydney*, 132, 20-24.
- Alazab, M. & Broadhurst, R. (2015) The Role of Spam in Cybercrime: Data from the Australian Cybercrime Pilot Observatory. *Cybercrime Risks and Responses*. Palgrave Macmillan, 103-120.
- Angus, C. (2016) Cyberbullying of children. *Parliament of NSW Government*, 1-22.
- Arntfield, M. (2015) Toward a Cybervictimology: Cyberbullying, Routine Activities Theory, and the Anti-Sociality of Social Media. *Canadian Journal of Communication*, 40(3), 138-144.
- Chalmers, C., Campbell, M., Spears, B., Butler, D., Cross, D., Slee, P. & Kift, S. (2016) School policies on bullying and cyberbullying: perspectives across three Australian states. *Educational Research*, 58, 91-92.
- Clairmont, D., & Waters, K. (2015) *The Nova Scotia Restorative Justice Program*. Dalhousie: Dalhousie University. 104p.
- Cross, D. (2016) Longitudinal impact of the Cyber Friendly Schools program on adolescents' cyberbullying behavior. *Aggressive behavior*, 42(2), 166-180.
- Driscoll, K. (2016) Cyber safety and security for Reduced Crew Operations. *Integrated Communications Navigation and Surveillance*, 1-21.
- Hopkins S. & Ostini J. (2015) Digitized Domestic Violence: Technology Abuse is a Feminist Issue. *Media, Technology*, 23-25.
- Hughes, M. (2015) *Facing Cyberbullying: A National Implementation Plan*. The London Anti-Bullying Coalition, 1-28.
- Kerstens J. & Jansen J. (2016) The Victim-Perpetrator Overlap in Financial Cybercrime: Evidence and Reflection on the Overlap of Youth's On-Line Victimization and Perpetration. *Deviant Behavior*, 37(5), 585-600.
- Lee, M. (2015) Sexting among young people: Perceptions and practices. *Trends & Issues in Crime and Criminal Justice*, 508, 1-35.
- Leukfeldt, E. R. (2015a) Organised Cybercrime and Social Opportunity Structures. A Proposal for Future Research Directions. *European Review of Organised Crime*, 2, 91-103.
- Leukfeldt, E. R. (2015b) Comparing victims of phishing and malware attacks: Unraveling risk factors and possibilities for situational crime prevention. *arXiv preprint arXiv*, 1506.00769
- Leukfeldt, E. R., Kleemans, E. R. & Stol, W. P. (2016) Cybercriminal Networks, Social Ties and Online Forums. *British Journal of Criminology*, 9, 35-44.
- Moise, A. C. (2015) Some Considerations on the Phenomenon of Cyberterrorism. *Law Annals Titu Maiorescu*, 5, 146.
- Murashbekov, O. B. (2015) Methods for Cybercrime Fighting Improvement in Developed Countries. *The Journal of Internet Banking and Commerce*, 5, 24-29.
- Musa, M. K. (2015) *Cyber Stalking: Social Issues of Harassment on Internet*. Direct access: [idosi.org/aejaes/jaes15\(tems\)15/2.pdf](https://idosi.org/aejaes/jaes15(tems)15/2.pdf)
- Taivo, R. (2015) Cyber Behavior. *Encyclopedia of Information Science and Technology*, 3rd Edition, Hershey, 638-646.
- Williams M., & Pearson O. (2016) Hate Crime and Bullying in the Age of Social Media. Current Perspectives. *Hate Crime Awareness Week*, 35, 25-26.