

## Selective Attention and Multitasking

Many students say they have trouble remembering the material covered in class and in their textbooks. The problem may not be their memory, but with multitasking. Multitasking divides attention and can make learning difficult.

In one study, research participants pressed a button when two people played a game when a person slapped the other person's hands (panel a). Next participants pressed a button when the ball was passed to another person (panel b). They did these individual tasks easily.

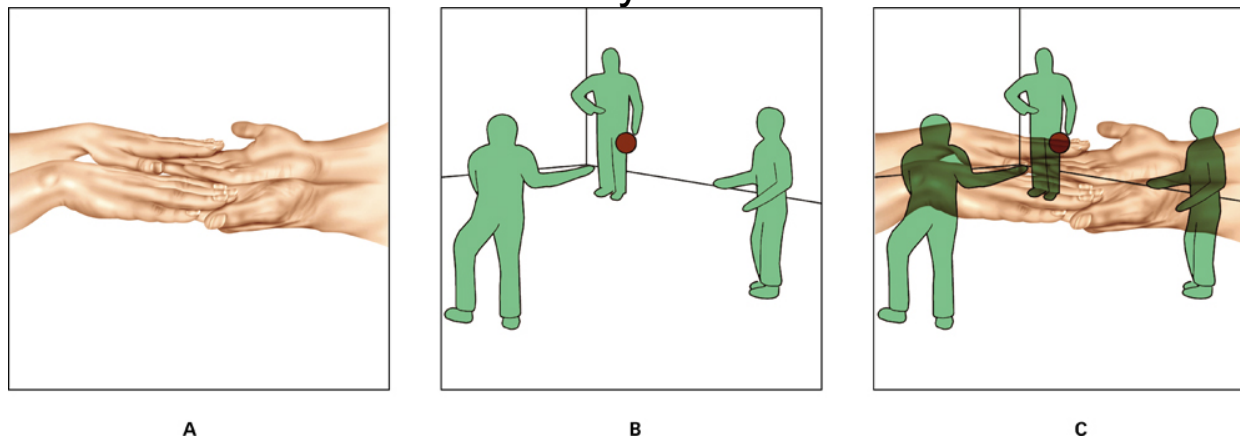


Image source: Schacter et. al.

Easy

Easy


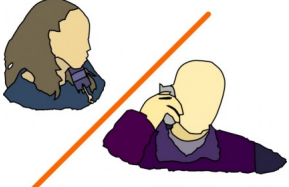


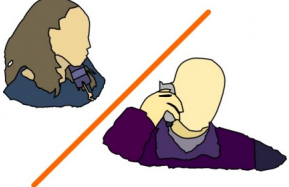


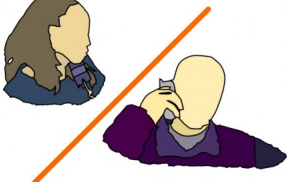

Both A & B  
Difficult

However, when they multitasked and divided their attention by doing these tasks simultaneously (panel c), their error rate was eight times greater.

## What is the Psychology of Multitasking?

When multitasking, you aren't doing two things simultaneously. You are switching between different tasks.

### Multitasking: Driving and Talking on the Cell Phone

What people commonly believe about multitasking	What is occurring while multitasking	
We believe we can do multiple tasks simultaneously	We are switching between tasks	
		
		
		

## **What is Psychologically Occurring While Multitasking**

It takes your brain some time to switch between two tasks.

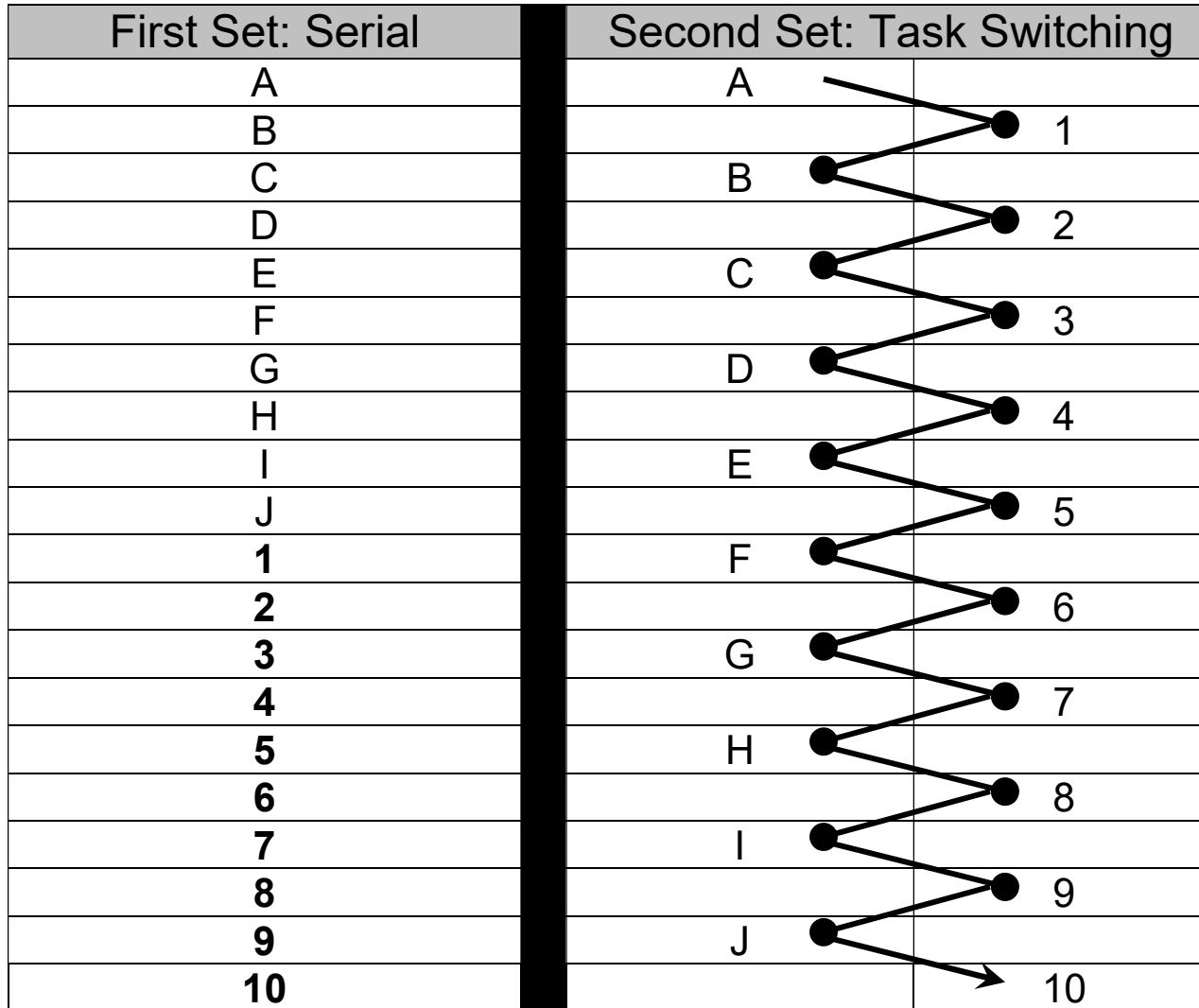
As a simple demonstration of the loss of efficiency of multitasking,

- Recite the letters A through J as fast as possible
- Recite the numbers 1 through 10 as fast as possible

Next, interweave these two tasks as fast as you can

- A, 1, B, 2, C, 3...

## What is Psychologically Occurring While Multitasking



## **Task Switching**

- (1) In groups of 1, 2 or 3, introduce yourself to each other.
- (2) Measure and record how much time it takes for one person to perform the serial task (A, B, C... J and 1, 2, 3... 10).

Repeat this task for each group member.

- (3) Measure and record how much time it takes them to perform the task switching task (A, 1, B, 2, etc.) without visually reading it from the screen.

Repeat this task for each group member.

- (4) Calculate the extra time spent switching tasks compared to the serial task.

If time allows,

1. Have one person perform the task switching task (A, 1, B, 2, etc.) without visually reading it.
2. When they are 25%-75% done, ask them a simple question such as:
  - What color is your shirt?
  - What is today's date?
  - What is your next class?
  - What was the last thing you ate?
3. After they answer, ask them to continue where they left off.

## Examples of Multitasking

You are switching between

- Driving while on the cell phone
- Walking while texting
- Calculating a bill and talking to a customer
- Having a conversation with your partner and surfing the internet
- Having a conversation with a friend while at the dog park

## Potential consequences of multitasking



## Attention

Attention is difficult to divide. Your ability to do each task effectively is greatly reduced.

### Implications

- Don't text, talk on phone while driving.



Image source: NPR

- Don't text, talk on phone while in class or a meeting, you can miss something subtle. If it is something you aren't expecting, you can miss it and "fill in the missing information" with what you expect.
- It is hard to study while watching TV or any other task. (People who are multi-tasking are doing one task in parallel, not all at once, and some people can study with the TV on as background noise, but they aren't watching it).

## What is found about multitasking?

Heavy media multitaskers compared to low media multitaskers are found to have (Ophir, Nass and Wagner, 2009):

1. more difficulties in ignoring irrelevant and distracting information (which may be important for problem solving, expertise and metacognition) and focus on relevant information.
  - Multitasking reduces “analytical thinking”. You are less likely to effectively evaluate information.
  - The reduction in attention from multitasking reduces your ability to elaborate on what you are learning. Elaboration is important for encoding and retrieval of information.
  - Multitasking reduces the ability to detection subtle changes and nuances [see [Mentalist clip](#)].
2. more errors with working memory (familiar items interfered with memory retention)
3. spent more time switching between different task
  - When switching tasks, it is difficult to remember where you were, what you are doing and where you are going. Some of this contextual information is lost when you are multitasking and lead to more errors and less efficiency. [Yeung, 2009]









## Do attitudes predict helping behavior or are there situational factors that interfere with helping?

Seminary students are asked to give a lecture on the how to get a job as a seminary student **OR** the Good Samaritan parable. Due to scheduling constraints, they are told to give the lecture in five minutes **OR** 30 minutes across campus.

As each student crosses campus, he encounters a slumped man coughing, groaning and head down. Does he offer help?

		Time to give lecture	
		5 minutes	30 minutes
Topic of lecture	How to get a job	<p><b>(a)</b> You have <b>5 minutes</b> to give the lecture on <u>how to get a job</u></p> 	<p><b>(b)</b> You have <b>30 minutes</b> to give the lecture on <u>how to get a job</u></p> 
	Good Samaritan parable	<p><b>(c)</b> You have <b>5 minutes</b> to give the lecture on the <u>Good Samaritan parable</u></p> 	<p><b>(d)</b> You have <b>30 minutes</b> to give the lecture on the <u>Good Samaritan parable</u></p> 

Which condition(s) had the highest rate of helping behavior?

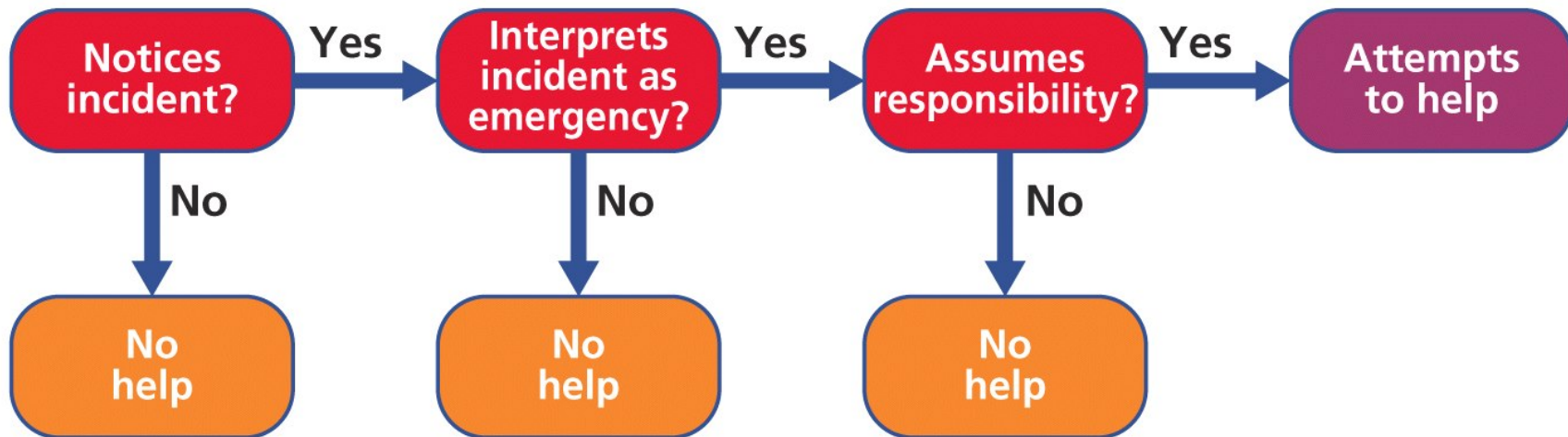


Do attitudes predict behavior?

- Will those who are preparing a lecture on the Good Samaritan help a stranger?

## Latané and Darley's Model of Helping Behavior

In order to provide help, one must:





**Georgia Tennant**  
@georgiaEtennant

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