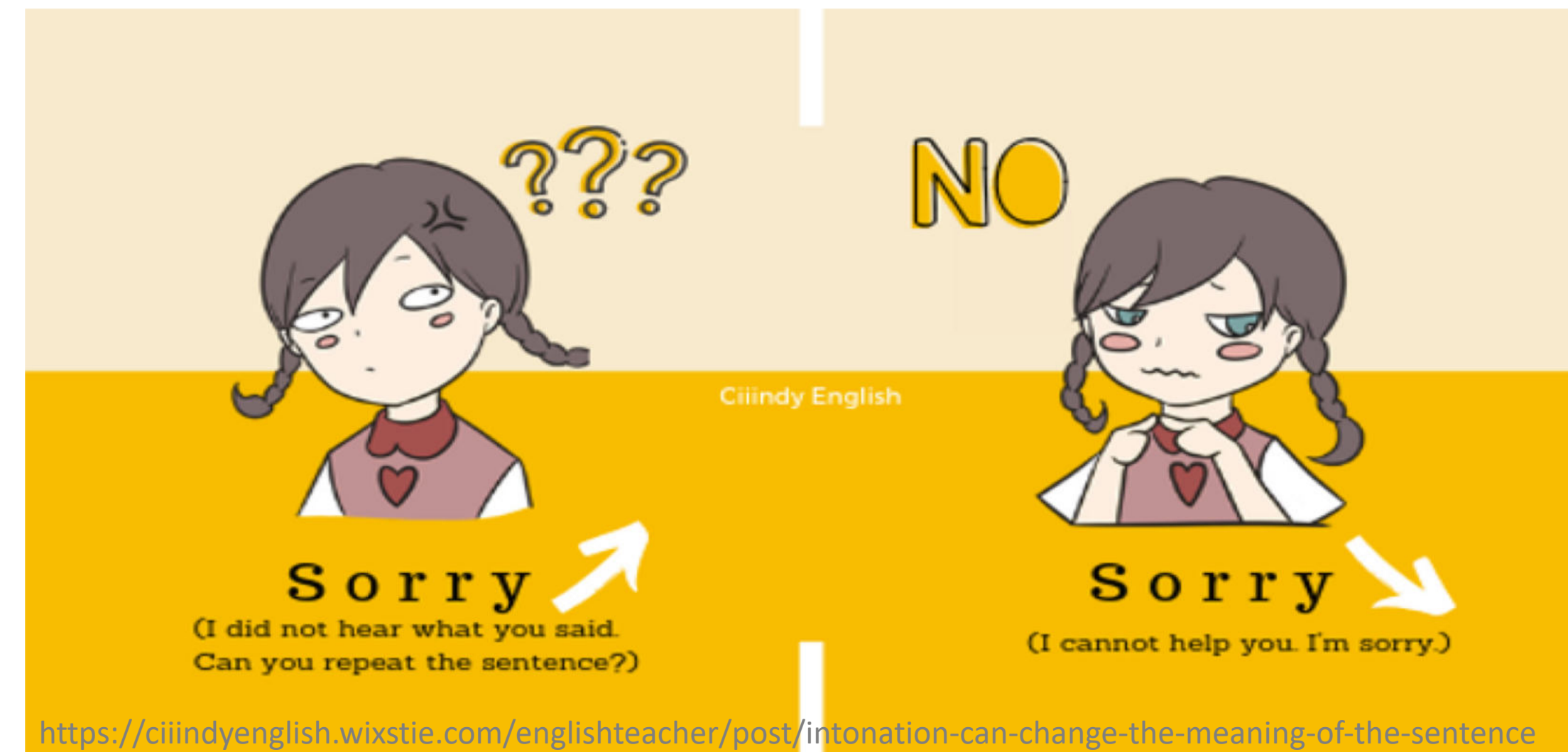


Linguistic function of Pitch



- Prosody plays a crucial role in social interactions, for example, in detecting the belief states of another person.
 - Prosody can signal speakers' certainty or uncertainty.
- Hübscher et al. (2017); Ward & Hirschberg (1985)

Research Question & Hypothesis

Do German-speaking 4-year-old children and adults interpret final falling pitch contours as a marker of the speaker's certainty?

Participants link a falling pitch contour to certainty if they select more frequently objects named with a falling compared to a rising pitch contour.

Method

- Participants**
- 56 German-speaking adults (18 – >66 years)
 - 5 4-year-old German-speaking children (mean: 53.6 months), Goal: 42 children
- Stimuli**
- 7 Monosyllabic words and 2 non-words with rising and falling pitch contour

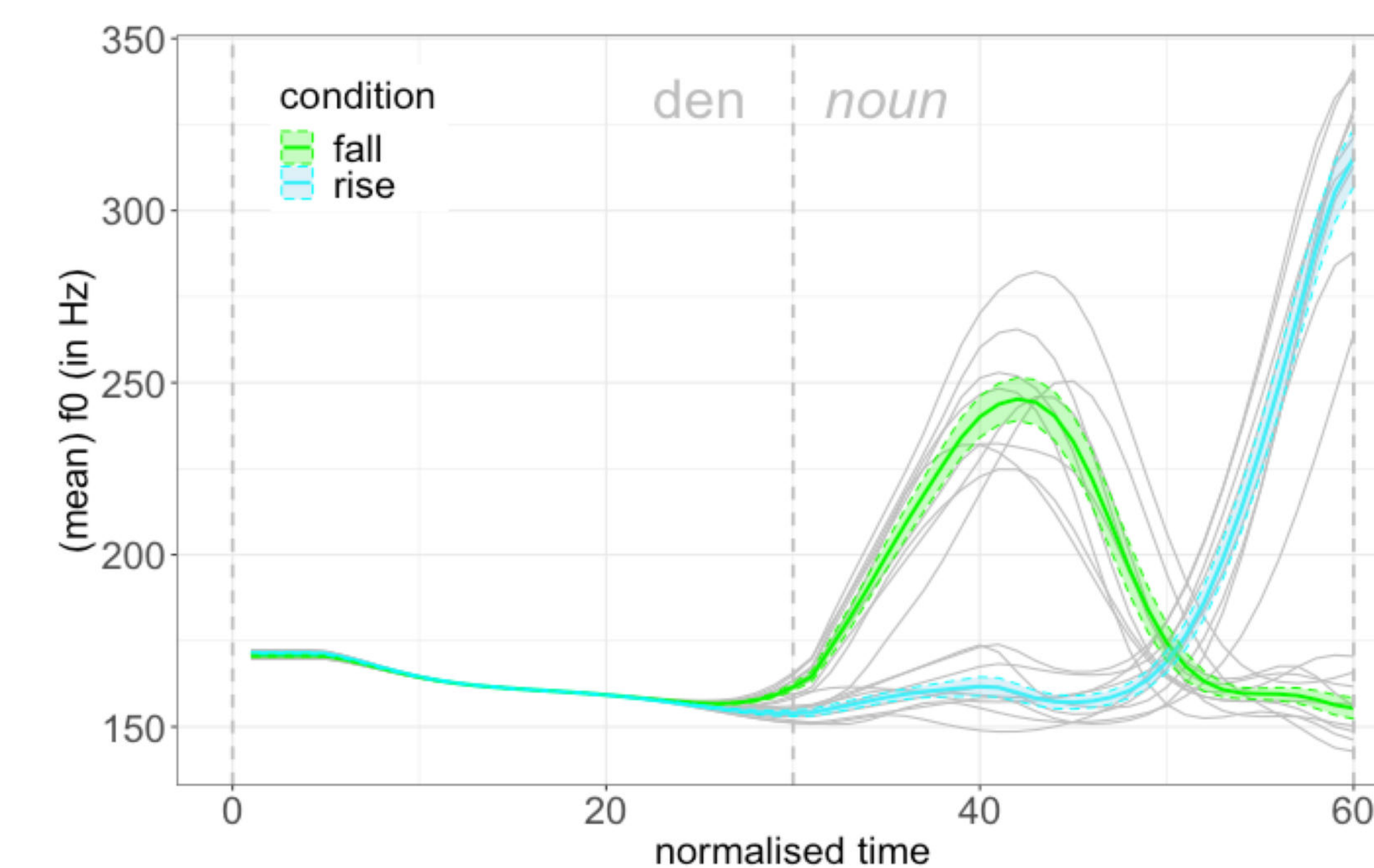
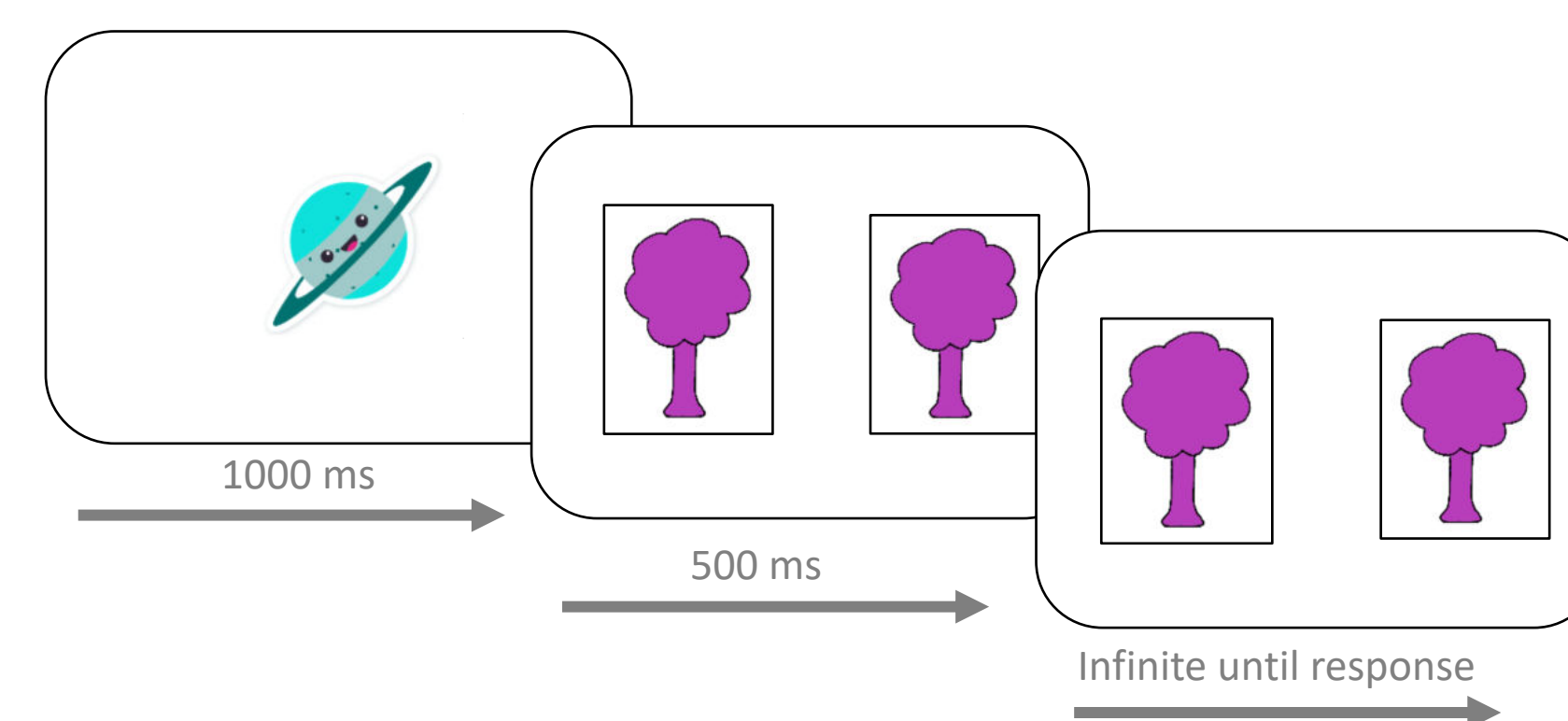


Figure 1: Time-normalised f0 contours. Mean of falling (green) and of rising (blue) contours, grey: individual items, shading: standard error

Procedure

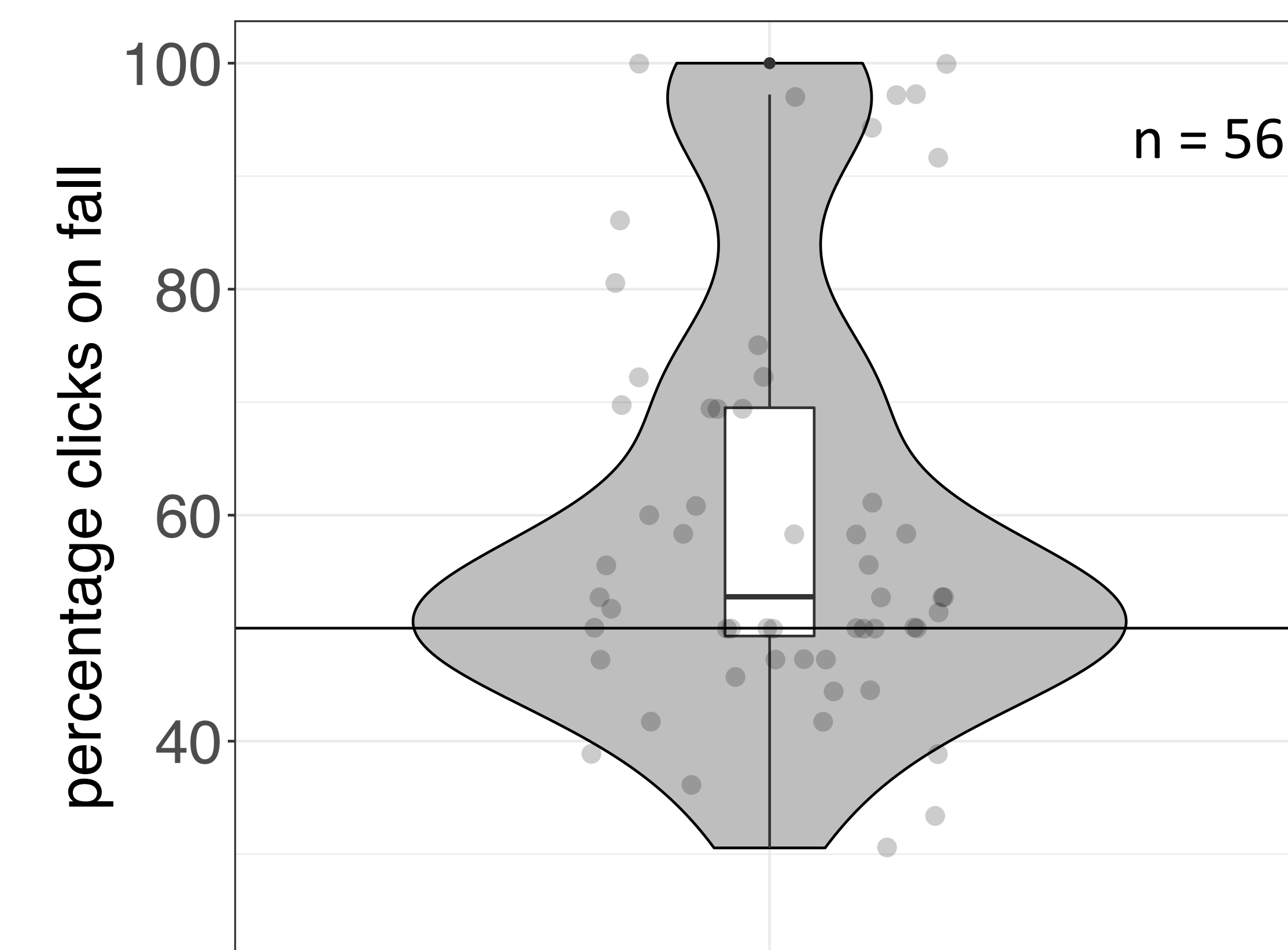
- Web-based study run on Labvanced.com
- Forced-choice task:
 - Teddy and Laila are packing toys into a box.
 - Task: Can you help Laila with the objects Teddy wants to pack? Click on left or right picture.



- Den Baum *the tree*
H* L-% (statement, certainty)
- Den Baum *the tree*
L* H-^H% (question, uncertainty)

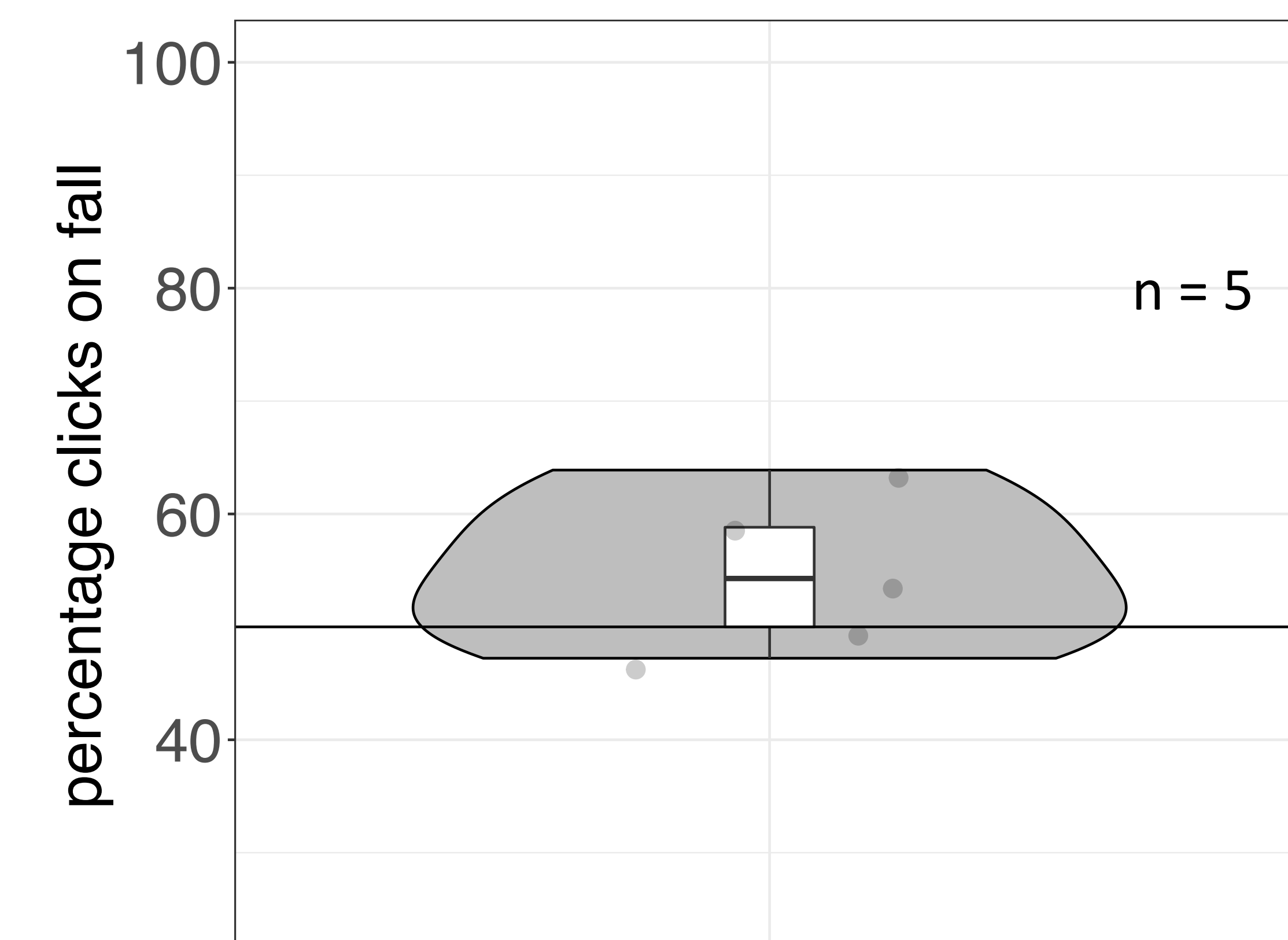
Results & Discussion

Figure 2: Density distribution and boxplot for percentage of clicks on objects associated with the falling pitch contour in adult data. Dots: individual means



Adult data: Adults chose more frequently the picture that was associated with the falling pitch contour than the picture associated with the rising contour.

Figure 3: Density distribution and boxplot for percentage of clicks on objects associated with the falling pitch contour in child data. Dots: individual means



Children data: first preliminary results suggest a similar trend as our adult data. Data collection is ongoing.

Conclusion: Falling pitch contour may reflect the certainty of Teddy's belief state → in line with hypothesis