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CYSE201S - 7:30

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Explain how the principles of science relate to cybersecurity.

The principles of science relate to cybersecurity in the way it is researched, explained and applied to our everyday lives.

The way that cybersecurity is researched is with the understanding that broader changes and dynamics are interconnected; for example, when a cyber crime occurs, it will be studied through both an empirical lens, the studied impact, and deterministic lens, what led to the crime and could it have been prevented. This would reveal behavior dynamics of both the attacker and the attacked, which would allow for policy-makers to be able to make legislation that would prevent future attacks or the severity of the outcome of similar attacks. With policy-making comes the ideas around ethics: are the policies being put in place going to improve the lives of some while harming others, are these policies going to limit the right to privacy, etc. With policy-making needs to come a level of empiricism to prevent, potentially harmful, biases from leaking into legislation.

Cybersecurity also includes studying research questions with a defined hypothesis and different variables that may impact the outcome of that hypothesis. These research questions should also be approached with a level of empiricism because the questions that would be asked in relation to cybersecurity could allow for bias to impact the results of the experiment. Of course, ethical questions arise when research is done; do the people being researched know they are a part of the experiment, would interfering with someone's anonymity bring them harm, can "cybercrime prevention" serve as a roadmap for committing cybercrime.

References

Bhattacherjee, A. (2012). *Social Science Research: Principles, Methods, and Practices* (2nd ed.). Anol Bhattacherjee. https://digitalcommons.usf.edu/cgi/viewcontent.cgi?article=1002&context=oa_textbooks