Personality Types, Passwords, and Cybersecurity Nudges

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Abstract

- People often create passwords for their accounts that are insecure and then reused across multiple platforms => This leaves users vulnerable to hackers
- Different users have different personality types:
  - Big Five: openness, conscientiousness, extraversion, agreeableness, and neuroticism
  - TrueColors: orange, brown, green, and blue
- Participants with a Green True Colors self schema tended to pick a stronger password
- Participants had relatively high security knowledge score
- Messaging had an effect in improving password security knowledge

Results

<table>
<thead>
<tr>
<th>True Colors Self Schema</th>
<th>HAIS-Q Average Score for Part 1</th>
<th>HAIS-Q Average Score for Part 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>5.23</td>
<td>5.84</td>
</tr>
<tr>
<td>Gold</td>
<td>5.71</td>
<td>5.9</td>
</tr>
<tr>
<td>Green</td>
<td>5.12</td>
<td>5.62</td>
</tr>
<tr>
<td>Orange</td>
<td>5.16</td>
<td>5.68</td>
</tr>
</tbody>
</table>

- Users were asked to complete the Human Aspects of Information Security Questionnaire (HAIS-Q), which consists of 9 questions. It includes questions such as:
  - “It's acceptable to use my social media passwords on my work accounts.”
- Each question was rated on a 7-point Likert with the points value being reversed for some questions.
- This figure shows the average HAIS-Q score for each self schema for both part 1 and part 2.
- The score increased for all self schemas.
- The Gold self schema has a higher average score.
- The improved scores shows that regardless of the message, the participants improved their password security knowledge. Messaging works.
- For those participants shown a matching message, their average score increased from 5.31 in part 1 to 5.78 in part 2.

Research Design

- Qualtrics survey recruiting students from the SONA system during Fall 2019
- Two parts: Part 2 was a month later
- Survey included questions covering personality types, social media use, demographics, and some questions regarding password usage
- One question asked the participants to write a password they consider to be strong
- 254 people participated in the survey

Discussion

- Some personality types are more likely to pick insecure password => more focused training modules can be performed to improve the cybersecurity awareness of these people.
- Targeted/matching messaging works to some extent => more time needed to change password security behavior

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References