Primimg Homographs for a Vocabulary Test

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Acknowledgments

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Continuous
Word Association

- bank_savings_bank_money_bank_river_bank_basketball__
- bank_check___bank__teller__bank_loan_bank___money__
- Classified as Stable or Unstable.
- Financial meaning is dominant.
- (Gorfein, Viviani, & Leddo, 1982)
Design 1: Priming Task

- 14 Heterophones (non-homophonic homographs), 14 homophonic Homographs “matched” in stability and balance (Match), 14 homophonic Homographs “matched” in balance but less stable homographs (Flexible) were selected.

- Stability: likelihood of changing meanings in 4 continuous word associations.

- Balance: Degree of dominance of the meaning defined.
## Materials Used

<table>
<thead>
<tr>
<th></th>
<th>Heterophones</th>
<th>Matched</th>
<th>Flexible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance</td>
<td>.74</td>
<td>.93</td>
<td>.89</td>
</tr>
<tr>
<td>Stability</td>
<td>.79</td>
<td>.83</td>
<td>.67</td>
</tr>
<tr>
<td>Baseline Vocabulary Test</td>
<td>.30</td>
<td>.34</td>
<td>.30</td>
</tr>
</tbody>
</table>
Procedure

- Participants were selected on the basis of being native English speakers.
- Participants were assigned in a counterbalanced manner to the experimental conditions, (dominance).
- In phase 1, they were instructed to decide whether sentences presented in random order from the list assigned made sense and had to make their decisions within 4s.
Design (2)

• Each set of 14 homographs were divided at random into two subsets of 7 items each.
• Sentences were constructed for the dominant and secondary meaning of each homograph.
• Twenty-one nonsense filler sentences were created.
Design (3)

• Two sentence lists were created that contained the subsets of dominant homographs and the filler items.
• Two sentence lists were created with the secondary sentences and the filler items.
• Participants decided whether the sentence made sense.
• Accuracy feedback was provided.
Sentence Types

• Dominant: The *wound* was minor.
  Or
• Secondary: He *wound* up the line.
  And
• Nonsense: They took their vaccination in Hawaii.
Proportion Correct Sentences

- Materials: Nonsense, Het, Match, Flex
- Proportion Correct: Dominant, Secondary

Graph showing the proportion of correctly identified sentences across different materials, comparing dominant and secondary responses.
Procedure (2)

- Upon completion of the sentence task participants were given the vocabulary test booklet which had instructions for a “TOT” task and had 20 minutes to complete as many of the items they could.
- Participants were encouraged to do one item at a time and at the end of the list go back to any item they may have thought of later.
Design: Vocabulary Test

- Cues were written for the secondary meaning of each of the 42 critical homographs and randomized into two test booklets.
- e.g. Not eat for a holy day
  or for a different word
  Twist the key on a toy
Effect of Sentence Prime

-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14

Heterophone Match Flexible

Priming (Seen-Not)

Same
Other

Material

Heterophone Match Flexible
Anova Confirms

• Interaction of Prime Type (Different vs. Same Meaning) X Priming (Primed vs. Unprimed)

• No significant effect of Materials.
What did we conclude?

• Benefits are obtained when primed with the appropriate meaning.
• No costs are observed when we prime with the inappropriate meaning.
• Possibility was that presenting definition cue overcame any effect of the appropriate meaning.
What I neglected

• I plotted data as a difference score (cost or benefit in relation to the non-presented items).
• I neglected to plot the data comparing primed vs. unprimed items.
• So let's look at that in the next slide.
What may we conclude now

- Retrieving an appropriately primed word may interfere with baseline performance.
- More research is needed!
Some Positives in the World

• Current issue of the American Scientist has acknowledged our research as shown on the next slide.
THESAURUS REX.
That's all folks
Thanks for Listening!

Questions?