



Exploring Expert and Novice Mental Models of Phishing .

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Introduction

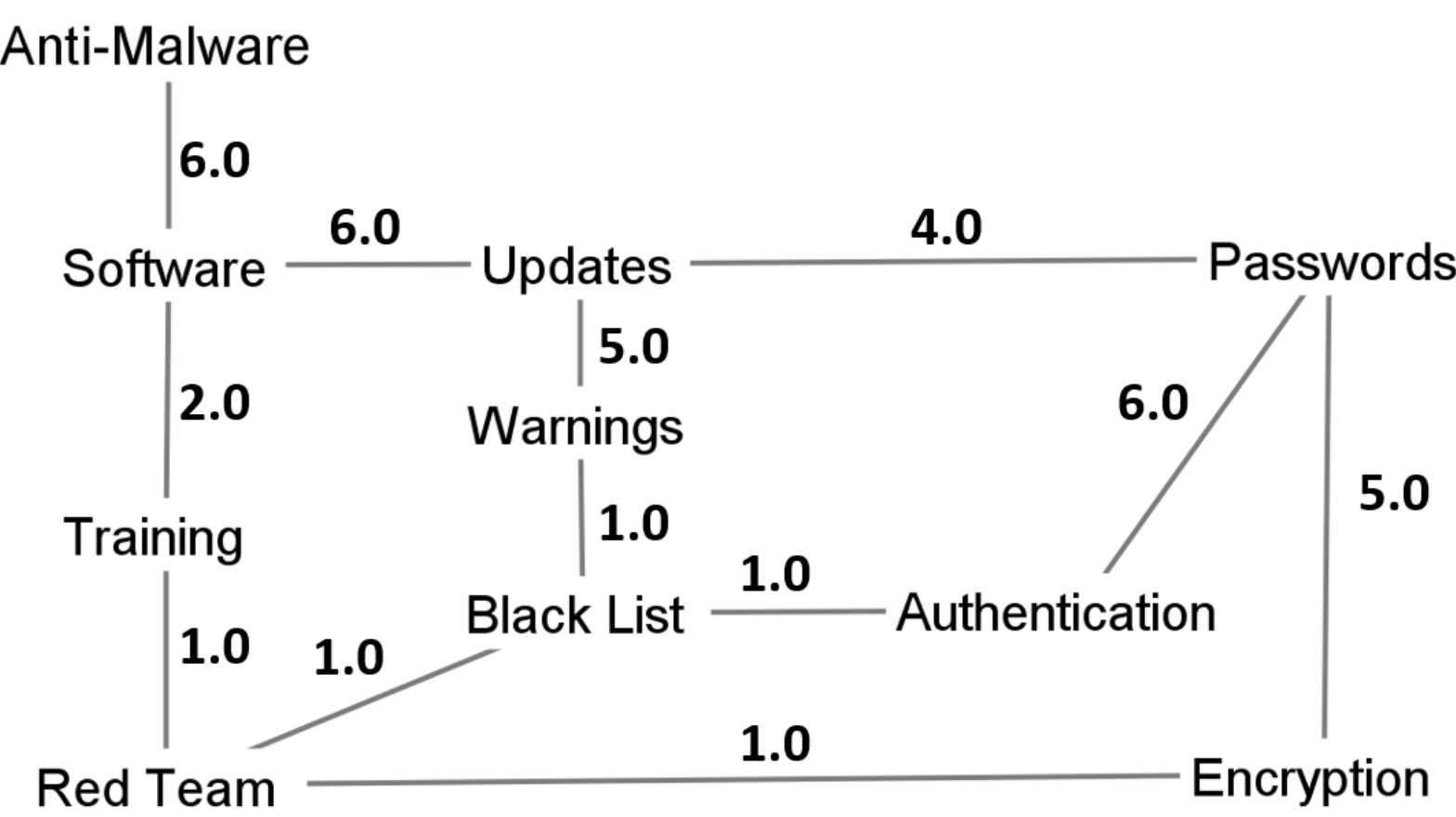
- Mental models are internal representations of a concept or system that develop with experience
- Researchers aim to analyze the mental models of computer security novices and computer security networks in the context of phishing
- We hypothesize that expert network models will have more links between concepts than novices

Method

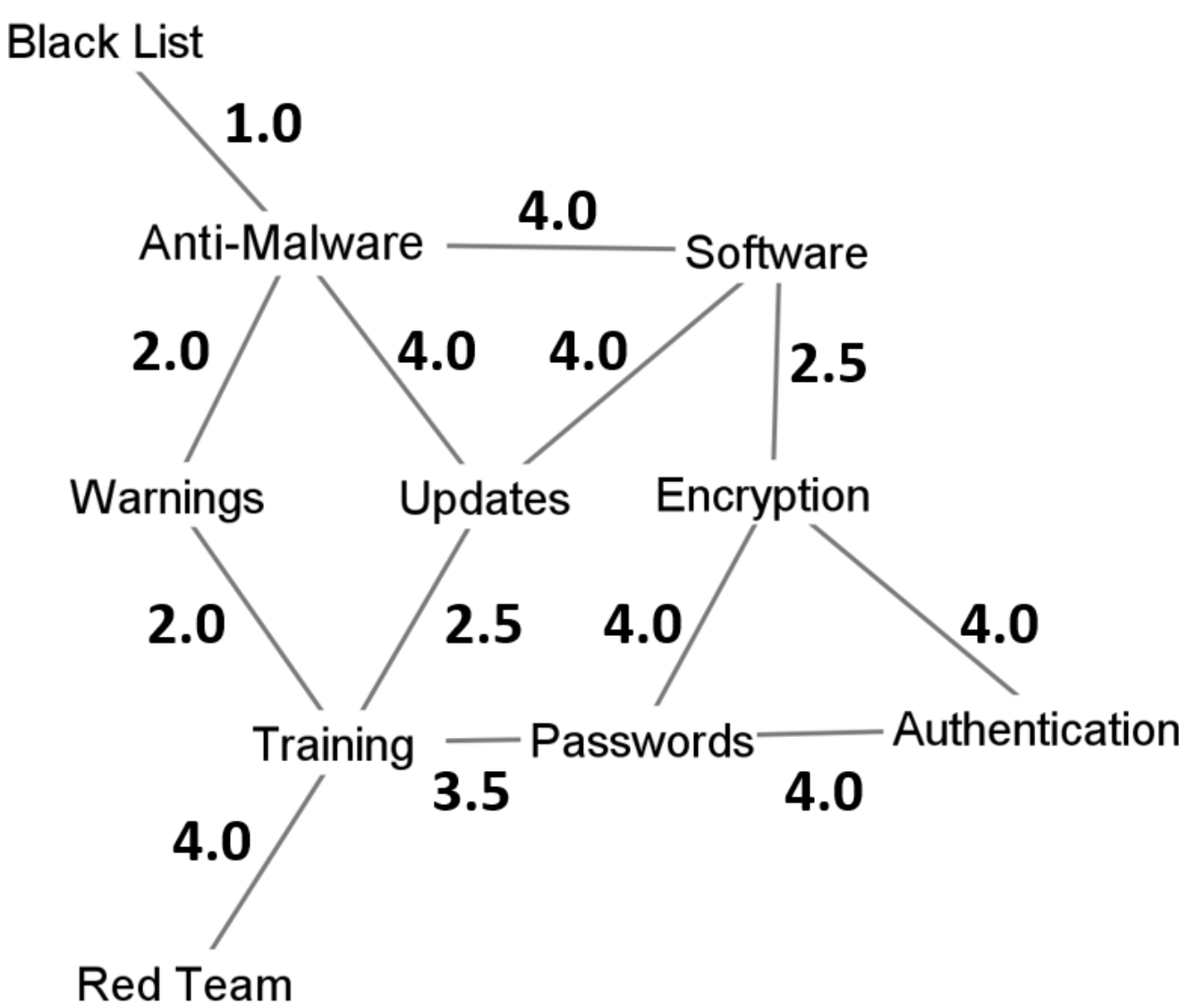
- 20 novices and 14 experts rated 10 terms regarding the prevention of phishing
- Ratings were input into Pathfinder, a statistical software tool that represents pairwise proximities in a network

Results

Novices:



Experts:



Discussion

- Novices and experts have different ways of organizing and conceptualizing information about phishing
- Novices have simpler mental models supporting research that mental models develop with experience
- Mental models could be used to determine phishing vulnerability or observe the effects of training

Prevention of Phishing Attacks

Below is a half matrix with 10 terms on each axis. Please indicate the strength of the relationship between the two terms on a scale from 0 to 10.

A rating of 0 would indicate that there is no relationship between the two terms, while a rating of 10 would indicate that the terms are strongly related.

For example, Solitaire and Excel could be rated a 0 because they are unrelated, Excel and Windows could be rated a 5 because they are both created by Microsoft, while Excel and spreadsheet could be rated a 10, because spreadsheets are used in Excel.

	Updates	Anti-Malware	Training	Red Team	Warnings	Passwords	Software	Authentication	Encryption	Black List
Updates	X	X	X	X	X	X	X	X	X	X
Anti-Malware		X	X	X	X	X	X	X	X	X
Training			X	X	X	X	X	X	X	X
Red Team				X	X	X	X	X	X	X
Warnings					X	X	X	X	X	X
Passwords						X	X	X	X	X
Software							X	X	X	X
Authentication								X	X	X
Encryption									X	X
Black List										X



<http://hot-sos.org/>

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