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The Center for Education and Research in Information Assurance and Security

The Effects of Online Anxiety on Cyber-Secure Behavior

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The Problem

There is a lack of basic cybersecurity knowledge among the majority of the population. The majority of cybersecurity education systems are not tailored to fundamental and novice users.

Research Questions

What factors affect the adoption of cybersecure attitudes and behaviors

i. Is there a correlation between cybersecure behavior and feelings of safety?
ii. Do perceived threats affect cybersecure behavior?

Online Anxiety

Computer anxiety is the fear of using a computer. It has been found to be fairly prevalent, occurring in 30-40% of people (Buche, Davis & Vician, 2007). It has been found to affect an individual's willingness to engage with and learn about computers. Online anxiety is believed to be related and is the result of:

- Lack of knowledge
- Fear of making a mistake
- Lack of self-efficacy

** Buche, Mari & Davis, Larry & Vician, Chelley. (2007). A Longitudinal Investigation of the Effects of Computer Anxiety on Performance in a Computing-Intensive Environment. Journal of Information Systems Education. 18.

Method

A survey was developed to measure each of the constructs identified. Data were collected using Amazon Mturk (N=300).

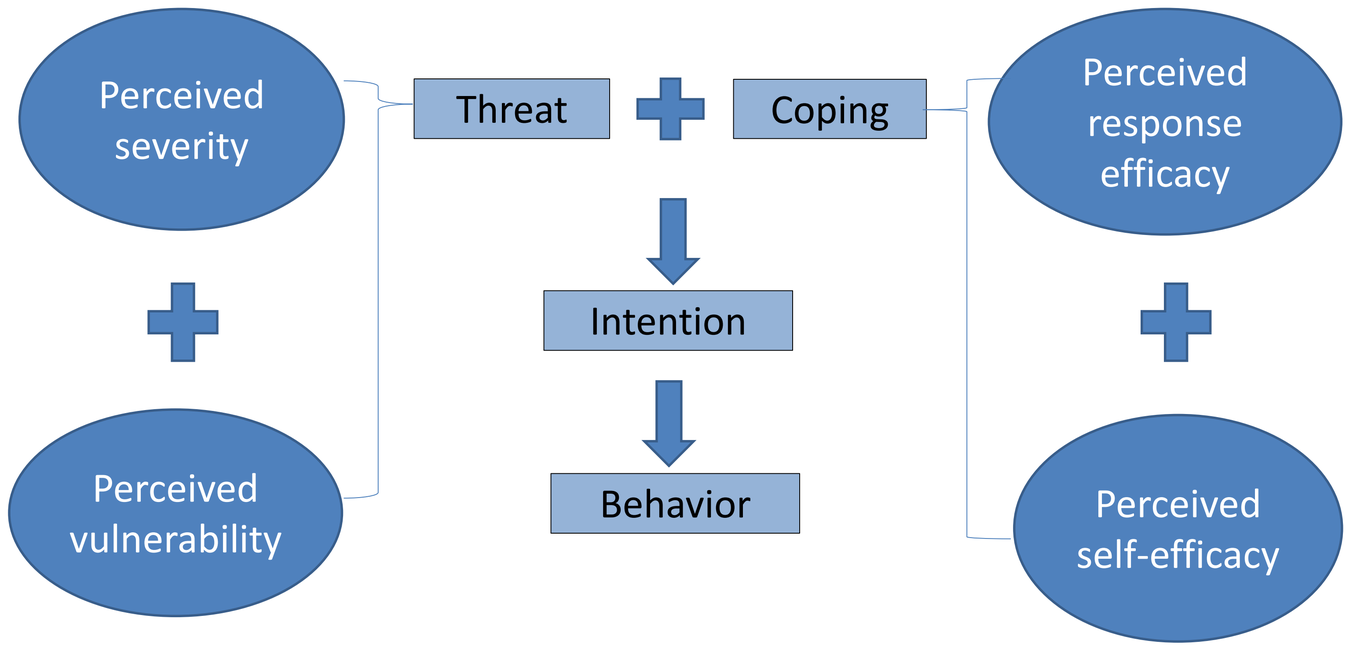
Results

1. People who feel more threatened engage in more cybersecure behavior [r = .29, n=299, p<0.001].
2. Feeling safe online is strongly correlated with having positive experiences [r =.417, n = 285, p <0.001].
3. People who engage in cybersecure behavior do not threaten others online [r=-.233, n=300, p<0.001].
4. Experiencing harassment online strongly correlates with harassing others [r = .489, n=298, p<0.01].
5. People whose jobs require an online presence are more likely to have experienced harassment [r=.241, p<0.001] and to have harassed others [r=.354, p<0.001].

Protection-Motivation Theory

This theory *Rogers, R.W. (1975)* assumes that behavioral intention is the result of an individual's analysis of the threat posed and is based on four factors:

- the perceived severity of a threat
- the perceived likelihood of the threat occurring
- the extent to which they can cope with the threat based on the mitigation measures they have available to them
- their self-efficacy regarding their ability to enact those measures



** Ronald W. Rogers (1975) A Protection Motivation Theory of Fear Appeals and Attitude Change1, The Journal of Psychology, 91:1, 93-114, DOI: 10.1080/00223980.1975.9915803

Correlations

		How safe I feel online	Cybersecure Behavior	I have experienced harassment online	Have harassment others online	Have had positive experiences online	Perceived severity of threat
How safe I feel online	Pearson Correlation	1	.093	.001	-.094	.417**	-.023
	Sig. (2-tailed)		.115	.980	.112	.000	.690
	N	296	289	287	290	285	293
Cybersecure behavior	Pearson Correlation	.093	1	.086	-.223**	.174**	.290**
	Sig. (2-tailed)	.115		.137	.000	.003	.000
	N	289	302	298	300	295	299
I have experienced harassment online	Pearson Correlation	.001	.086	1	.489**	.327**	.278**
	Sig. (2-tailed)	.980	.137		.000	.000	.000
	N	287	298	300	298	295	297
Have harassed others online	Pearson Correlation	-.094	-.223**	.489**	1	.064	.154**
	Sig. (2-tailed)	.112	.000	.000		.271	.008
	N	290	300	298	302	295	299
Have had positive experiences online	Pearson Correlation	.417**	.174**	.327**	.064	1	.086
	Sig. (2-tailed)	.000	.003	.000	.271		.139
	N	285	295	295	295	297	294
Perceived severity of threat	Pearson Correlation	-.023	.290**	.278**	.154**	.086	1
	Sig. (2-tailed)	.690	.000	.000	.008	.139	
	N	293	299	297	299	294	306

**. Correlation is significant at the 0.01 level (2-tailed).

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