Supplemental material Text S2: Manual for coding maximum mouth opening laterality

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1) During speech the mouth opens and closes repeatedly without full closure except for the beginning and the end. We measure the laterality of the mouth (right, left, equal) at each maximum opening.

2) The coder selects one of the following options: the right side opens more, the left side opens more or they open equally. You make a judgment about opening based on the vertical dimension (not horizontal). The following pieces of information help determine the judgment:

   (a) You can compare the maximum distance between the upper and the lower lips on the right and the left hand side. How much of the teeth you can see in each side can be helpful. But, note that you need to take into account how straight the teeth are arranged on each side.

   (b) A "pull" in the upper or lower lip in a particular direction is informative. Sometimes, the muscle around the upper or the lower lip is contracted more so than the opposite side (i.e., left vs. right). When the upper lip is pulled, it looks thinner. When the bottom lip is pulled, it looks thicker. Note, however, you need to take into account the fact that some people naturally have a lip thinner/thicker on one side than the other. In some cases the wider opening is on the opposite side of the lip that is pulled. For example, the upper left lip is pulled and the right side of the mouth opens wider (This should be coded as "the right side opens more").

   (c) How the lips are joined in the two corners of the mouth can be informative.

(d) How the lips open and close before and after the maximum opening may be informative. If one side opens sooner then that side maybe the side that opens at the maximum opening. (Note that which side opens wider may change during opening. But, we code the laterality for the maximum opening only). If one side closes sooner then that side may have been opened less wide than the other.

Specific coding issues for the application of the coding to the video recordings:

(1) You do not code the mouth openings in the beginning of each trial when participants repeat the phrase to be explained (e.g., "To spin a yarn means that").

(2) You do not code the mouth when it opens for non-speaking purposes, such as smiles, and for filled pauses (e.g., "eerm").

(3) You code the first 20 maximum openings per trial (a total of 60 in each condition, metaphorical and concrete) for each participant.