

Response to the OPM Data Breach

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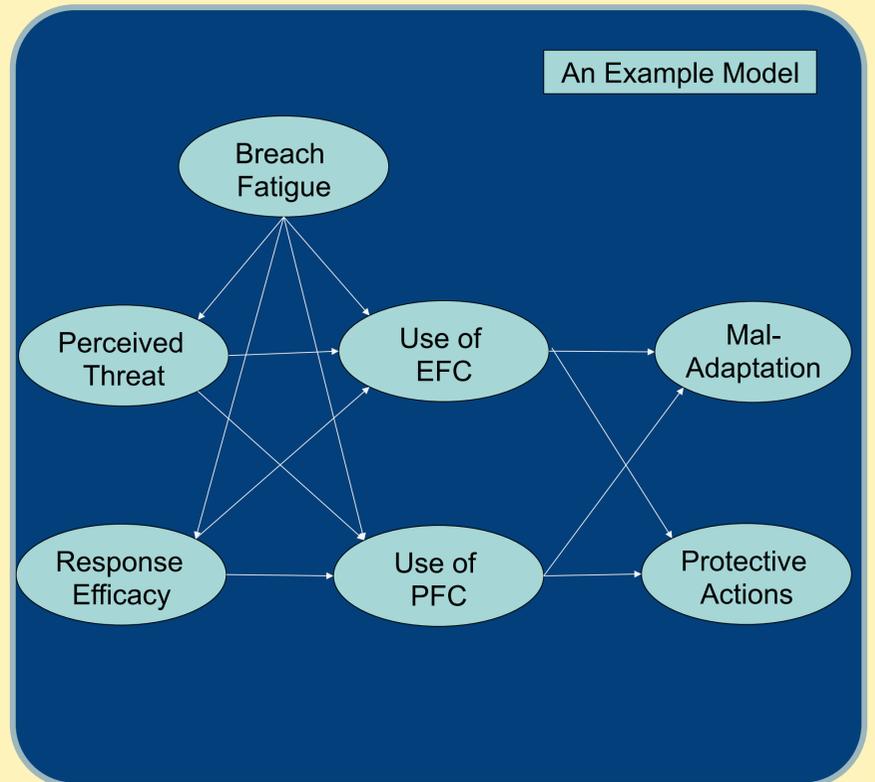
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https://www.nsf.gov/awardsearch/showAward?AWD_ID=1554480

Project Overview

The objective of this project is to better understand individuals' behavior in the aftermath of data breach incidents. While data breaches constantly remind online users of the lurking threat of Identity (ID) Theft, anecdotes suggest that individuals often take little or no protective actions against future ID theft after they are exposed to data breach news. We attribute this lack of action to the syndrome of "data breach fatigue." In this project, we will analyze public reactions to data breaches. We will also uncover the underlying mechanisms, through which data breach fatigue affects post breach actions.

- Examine the prevalence of data breach fatigue among the general public
- Identify detrimental impacts, direct and indirect, of breach fatigue on online users (victims and non-victims)
- Explore strategies that mitigate the effects of breach fatigue on post-breach actions



Approach

Research Context

- Office of Personnel Management (OPM) breaches
 - April 2015: personnel data of 4.2 Federal employees was stolen
 - June 2015: about 21 million background investigation records was stolen
- Yahoo breach 2016 is used for generalizability purpose

Data Collection and Analysis

- Surveys and Structural Equation Modeling method
- Twitter data and sentiment analysis
- Lab experiment

April 2015 OPM data breach surveys

- Collected about 500 data points from both victims and non-victims
- In-depth analysis (measurement model and structural model) using SmartPLS 3.0
- Final manuscript in preparation. Early draft was presented at AMCIS 2016 (San Diego)

June 2015 OPM data breach surveys

- Collected about 700 data points from non-victim Federal employees, victim Federal employees who lost fingerprint data, and victim Federal employees who didn't lose fingerprint data
- Preliminary analysis ongoing

Twitter data sentiment analysis

- Data collection completed – 9,018 tweets in June and 9,746 tweets in July 2015
- Sentiment analysis completed by analyzing emotions expressed within the tweets
- Early draft was presented at WEB 2016 (Ireland)

Generalizability Test and Experiment

- Yahoo 2016 data breach
 - Model development ongoing and data collection planned
- Lab experiment on the potential effect of repeated victimization and perceived fatigue

Interested in meeting the PIs? Attach post-it note below!

