



Attention

attention span

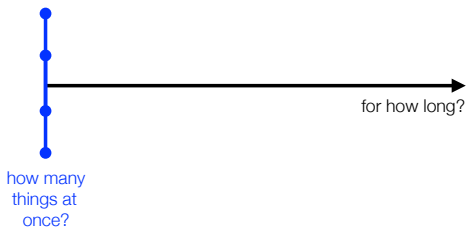
NEWS LETTER 2017 BUDGET 2017 SPORTS ENTERTAINMENT ARTS AND CULTURE BUSINESS AND ECONOMY

Canadians now have shorter attention span than goldfish thanks to portable devices: Microsoft study

The study found that people can multi-task like never before. But our attention spans have fallen from an average of 12 minutes in 2000 to just eight seconds today.



highly task dependent





How does attention work?

Two basic models/metaphors:

1. airplane cockpit
 - **divided attention.** The ability to flexibly allocate attentional resources between two or more concurrent tasks.
2. "scuba rider"
 - **limited capacity.** The notion that humans have limited mental resources that can be used at a given time.

Which do you think is a more accurate mode of attention?

A



cockpit

B



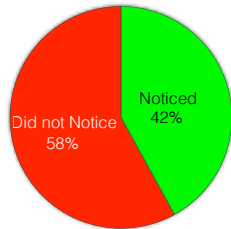
scuba rider

Did People Notice the _____?

Simons & Chabris (1999)

Inattention Blindness

- **definition.** The failure to notice a fully visible object when attention is devoted to something else.
- supports the theory that human attention is limited and selective



<https://www.youtube.com/watch?v=Ahg6qcgay4&NR=1>

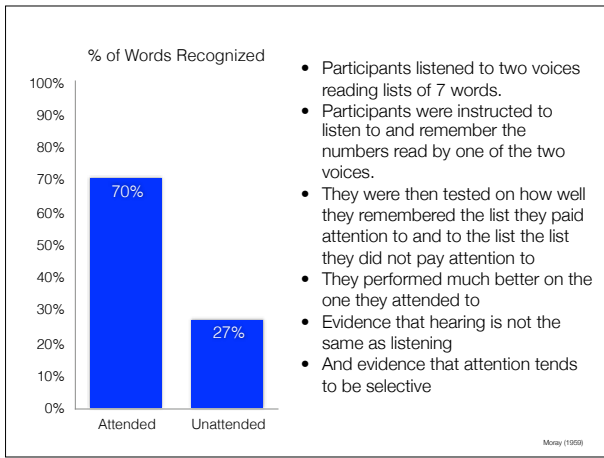


Waldo

selective attention

- the phenomenon whereby our awareness focuses on **only one thing at a time**
- tunes out (to put it nicely) or misses (to put it less nicely) everything else
- we become **virtually blind** to things that are in plain sight
- magicians exploit this beautifully









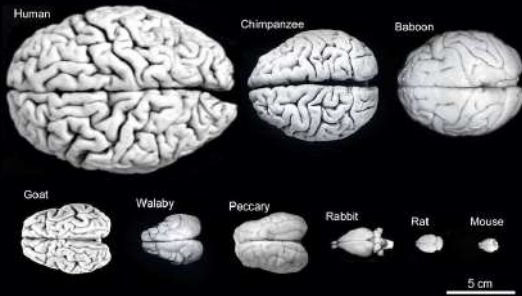
Blindsight

- people who have had damage to their visual cortex (e.g., from an injury or stroke) lose ability to **consciously see**
- but they retain the ability to **detect and react** reflexively

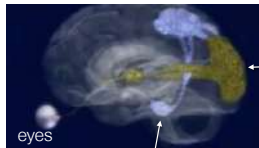
<https://www.youtube.com/watch?v=4Xan6UqNCQ8>

evolving brain

1. bigger
2. new structures



two kinds of “seeing”



- visual cortex**
- evolutionarily newer structure
 - responsible for ability to pay attention and complex tasks
 - damaged in blindsight patients
- brain stem**
- evolutionarily older
 - responsible for reflexes and simple tasks
 - intact in blindsight patients

dual process theory two thinking processes

Kahneman (2011)

System 1	System 2
unconscious	conscious
intuition	reasoning
fast & efficient	slow & laborious
parallel processes	serial processes (selective att.)
involuntary	voluntary
low effort	high effort
big picture	small details
evolutionarily old	evolutionarily new

walking
system 1



success

chewing
system 1

counting
passes
system 2



fail

noticing
gorilla
system 2

Which is more dangerous?

A
texting & driving



B
drunk driving



AAA Study: Distracted driving is more dangerous than drunk driving



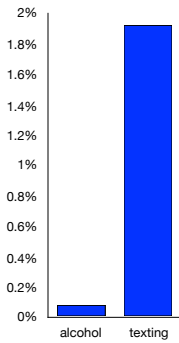
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Why texting is the new drunk driving

Why more dangerous: texting while driving or drunk driving?

Driving a vehicle while texting is six times more dangerous than driving while intoxicated, according to the National Highway Traffic Safety Administration.

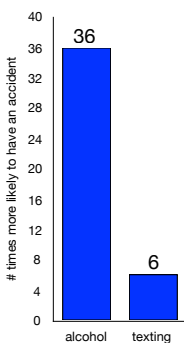
% of accidents



Does this prove that texting and driving is more dangerous than drunk driving?
A. yes
B. no

Dirpui et al. (2016)

odds ratio

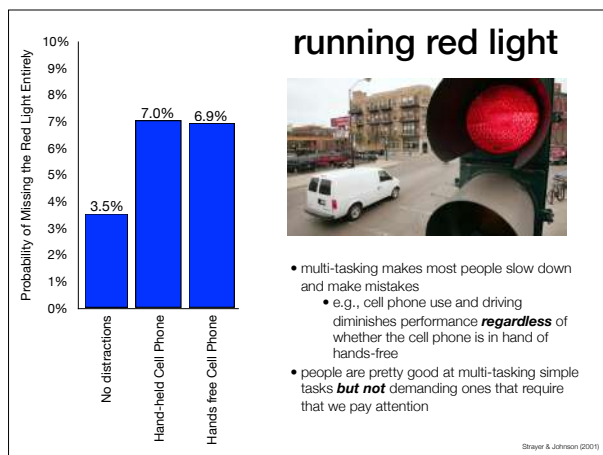
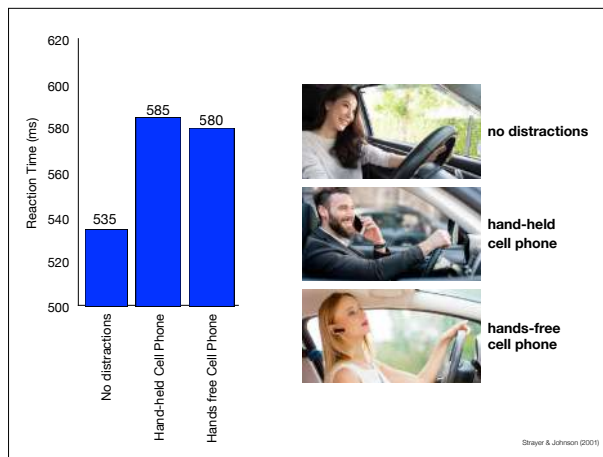
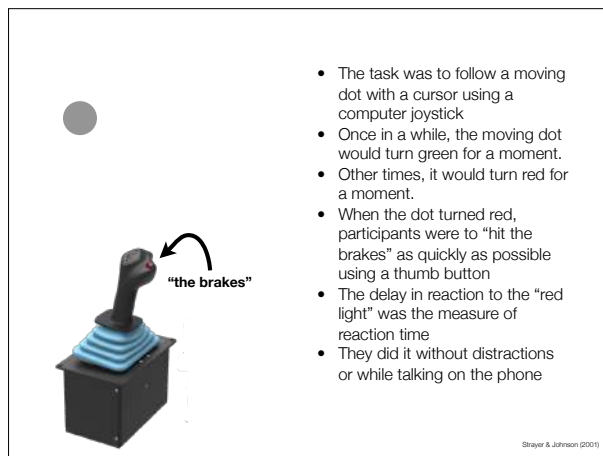
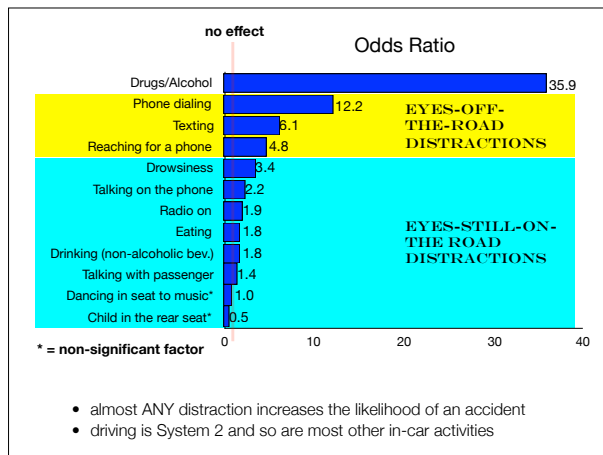


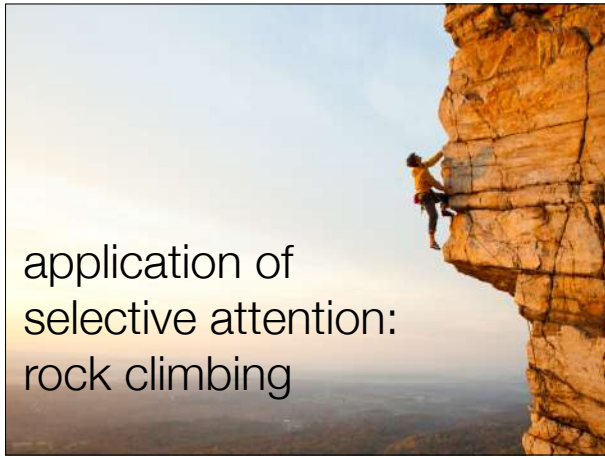
You are **36** times more likely to have a car accident if you are drunk than if you are sober

- drinking is 6 times more dangerous than texting
- but both are very dangerous

You are **6** times more likely to have a car accident if you are texting than if you are not texting

Dirpui et al. (2016)





application of
selective attention:
rock climbing

conclusion

- attention is a highly limited resource
- most people are not good at multi-tasking
- use it wisely, like a rock warrior
- avoid paying attention to things you can't change
- look for things you can change and change them
