Final paper

- Goal: Gain some experience thinking about
  - a research question
  - experimental design and variables
- Pick a study from the list (or suggest another)
- Modify it to address a new question
  - Why is the new question interesting to you?
  - Do you need to change the method? If so, how?
  (Note changes in the Design section.)

Sample paper

- New question: Does the testing effect work when the materials are more engaging?
  - Studying may have a bigger effect than with Swahili-English word pairs
- Doesn’t require big changes to the method
  - Participants will be able to answer the questions with one word (or number), similar to word pairs
  - Think about whether the original method will work, and, if not, sketch out the changes

Inattentional blindness

- Generalization of change blindness
- Occurs when we miss things because we’re not paying attention
- There are lots of things we “see” everyday, but don’t pay attention to...

Divided attention: Cell phones

(Payman et al., 2010, Applied Cognitive Psychology)

People who had crossed a public area were asked if they had seen anything unusual

Results

<table>
<thead>
<tr>
<th></th>
<th>On cell phone</th>
<th>Alone</th>
<th>Listening to music</th>
<th>Member of a pair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent identifying “clown”</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>60</td>
</tr>
</tbody>
</table>

Results

On cell phone | Alone | Listening to music | Member of a pair
---|---|---|---
0 | 0 | 0 | 60


Sensemaking

• The (human) brain seems to have a sense-making process
  – Gazzaniga’s “interpreter” (Severed corpus callosum)
  – The “synthesis” in the activation-synthesis model of dreams
  – See it working to make sense of things that don’t make any sense
    • Split-brain context, delusions, dreams

Bell + Music example
(from Severed corpus callosum video)

• Joe sees: “Bell + Music”
• Joe’s right hemisphere points to bell picture
• Joe’s left hemisphere sees him pointing to bell picture
• Explains in terms of music:
  – “Music ... last time I heard any music was coming from the bells out here, banging away”
  – So sense-making is probably left lateralized

Dreams

• The activation-synthesis model:
  – Activation: During REM sleep, signals travel from brain stem to thalamus to visual areas of cortex
    • Mimicking visual sensations
  – Synthesis: Brain tries to make sense of the resulting images
Sleep is important

- For consolidating learned knowledge
  - Facts and skills
- For gaining insights (“incubation”)
  - Sleep made people about 3 times as likely to discover a problem-solving shortcut
    (Wagner et al., 2004, Nature)
- Exam 1 will not cover pp. 234-235
  - Technical details of sleep-wake cycles

Prosopagnosia

- Face blindness: An inability to recognize faces
- Questions:
  - Can a prosopagnostic still recognize someone?
  - How similar is prosopagnosia to the face inversion effect?
  - Is it a deficit of perception or memory?