

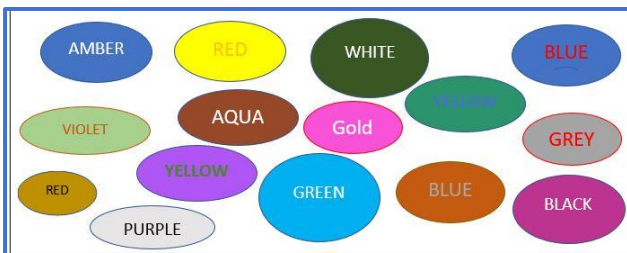
Cybersecurity Professionals ~ Watch your Stroop

Here is a simple exercise:

How many fruits are mentioned, and how many numbers are mentioned?

Apple	Seven
Pear	Three
Banana	Five
Grapes	Nine
Raisins	Seventeen
Apricot	Two
Mango	Twenty-two
Melon	Twelve
Lemon	Six
Cherry	Seven
Pineapple	Sixteen
Plum	Thirty-Two
Raspberry	Nineteen
Orange	Seventy-three
Watermelon	Eight

Same exercise, but how many circles are mentioned?



The answer was 15 in every case, however like for most of us, the quickest box to count was the fruit, the next quickest box were the numbers, and, the circles took the longest.

But the question was just how many are there?

This is known as the Stroop Effect.

We are only asked to "Count."

It gets even more complicated when colors and thrown in and the words inside the circle mention a color that does not reflect the color we are seeing, i.e., a blue circle with the word Red in white font, or a green circle with the word Violet.

Try this exercise – say the color of the Word – Do Not READ the text, e.g., this starts as Blue, Gray, Purple, Green, etc.



The problems here are twofold

- 1) An overabundance of stimuli
- 2) We are on automatic pilot

The overabundance of stimuli hits our eyes and sends back electrical signals, and even though we are just asked to count, our automatic mental processes kick in and start multi-tasking. Unfortunately, our mental processing often assumes things, and things start to break down, and instead of concentrating on the task at hand, we substitute details on what we think to be true.

The word apple has no meaning to any number, or any relationship to the word "Count," so we summed up all the times we noticed a fruit mentioned.

The question asked us to count, so Apple was one, the pear was two, the banana was three and so forth.

However, when asked to count how many numbers, you didn't count seven as one, you counted seven as seven, and thought, okay, so that's one. Next, there's a three, but that's two, and so. Five, no, that's three, and each number you stop and pause, so you begin to skip.

For Cybersecurity experts, this lack of attention ("Automatic Pilot") can sometimes lead to horrible and deadly consequences. If a security policy fails, e.g., a firewall rule, the consequences could be the internal network gets hacked and personal and company data gets stolen. If a physical security policy is not implemented properly, access to facilities, like our Nations Critical Infrastructure, all could become compromised, water supply, electrical distribution plants, etc.

The Stroop effect can be a real problem, and a good security expert needs to be aware when it's happening

Stroop, J. R. (1935). Studies of interference in serial verbal reactions. *Journal of Experimental Psychology*, 18(6), 643-662.
<http://dx.doi.org/10.1037/h0054651>