

Attentional Bias, Study Time, and Test Performance in Test-Anxious College Students

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INTRODUCTION

- Many college students report experiencing high levels of **test anxiety**, and this is associated with decreased academic performance (Hembree, 1988).
- Theories suggest that a **failure of attention** is one component underlying this relationship; for example, test-anxious students may attend to thoughts of worry during examinations, disrupting cognitive processing (Eysenck et al., 2007).
- This suggests that test-anxious students will be more likely to attend to test-related stimuli, but few studies have tested this hypothesis.
- One method used to look at **attentional biases** is the Attentional Blink paradigm. Most participants fail to notice a target item (or show a “blink in attention”) if the stimulus is presented less than 500ms after a previous target **unless the stimulus is highly arousing or personal** (Romens et al., 2011).
- Hypothesis: High test-anxious students will be more likely to identify test-related words presented shortly after a neutral target than low test-anxious students.**
 - This may be particularly true of those students who report going ‘blank’ on examinations.

METHODS

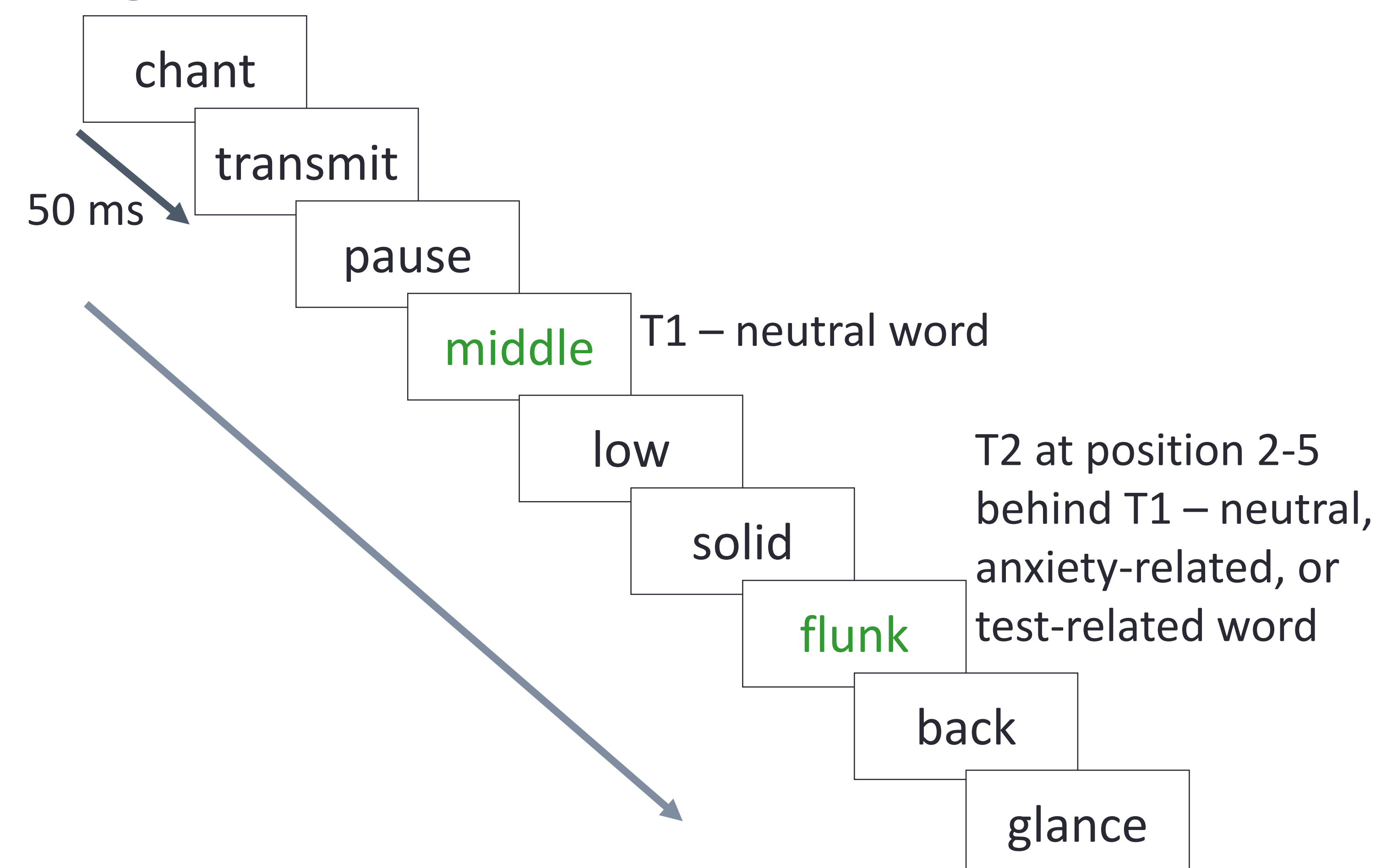
- Participants:** 91 Langara College students (62 Female) between the ages of 18 – 40, were recruited from psychology classes on campus.
- Procedure:** After obtaining informed consent, participants were asked to complete the digit-span task, followed by the attentional blink task. Participants then completed the Test Anxiety Inventory (Spielberger, 1980), a questionnaire, the National Adult Reading Test – Revised, and then debriefed.

METHODS CONTINUED

Attentional Blink Task:

- Participants completed three blocks of 40 trials. In each trial, participants viewed a rapid presentation of 15 words on a laptop computer. 32 trials contained two targets presented in green (T1 and T2); 8 trials had only one target. Participants were asked to indicate if they saw a second target word, and if so, to state the word orally. T1 was always a neutral word. Across blocks, T2 was either a neutral (e.g., agile), anxiety-related (e.g., nervous), or test-related (e.g., exam) word.
 - The anxiety- and test-related word lists were equated on valence and arousal, and all lists were equated on letter count.

Fig. 1. Schematic of one trial.



REFERENCES

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RESULTS

- Analysis across participants showed no main effect of word type, a main effect of position, $F(3, 264) = 31.59, p < .001$, and no interaction
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- | Position of T2 | Neutral | Anxiety | Test |
|----------------|---------|---------|------|
| 2 | 6.7 | 6.7 | 6.6 |
| 3 | 7.4 | 7.3 | 7.2 |
| 4 | 7.5 | 7.5 | 7.4 |
| 5 | 7.5 | 7.5 | 7.4 |
- Analyses also showed an interaction between word type and TAI total score, $F(6, 170) = 2.69, p < .05$; however, post-hoc tests did not reveal significant differences between groups.
 - Analyses show trends towards variation in word identification with self-reported measures of “going blank” on tests.
 - Participants in the highest quartile of the TAI, indicating high test anxiety, reported studying more hours per class each week ($M = 1.95$) than those in the lowest quartile ($M = 1.28$), $t(40) = 2.08, p < .05$.

CONCLUSIONS

- Results do not suggest that students high in test-anxiety show an attentional bias to test-related material.
 - It is still possible a bias occurs in test situations.
 - Future studies should explore attention and memory in relation to the experience of ‘going blank’ on tests.
- Students who experience high test anxiety may increase study time to help manage their anxiety.