

Does spoken and gestural manner modification differ in at-issueness?

We present the results of an experiment suggesting that spoken and gestural manner content differs in at-issueness (e.g., *shut loudly* vs. [*shut*]_SLAM) but adverbial and verb-internal content does not (e.g., *shut loudly* vs. *slam*). These results indicate that modality influences at-issueness for manner specification, such that gestural manner content is not-at-issue, and that the consideration of both spoken and gestural content is needed to fully understand a speaker's utterance.

Modality influencing at-issueness: Speakers have a variety of options when they want to express manner. Stolterfoht (2026) showed that the content of a manner adverbial such as *loudly* in (1A) is at-issue as it can be directly dissented with (1B) but not indirectly dissented with (1B'); see Cummins et al. (2019) for this diagnostic of at-issueness.

- (1) A: Peter shut the window loudly.
B: No, that's not true. It wasn't loud.
B':#Yes, that's true, but it wasn't loud.

Stolterfoht (2026)

Ebert et al. (2021), on the other hand, suggested that the manner content of an iconic co-speech gesture like SLAM in (2A) is not-at-issue as it cannot be directly dissented with (2B). Following the logic of at-issueness diagnostics, a response that contains an indirect denial such as (2B') would be expected to be acceptable. SLAM in (2A) indicates that the utterance is accompanied by a gesture representing that the window was closed in a slamming manner.

- (2) A: Peter [shut the window]_SLAM in the kitchen.
B:# No, that's not true. He shut it very carefully.
B': Yes, that's true, but it wasn't loud.

Ebert et al. (2021)

Methods: We ran an experiment designed to investigate the at-issueness of the manner content of German adverbial modifiers and co-speech gestures. Additionally, we investigated the at-issueness of verb-internal manner modification in verbs of motion, e.g., *sneak*. Sample stimuli of the three versions adverbial (3a), verb-internal (3b), and gestural (3c), all expressing the same content, are given in (3a-c). A professional actor was video-taped while producing the utterances that were either accompanied by an iconic co-speech gesture in the gestural conditions (3c) or by a meaningless beat gesture co-occurring with the verb in the adverbial (3a) and verbal (3b) conditions. The gesture in (3c) consisted of the reenactment of a creeping movement from a character viewpoint perspective.

- (3) a. Anna geht schleichend ins Schlafzimmer. 'Anna goes sneaking into the bedroom.'
b. Anna schleicht ins Schlafzimmer. '... sneaks ...'
c. Anna [geht] _SCHLEICHEND ins Schlafzimmer. '... [goes]_SNEAKING ...'

Together with a video containing one of the versions in (3a-c), one of the two response types in (4) was presented in writing, (4a) representing a direct denial and (4b) an indirect denial.

- (4) a. Nein, das stimmt nicht! Sie war doch sehr laut unterwegs. direct denial
'No, that's not true! Actually, she was very loud.'
b. Ja, das stimmt, aber sie war doch sehr laut unterwegs. indirect denial
'Yes, that's true, but she was actually very loud.'

This yielded a 2 (DENIAL TYPE: *direct* and *indirect*) x 3 (MODIFICATION TYPE: *adverbial*, *verbal*, and *gestural*) factorial design. We created 36 target items (108 target sentences) and 42 filler items also using denial tests contrasting speech and gesture. Items and fillers were distributed across twelve lists according to a Latin square design. 60 participants rated the acceptability of a direct denial or indirect denial as a reaction to the utterance in the video on a Likert scale from 1 (completely unacceptable) to 7 (completely acceptable).

Results and Analysis: Fig. 1 plots the mean ratings by modification type and denial type. Direct denials were rated as more acceptable than indirect denials with adverbial and verbal modification. This suggests that spoken manner content is at-issue. However, gestural modification did not reveal significant differences depending on the denial type. The results

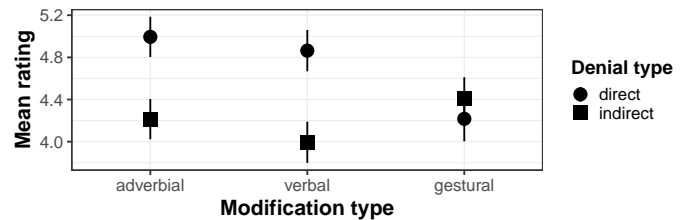


Fig. 1: Mean acceptability by modification and denial type +95% CIs.

were confirmed by an ordinal regression mixed-effects model that predicted the acceptability ratings from the modification type (with Helmert coding to compare adverbial/verbal vs. gesture, and adverbial vs. verbal), denial type (with “direct” as the reference level) and their interaction, with random by-item and by-participant intercepts, and random slopes for modification and denial by item and participant; simple effects analyses were conducted to investigate significant interactions.

Discussion: We found support for our hypothesis that modality influences the at-issueness of manner content since modification in speech and gesture showed different behavior in the denial test. The interaction supports our prediction that modality is a deciding factor for the (not-)at-issue divide. Our results further reveal that spoken manner modification is at-issue, even if presented verb-internally. The non-significant rating differences in gestural modification depending on the denial type are compatible with Ebert et al.’s (2020) suggestion that gestural manner content is not-at-issue. However, it is somewhat surprising that indirect denials were not rated as more acceptable than direct ones with gestural manner modification. This may be due to the over- or underspecified meaning of gestural content in general (Hunter 2018, Ebert 2024), and might lead, at least in some cases, to a mismatch with the linguistic manner content in the denial. The choice of task might also have had a weakening effect. For instance, Xue & Onea (2011) and Destruel et al. (2015) used a forced-choice task to investigate the at-issueness of the content triggered by *again* and the content of non-restrictive relative clauses (NRRCs). When asked to respond to the supposed not-at-issue content triggered by *again* or the content of a NRRC, most participants preferred indirect denial to a direct one. This suggests that these contents are not at-issue. Cummins et al. (2019), in turn, used an acceptability rating task as we did and found that both direct and indirect denial received low acceptability ratings for the supposed not-at-issue contents triggered by *again* and *too*, with no significant difference between the two conditions. This suggests that there is a less clear difference in denial type for supposed not-at-issue contents in rating tasks compared to forced-choice tasks. This mitigating effect may have affected the gestural conditions more than the linguistic conditions.

Conclusion: Despite the effects that may have weakened the acceptability of indirect denial for gestural content, we showed that modality can affect the at-issueness of manner content. A pressing task for future research is to investigate factors interacting with the at-issueness of linguistic and gestural content.

Select references: Cummins et al. (2019). Backgrounding and accommodation of presuppositions: An experimental approach. *Sinn und Bedeutung Proceedings*. • Destruel et al. (2015). A cross-linguistic study of the non-at-issueness of exhaustive inferences. *Experimental approaches to presupposition*. • Ebert et al. (2020). Demonstratives as dimension shifters. *Sinn und Bedeutung Proceedings*. • Ebert (2024). Semantics of gesture. *Annual Review of Linguistics*. • Ebert et al. (2021). Recovering gestured and spoken material in VP ellipsis and pro-forms. *Sinn und Bedeutung Proceedings*. • Hunter (2018). Relating gesture to speech: reflections on the role of conditional presuppositions. *L&P*. • Stolterfoht (2026). Adverbial modification and (non-)at-issue content. *SGG*. • Xue & Onea (2011). Correlation between projective meaning and at-issueness: An empirical study. *ESSLLI Workshop on Projective Content*.