

Persuasion, Social Graces, and Computer Security

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Reciprocity

The norm of reciprocity is at work when people respond with similar kinds of behaviour to that which they are shown. Positive overtures usually lead to cooperation with others [1]. However, rudeness and unhelpfulness can also lead people to behave similarly in response.

People respond reciprocally to computers [2], so a security program should make it obvious that it is helping its users.

Anti-virus suggestions:

- Remind users that anti-virus protection is a complex task and that it is being done to keep the user safe.
- Use messages such as "In order to check your computer for viruses, the program needs to be updated. Could you help me out by downloading the latest updates?"

Politeness

In its most basic form, politeness is about trying to make people happy [4]. People show politeness toward a computer when evaluating a computer's performance, and react positively to politeness from computers.

Security programs typically make no effort to be kind to users (even when sharing bad news). They often interrupt the user at inconvenient times.

Anti-virus suggestions:

- The program should acknowledge the user with a greeting and a status update such as "Welcome back! No viruses detected".
- The program should wait until the computer is idle to begin background scans.
- The program should not interrupt users to restart the system (and should not restart without consent).



How can we harness social factors to persuade users to behave more securely?

Flattery

People respond to flattery from a computer similarly to how they respond to flattery from another person. People like being flattered, and like computers that flatter them [3].

Computer security should focus on highlighting and praising secure behaviour, not criticizing users for insecure behaviour.

Anti-Virus Suggestions:

- Praise the user for updating the software or scanning for viruses with flattering messages such as "You're good at keeping your computer virus-free".
- Praise the user when they catch a virus to make the user feel powerful and happy about using the software.
- Use non-verbal praise such as smiling icons. Users will try hard to restore icons to a "positive" state.

Interpersonal Distance

Interpersonal distance refers to the relationship between people and others while speaking [4]. While it varies by culture, everyone uses distance to convey information about their stance on a situation.

Computer security should grab the user's attention at key moments, but minimize contact in less crucial situations. Characters with a face can be used, but care should be taken in how the character is presented.

Anti-virus suggestions:

- A character such as "Anti-virus Veronica" could be used for the anti-virus program to interact with the user.
- When not interacting, Veronica could be visible at a distance.
- Veronica could walk towards the window with a message, growing larger and capturing the user's attention.
- As the intensity or importance of the message increased, so too might the relative size of Veronica's face on the screen.

[1] Aronson, E., Wilson, T.D., Akert, R.M., Fehr, B.: Social Psychology: 3rd Canadian Edition. Pearson Prentice Hall (2007)

[2] Fogg, B.J., Nass, C.: How Users Reciprocate to Computers: An experiment that demonstrates behavior change. Technical Report, Stanford University (1997)

[3] Fogg, B.J., Nass, C.: Silicon Sycophants: The effects of computers that flatter. International Journal of Human-Computer Studies 46, 551-561 (1997)

[4] Reeves, B., Nass, C.: The Media Equation: How People Treat Computers, Television and New Media Like Real People and Places. Cambridge University Press (1996)