

Contrastive intonation effects on word recall for information-structural alternatives

Xaver Koch, Anna-Lisa Ndao and Katharina Spalek

Humboldt-Universität zu Berlin

This study investigates the effect of contrastive intonation on listeners' memory for contextual alternatives. When processing discourse, listeners do not only internalize linguistic propositions but also take into account the information structure of an utterance. Focus as one core component of information structure indicates "the presence of alternatives that are relevant for the interpretation of linguistic expressions" (Krifka, 2007, p.18). Focus can be expressed in different ways, e.g., word order, focus particles and intonation. What all of these means have in common is that they evoke a set of alternatives to the focused constituent (cf. Rooth, 1992).

Listeners may interpret the L+H* tone accent with which the focused constituent MARY in Example 1 is realized as contrastive (cf. Grice & Baumann, 2002). Consequently, for Example 1, listeners may conclude that context alternatives to the focused constituent, (e.g., Peter, William) have not been shown any pictures. The activation of these alternatives may be beneficial for subsequent discourse processing which is supported by corpus research findings (cf. Spalek & Zeldes, 2015). In contrast to related research which has shown that contrastive intonation improves *recognition* memory for alternatives (e.g., Fraundorf et al., 2010), the present study investigates whether contrastive intonation improves later *recall* for focus alternatives similarly to the finding that focus particles enhance recall performance for alternatives (Spalek et al., 2014).

Example 1: John showed MARY the pictures.

(upper case indicating a contrastive L+H* tone accent)

Native speakers of German (n=100, 50 female) performed a delayed recall task. They listened to German auditory stimuli introducing a person and a set of three elements (cf. Example 2a for an English translation). These context sentences were continued in two different versions: the critical sentences were presented with either contrastive intonation (L+H*) focussing one of the three list items (cf. Example 2b) or with a broad intonation contour (H*). In the following, the two items that were not mentioned in the last sentence (here: eggs, milk) will be referred to as "alternatives". After ten trials, participants were prompted to recall the elements in the context sentences.

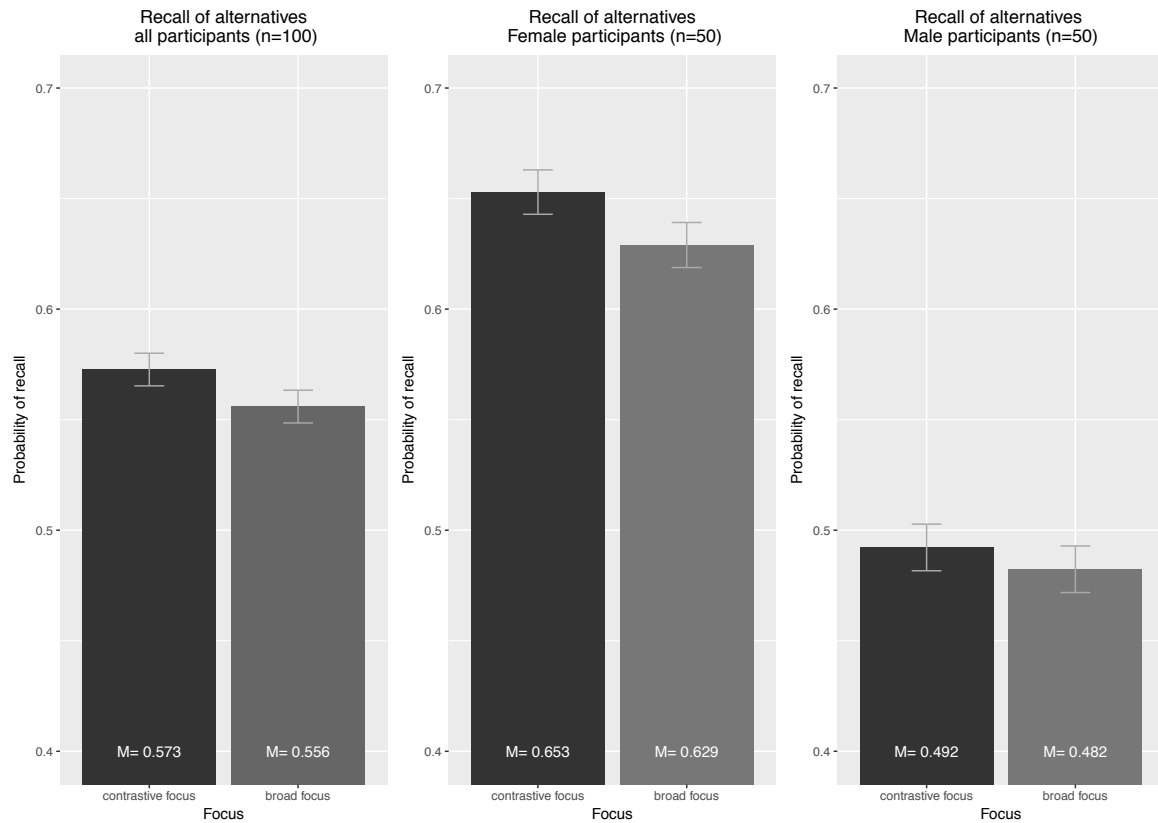
Example 2a: Isabell wrote cheese, eggs and milk on the shopping list.

Example 2b: She forgot to buy the CHEESE.

Word recall accuracy for the contextual alternatives was investigated with generalized linear mixed-effect modelling (fixed effects: intonation, gender; random effects: participant, test item, test word). Additionally, two separate analyses on male and female participant data were conducted because pilot data suggested that male participants generally showed poorer task performance. The omnibus mixed-effect analysis indicates that contrastive focus enhances recall for focus alternatives (cf. Fig. 1). Male participants performed worse than females but did not show smaller focus alternative effects in the omnibus analysis. However, the separate analyses on male and female data indicate that the observed focus alternative effect is predominantly driven by females as only their recall was affected by contrastive focus. The comparison with Spalek et al.'s (2014) Experiment 2 data suggests that contrastive intonation

elicits smaller focus alternative effects on recall than focus particles (2.9% in our data vs. ~4.5% effect size in Spalek et al., 2014). To conclude, the results point towards focus effects on alternative recall being mediated by contrastive intonation with significant gender effects on general task performance.

Figure 1: Effects of contrastive intonation on alternative recall probability



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