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Untangling Linguistic Salience

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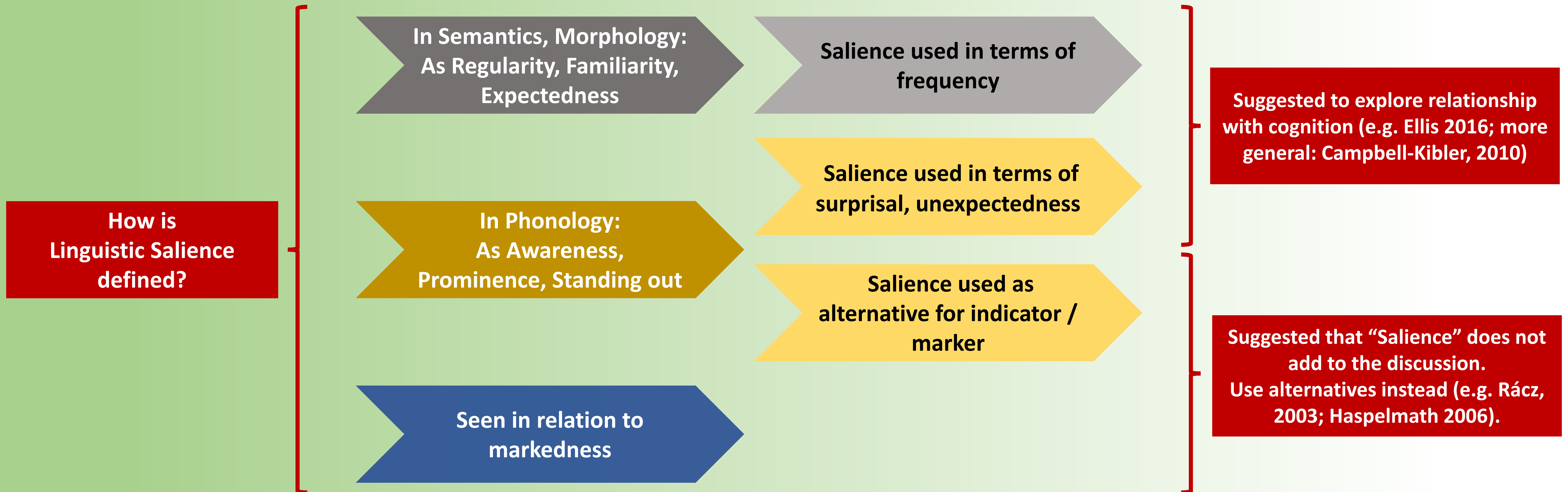
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What is the problem?

Although there is common ground between different notions of what linguistic salience entails, the exact meaning of salience is “notoriously difficult to quantify” (Hickey, 2000, p. 57). While many definitions exist, none of these definitions cover all of the aspects of salience that are currently in use. Thus, the use of the concept of linguistic salience often seems to raise more questions than it answers and one could dispute whether the concept of salience has explanatory value (cf. Rácz, 2013).

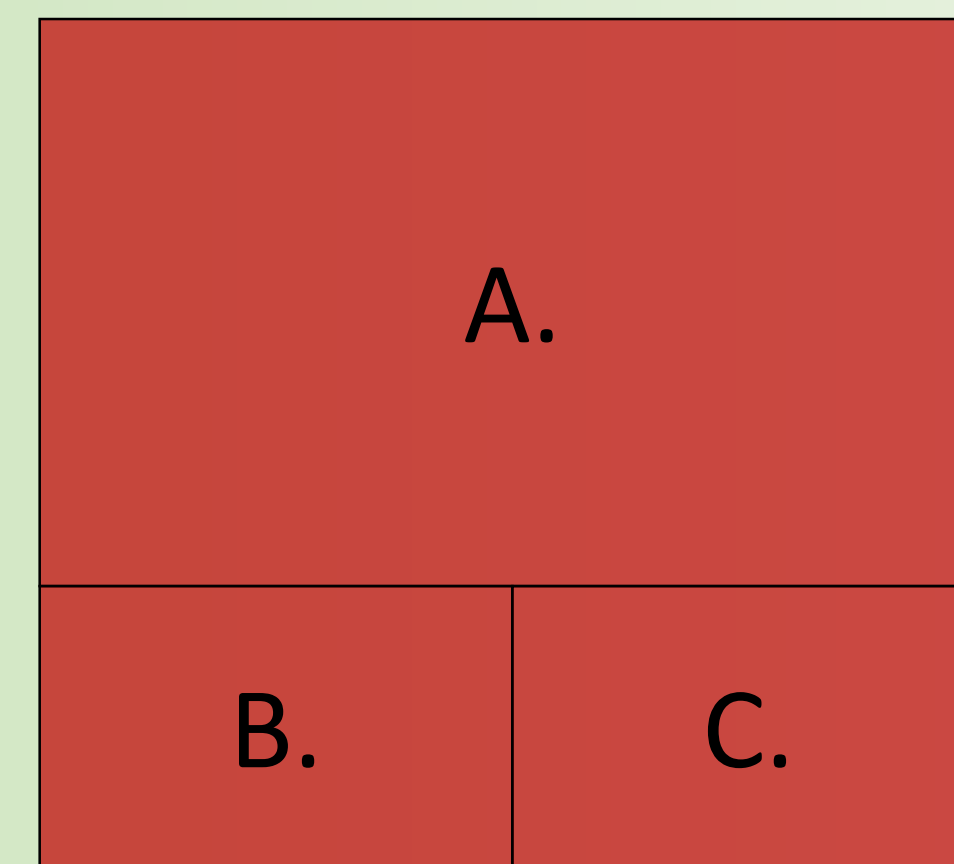
Breaking down Salience



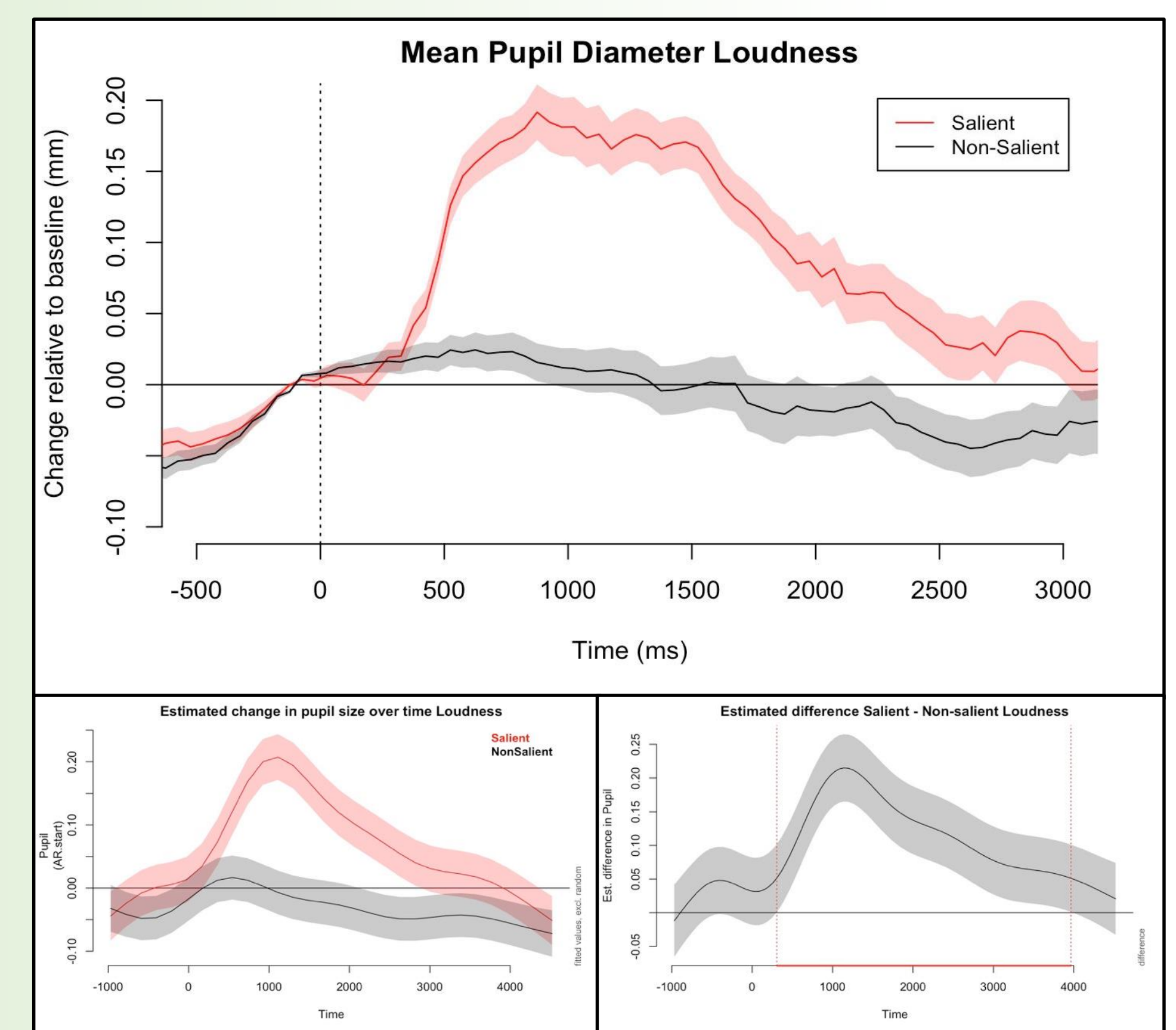
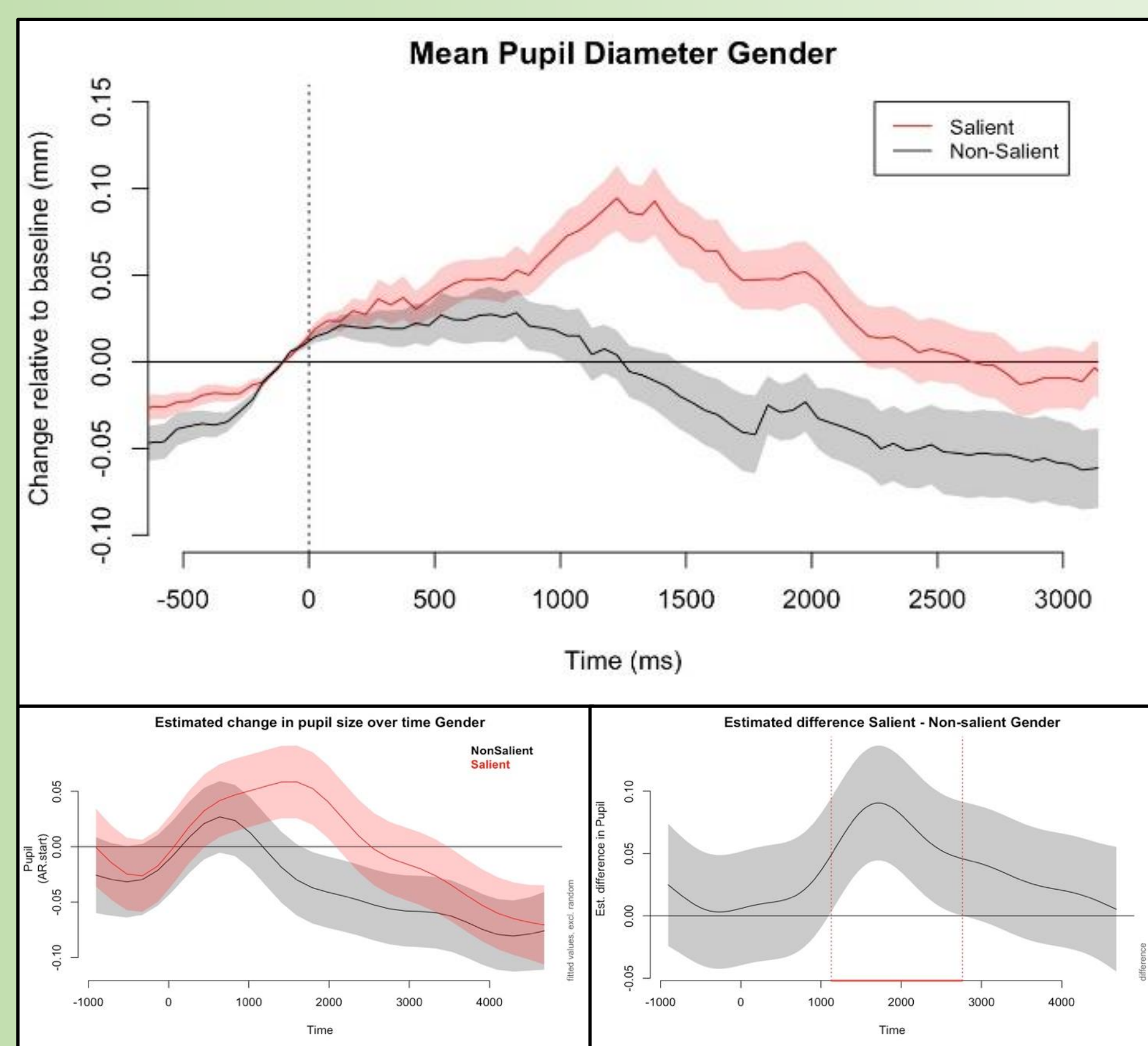
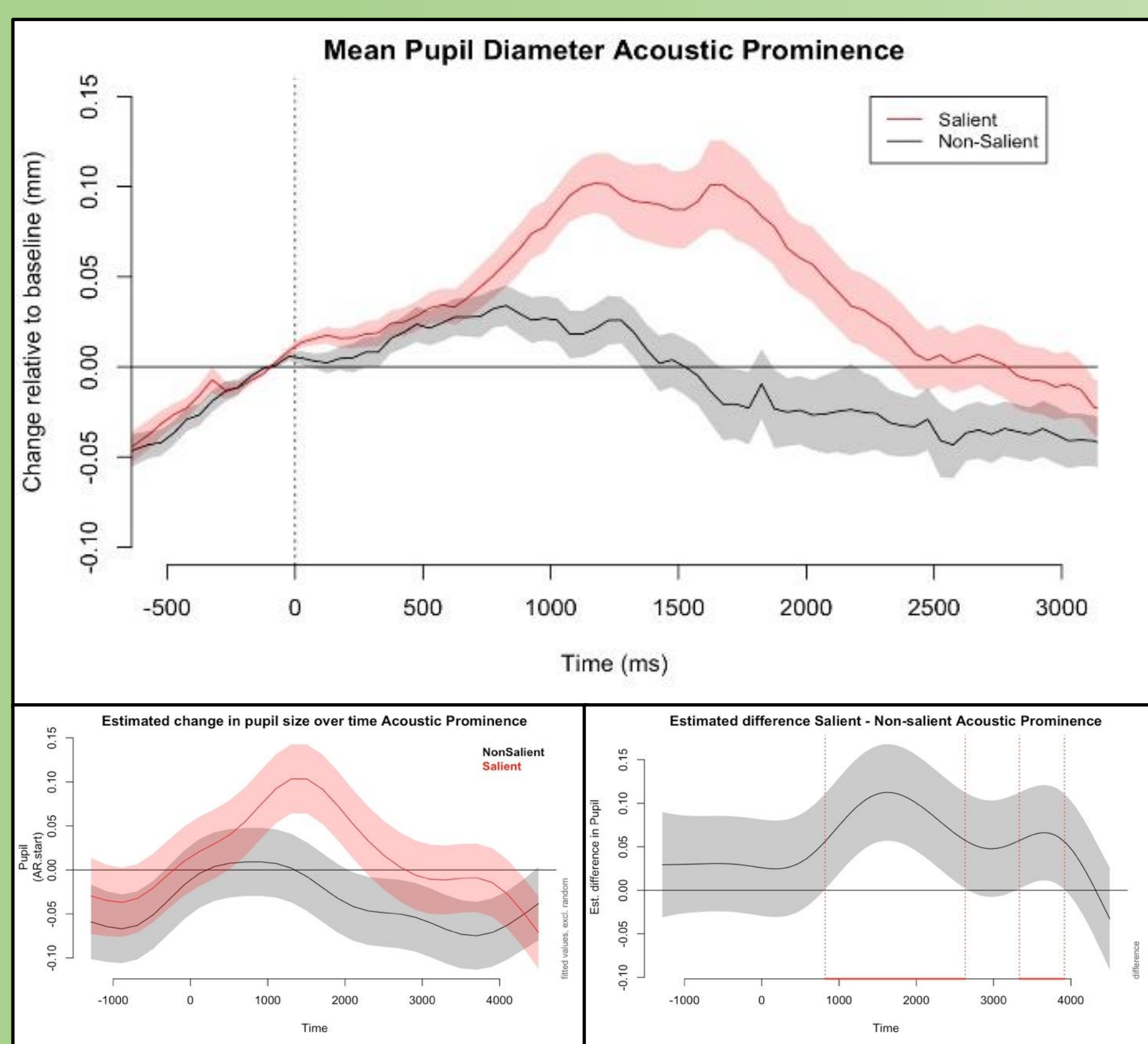
How can we test this?

Ellis (2016), Blumenthal-Dramé et al. (2017) and others, have suggested that we might consider salience in terms of cognitive difficulty. To test this, we conducted a pilot study using eye-tracking, with which it is possible to measure this cognitive difficulty (cf. Liao et al., 2016).

- 41 participants (25 female, mean age 23) listened to 48 sentences.
- Six categories of salience.
- Each sentence had a salient and non-salient variant.
- Two lists, salient in one = non-salient in other.
- Pupil size was measured during listening.
- Significant change in three categories:



- Graphs A plot the pupil size over time, for both salient (red) and non-salient (black) conditions. $t=0$ ms is the mean stimulus onset. The change in pupil size is relative to the baseline, that is the mean pupil size over the 200ms before stimulus onset.
- Graphs B plot the pupil size over time as estimated by the statistical model.
- Graphs C plot the difference between salient and non-salient conditions. The sections with a significant difference are marked with red.



What does this mean?

Untangling Salience tells us the concept is not always helpful. Alternatives often already exist.

Relationship with cognition receives a lot of attention, but is not yet fully elucidated

Pilot study suggests surprisal (= salience) comes with higher processing load.

Pilot study shows no significant results for frequency, although Brysbaert et al. (2017) did report on less processing load for higher frequency. This needs more research



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