Attenuating the Attentional Blink by Including Salient Temporal Events in the RSVP Stream

**Introduction**

- Stimulus properties of distractors in the RSVP stream modulate the AB (e.g., Chun & Potter, 1995).
- By changing the interstimulus interval (ISI) between distractors, we briefly disrupted temporal regularity at specific points in the RSVP stream to examine whether disruptions in temporal regularity modulate the AB.
- We also analyzed T1|T2 identification to investigate effects of T2 on T1 (Nieuwenstein, 2006).

**Methods**

- RSVP Stream: 24 msec letters with 72 msec ISI. Targets were red letters while distractors were black letters.
- Disruption Interval: ISI was 72, 24, or 0 msec allowing 1, 2, or 4 distractors to be presented during one 96 msec interval typically containing 1 letter (see Figure 1).
- Disruption prior to T1 & T2 onset in Experiments 1 & 2, and after T1 & T2 offset in Experiments 3 & 4 (see Figure 2).
- A regular distractor always preceded T1 and T2 producing a 72 msec pre and post ISI in all conditions.
- In Experiments 1 & 4, lags were 1-5 and 7. In Experiments 2 & 3 lags were 3-7 because the disruption occurred between T1 and T2.

**Results**

- See Figures 3-6; ‘reversals’ counted as correct.

**Discussion**

**T1 Influence on T2: The Attentional Blink**

- Cuing T1 onset with a brief change in rhythm did not enhance T1 identification.
- Cuing T2 onset with a brief change in rhythm did not enhance T2 identification as does cuing with target features (e.g., Nieuwenstein, 2006).
- A brief change in rhythm after T1 offset did improve identification of both T1 and T2. Chua (2005) argued the AB is due to a delay in attentional disengagement from T1. Perhaps the change facilitated this disengagement. More research is needed to determine if this were the case.

**T2 Influence on T1: A Dynamic Attentional Blink?**

- Most explanations of the AB assume a somewhat serial process in which T1 related processes are detrimental to T2 identification. However, T1|T2 identification showed an AB-like pattern in that T1 identification (consolidation?) was lower when T2 was identified and the T1-T2 lag was short.
- If T2 also influences T1, models of the AB will need to be modified to include a dynamic (recurrent?) component. One suggestion is that the sharing of common resources by the consolidation and attentional control (selection) processes (Kawahara, Di Lollo & Enns, 2006). More research is required to elucidate this matter.

**References:**


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Email: wahpheow@iastate.edu (Wah Pheow Tan, 陈华彪)