**Title**: Discourse Foregrounding Ameliorates Manner-of-Speaking Islands

**Introduction**: Sentences like (1), which involve extraction from the complement of a manner-of-speaking (MoS) verb (e.g., "shout", "mumble"), are considered degraded in acceptability (the MoS Island effect) [1,2]. The *subjacency account* holds that the complements of MoS verbs are islands; in particular, that they are underlyingly complex-NPs as in (2) rather than CPs, and thus restrict extraction following the subjacency condition [2]. The *verb-frame frequency account* holds that sentences like (1) are degraded because MoS verbs rarely take complement clauses [3,4]. The *backgroundedness account* connects the degraded acceptability of (1) to a discourse-level constraint: constituents contained inside the complements of MoS verbs are discourse backgrounded and thus resist movement which requires the fronted element to be foregrounded [5-7]. Previous studies have shown a correlation between the degree of backgroundedness of the constituents inside an MoS verb's complement and the degradedness of extraction from within the complement [6,7]. We ask whether the relation between discourse backgroundedness and degraded acceptability is causal: i.e., whether a greater degree of discourse backgroundedness of the extracted constituent *causes* stronger islandhood (as opposed to being merely correlated with it). We manipulate the backgroundedness of the fronted element using context sentences with different prosodic focus and test whether the MoS Island effect is attenuated. Neither the subjacency nor the frequency account predicts an effect of backgroundedness on the acceptability of sentences like (1).

**Methods**. Participants (**n=96** on Prolific) read 36 2-sentence dialogs (12 critical, 24 fillers). In the first utterance, either the matrix verb (*Verb Focus* condition, 6 items) or the object in the embedded clause (*Embedded Focus* condition, 6 items) was capitalized and bolded, representing prosodic focus that either backgrounded or foregrounded the embedded object, respectively (examples in (3)). The second utterance, identical in both focus conditions, contains wh-movement from within the MoS verb complement (example in (1)). On each trial, participants either rated the acceptability of the second utterance on a sliding scale or answered a 2AFC comprehension question probing the backgroundedness of the embedded object in the first utterance (example in (4)).

**Results**. **Manipulation check:** We conducted a logistic mixed-effects regression predicting backgroundedness from a fixed effect of focus condition and maximal random effects. There were fewer *backgrounded* responses in the *Embedded Focus* than in the *Verb Focus* condition ($\beta$=-2.49, SE=0.41, $p<0.001$, see Fig. 1), suggesting the focus manipulation indeed changed the backgroundedness of the embedded object in the expected way. **Main analysis:** We conducted a linear mixed-effects regression predicting acceptability from a fixed effect of focus condition (reference level: *Verb Focus*) and the maximal random effects structure. There was a significant effect of focus condition, such that sentence acceptability was higher in the *Embedded Focus* condition than in the *Verb Focus* condition ($\beta$=0.24, SE=0.034, t=6.94, see Fig. 2), suggesting that foregrounding the embedded object attenuates the MoS Island effect. A post-hoc analysis did not detect a significant effect of verb-frame frequency (as measured in (5) [3, 8], values directly taken from [8]; $\beta$=-0.017, SE=0.014, t=-1.24, see Fig. 3) or an interaction between frequency and focus condition ($\beta$=0.009, SE=0.011, t=0.82).

**Discussion:** These results suggest a causal relationship between the discourse backgroundedness of an embedded constituent and the degradedness of extracting that constituent from an MoS island. This supports the backgroundedness account, which attributes the degradedness of MoS island violations to a clash between the discourse backgroundedness of constituents contained in an MoS verb complement and the foregrounding wh-movement operation. The verb-frame frequency account and the subjacency account are challenged: both accounts predict that the MoS Island effect should not be attenuated by discourse context, since neither verb-frame frequency nor the subjacency condition is dependent on discourse context. In sum, our results show that the MoS Island effect is at least partially attributable to the discourse backgroundedness of the embedded constituents.

(1) *Example of sentence with MoS island violation*
*Who$_i$ did John whisper that Mary met with t$_i$?

(2) *Underlying structure of sentence with MoS island violation (syntactic account [2]):*
*Who$_i$ did John whisper [$_{NP}$ (a whisper) [$_{CP}$ that Mary met with t$_i$]]?

(3) *Example stimuli*

a. *Verb Focus condition*
Hanako said: John didn't **WHISPER** that Mary met with the lawyer.
Scott said: Then who did John whisper that Mary met with?

b. *Embedded Focus condition*
Hanako said: John didn't whisper that Mary met with the **LAWYER**.
Scott said: Then who did John whisper that Mary met with?

(4) *Example comprehension question probing backgroundedness of embedded object following a stimulus as in (3) (a: foregrounded; b: backgrounded).*
Question: What was Hanako talking about?
Options: a. Who Mary met with, according to John.
b.The way John said that Mary met with the lawyer.

(5) $Sentential\ Complement\ Ratio\ (SCR) = \frac{\#\ (verb\ used\ with\ sentential\ complement)}{\#\ (verb)}$

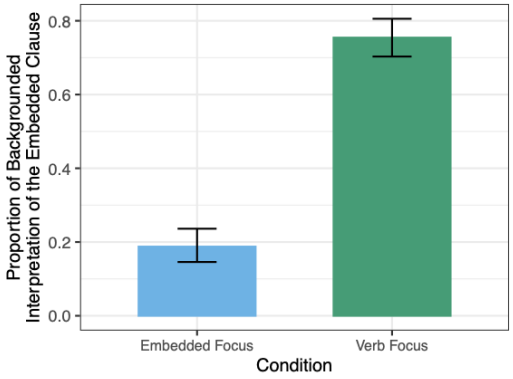


Figure 1. Backgroundedness results.

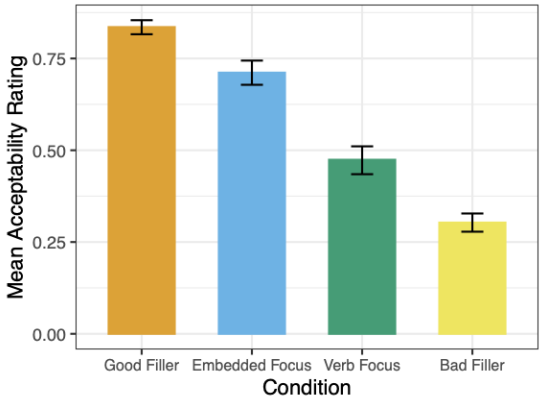


Figure 2. Acceptability rating results.

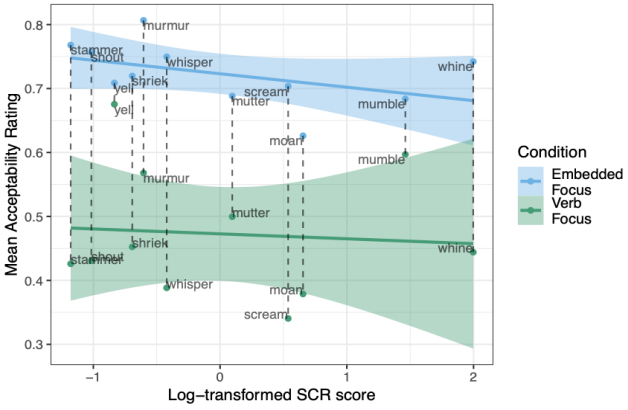


Figure 3. Acceptability ratings against log-transformed SCR scores.

**References**: [1] Ross (1967) *MIT Dissertation.* [2] Snyder (1992) *unpublished ms.* [3] Kothari (2008). *Proceedings of WECOL 2008*. [4] Liu, Ryskin, Futrell & Gibson (2022). *Cognition*. [5] Erteschik-Shir & Lappin (1979). *Theoretical Linguistics*. [6] Ambridge & Goldberg (2008). *Cognitive Linguistics.* [7] Goldberg (2013). *Experimental Syntax and Island Effects.* [8] Richter & Chaves (2020). *Proceedings of CogSci 2020.*