



Open Data: A Replication Study of User Motivation in Protecting Information Security using Protection Motivation Theory and Self-Determination Theory

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Abstract:

This paper provides data used to analyze the methodological replication of Menard et al. (2017) by Yang et al. (2020). The replication paper studied organizational users' intentions to install password management software when they faced different appeals/persuasive messages. There were three different types of appeals based on Protection Motivation Theory, Self-Determination Theory, and the integrated model of the two. We provide the description here to meet the open data standards. Our dataset contained three separate files. PMT_CLEAN file was on PMT appeal; SDT_CLEAN file was on SDT appeals; INTEGRATED_CLEAN file was on the integrated appeals. The PMT appeal contained 157 observations; the SDT appeal contained 156 observations; the integrated appeal contained 153 observations. There is a total of 466 observations, which includes the following constructs: behavioral intention to install password manager software, response performance motivation, threat severity, threat susceptibility, response efficacy, self-efficacy, response cost, autonomy, competence, and relatedness. Control variables include gender, ethnicity, age, employee status, educational background, occupation, and computing experience.

Keywords: Information Security, Protection Motivation Theory, Security model comparison, Self-Determination Theory, User security behaviors, Organizational users, Open Data

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1 Data Description

All the scales we used in this replication study were from the original study (Menard et. al 2017).

1.1 Instrument Items

Behavioral Intention to Install Password Manager Software

Now that you have read the message above, please indicate the likelihood that you will install the password manager software described above:

- Likelihood to install slider scale, 0–10 (0 = Extremely unlikely; 10 = Extremely likely)

Response Performance Motivation (I would choose to install password manager software...)

- ...because I think that this activity is interesting.
- ...because I think that this activity is pleasant.
- ...because I think that this activity is fun.
- ...because I feel good when doing this activity.
- ...because I am doing it for my own good.
- ...because I think that this activity is good for me.
- ...because I decided that this activity is beneficial.
- ...because I believe that this activity is important to me.
- ...because I am supposed to do it.
- ...because it is something that I have to do.
- ...because I don't have any choice.
- ...because I feel that I have to do it.
- ...but I am not sure if it is worth it.
- ...but I don't see what the activity brings me.
- ...but I am not sure it is a good thing to pursue it.
- ...but personally I don't see any good reasons to do this activity.

Threat Severity

- If my online passwords were discovered by hackers, it would be severe.
- If my online passwords were discovered by hackers, it would be serious.
- If my online passwords were discovered by hackers, it would be significant.

Threat Susceptibility

- My online passwords are at risk for becoming compromised.
- It is likely that my online passwords will be breached.
- It is possible that my online passwords will be compromised.

Response Efficacy

- Password manager software works for protection.
- Password manager software is effective for protection.
- When using password manager software, online accounts are more likely to be protected.

Self-Efficacy

- Password manager software is easy to use.
- Password manager software is convenient to use.
- I am able to use a password manager without much effort.

Response Cost

- Using password manager software is time consuming for me.
- Using password manager software is burdensome for me.
- Using password manager software is financially costly for me.
- Installing password manager software would require too much from me.
- Installing password manager software is not worth it.

Autonomy

- The software described is what I would choose to install on my computer.
- I feel that the software I'm told to install fits perfectly with what I prefer to use on my computer.
- I feel that the software described is an expression of my own software preferences.
- I feel that I have the opportunity to make choices with respect to what I am told to install in the message.

Competence

- I feel I have a better understanding of password manager software.
- I feel that I effectively learned about password manager software.
- I feel that I did a good job learning about password manager software.
- I feel that I can manage the requirements of learning more about password manager software.

Relatedness

- I feel a strong connection with my digital information.
- If the information contained in my online accounts is affected, then so am I.
- The thought of information contained in my online accounts being tampered with makes me anxious.
- Protecting the information contained in my online accounts is a way to protect myself.

Computing Experience

How many total years of general experience do you have working with a computer in any form (e.g., surfing the internet, spreadsheets, gaming, word processing)? (Text entry)

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