Positive Proactive Interference: Happy Versus Marriage

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Background

Proactive Interference (PI; Wickens, 1970)
- Recall of recent information is impaired by older material
- Release from PI (Keppel & Underwood, 1962)
- Sudden improvement in recall as compared to baseline performance
- Changes in categories for to-be-remembered items typically lead to release from PI (Wickens, 1972)
- Shift in emotional pole (Wickens & Clark, 1968)
- Intermixed emotion and emotion-laden words

Emotion v. Emotion-Laden
- Emotion words identify specific emotional states of mind (e.g., angry, sad)
- Emotion-laden words refer to objects that have emotional associations (e.g., funeral, murder)

Knickerbocker & Altarriba (under review)
- Compared release from PI with a neutral category, a negative emotion category, and a negative emotion-laden category
- Participants viewed a single category of neutral words for three trials before switching categories on trial 4
- Emotion and emotion-laden words led to distinct release from PI effects for emotion and emotion-laden words
- Release from PI was significantly larger for emotion-laden words
- Extra-list intrusions were significantly greater for emotion words
- Specifically, emotion extra-list intrusions
- Emotion-laden and neutral words did not differ in release from PI or intrusions
- Emotion words had reduced release from PI, and greater intrusions, than neutral words

Research Questions

- Does switching from neutral words to positive emotion words or positive emotion-laden words lead to similar levels of release from PI?
- Is release from PI for positive emotion words similar to release from PI for negative emotion words?
- Is release from PI for positive emotion-laden words similar to release from PI for negative emotion-laden words?

Stimuli

- Selected from Warriner et al. (2013) based on valence and arousal ratings
- Positive emotion and emotion-laden words:
  - High valence ratings
  - High arousal ratings
- Neutral words:
  - Moderate valence ratings
  - Low arousal ratings
- Categories were matched on several variables from the English Lexicon Project (ELP; Balota et al., 2007)
- Word length, frequency, orthographic neighborhood size, lexical decision task reaction time, and pronunciation reaction time

Procedure

Participants
- 88 students from Skidmore College
- Screened with the BDI-II (Beck et al., 1996) and STAI (Spielberger et al., 1983)

Wordtypes Utilized Across Trials 1-4

<table>
<thead>
<tr>
<th>Trial 1</th>
<th>Trial 2</th>
<th>Trial 3</th>
<th>Trial 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>celery, jelly, orange, potato</td>
<td>banana, flour, rice, loaf</td>
<td>almond, cheese, pineapple, tomato</td>
<td>antelope, hare, pigeon, seal, passion, surprise, bliss, amazed, lover, payday, spa, bonus, butter, milk, grain, walnut</td>
</tr>
</tbody>
</table>

Word List

- 500 ms each
- 15 s
- 10 s

Recall for Each Condition by Trial Position

- ANOVA analysis indicated significant difference in recall scores ($p < .0005$)

Release from PI and Intrusion Rate on Trial 4

- ANOVA analysis indicated significant difference in release from PI ($p = .006$)

Discussion

Replication of previous findings
- Similar to findings of Knickerbocker & Altarriba (under review) with negative words
- All three categories led to significant release from PI
- Neutral category led to the largest PI effect
- Emotion words exhibited elevated intrusions on Trial 4
- Brown-Peterson (Brown, 1958; Peterson & Peterson, 1959) task is powerful enough to detect differences between nuanced semantic categories

Implications for Emotion & Emotion-Laden Stimuli
- Continued evidence that emotion and emotion-laden stimuli should be considered different categories
- Distinct pattern of responses in emotion and emotion-laden words was found with both positive and negative emotional associations

Implications for Emotion Research
- Support for general emotional vigilance (Lange, Bradley, & Cuthbert, 1997) over negative emotional vigilance (Fox, Russo, Bowles, Dutton, 2001; Pratto & John, 1991)
- Similar release and intrusion effects for positive and negative emotion words

Future Directions

- Follow-up study to further investigate differences between shifting semantic category and emotion dimension
- Shift control condition to emotion control
- Will shift from emotion to emotion-laden lead to release from PI similar to shift from emotion to neutral?
- Shift control condition to emotion-laden control
- Will shift from emotion-laden to emotion lead to release from PI similar to shift from emotion-laden to neutral?

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