

Appendix 2

Procedure for Cognitive Linguistic Treatment for Aprosodia

Organization: Treatment is a six-step continuum arranged from easiest (most cueing) to hardest (least cueing). Treatment of each target sentence is governed by the clinician's perceptual judgment of the participant's success in achieving the appropriate prosody for the four target emotions: **happy**, **sad**, **angry**, and **neutral**.

Materials: Sentence stimuli cards, four written voice tone description cards, four emotion name cards, and four facial expression cards.

Procedure: Four rules govern the clinician's use of the task continuum:

- 1 Treatment always begins at Step One for each treated sentence.
- 2 The criteria for advancement for Steps One and Two are:
 - Step One – Participant is able to reiterate description of tone of voice and acknowledges understanding of all terms.
 - Step Two – Participant is able to correctly identify the name and facial picture that correspond to the targeted tone of voice.
- 3 The criterion for advancement to Steps Three through Six is three consecutive correct responses at each step. The participant will have a total of five attempts at each step to obtain three correct consecutive responses. If criteria are not met at Step Three, drop back to repeat Step Three two more times. If still unable to produce three consecutive correct responses, discontinue current sentence.
- 4 Discontinue current sentence if three correct consecutive responses are not elicited after dropping back two times.

Step One

I am going to show you a written description of a certain tone of voice.

Clinician places card with voice tone description facing participant.

Read the description on the card aloud as often as you like. When you are done, I want you to explain to me using your own words what you have just read.

Clinician should provide guidance if participant does not comprehend task or misrepresents the descriptions on the card. Clinician also should define terms that are unfamiliar such as “monotone” or “pitch.” Participant must reiterate the description in his or her own words before advancing to Step Two. After completing Step Two, return to Step One to elicit a second explanation of the voice tone description.

Step Two

Now I am going to show you the names of four emotions.

Clinician places the four emotion name cards facing the participant. Clinician leaves the written tone of voice description card on the table, also facing the participant.

I want you to point to the name of the emotion that best matches the tone of voice that we just spoke about.

Clinician points to written voice tone description and allows participant time to review the name cards and written description card. If participant answers incorrectly, clinician will cue participant. Once participant correctly identifies emotion name, all other emotion name cards are cleared from table, leaving only the target emotion name card and the written voice tone description card.

Now I am going to show you four pictures of faces showing different emotions.

Clinician places four facial expression cards facing the participant

I want you to point to the picture that best matches the tone of voice we have been speaking about.

Clinician again points to the written voice tone description card and allows participant time to review all cards. If participant answers incorrectly, clinician will cue participant. Once participant correctly identifies target facial picture, all other facial picture cards are cleared from table leaving the target emotion name card, the written voice tone description card, and the target facial picture card. After one response of picking both the name and facial picture cards correctly return to Step One to elicit a second explanation of the voice tone description.

Step Three

Now I will show you a sentence and I want you to read it aloud to me using the tone of voice we have been speaking about.

Clinician places the card with sentence facing participant.

Now read this sentence (clinician points to the sentence card) ***with this emotion***

(clinician points to the cards with the facial picture and target emotion name).

Be sure to use the tone of voice you have read about.

Clinician points to the written voice tone description card and gives participant as long as necessary to review. Perceptual judgment of participant's success in achieving appropriate prosody is based on use of appropriate voice tone but NOT facial expression. Clinician should look away from participant to avoid having auditory perception influenced.

Step Four

I want you to say the sentence again with the same tone of voice you just used.

Clinician removes the written voice tone description card. The cards with the target emotion name and target facial picture remain. To cue the participant to begin, the clinician points first to the sentence and says,

Now say this sentence with this emotion. (clinician points to the cards with the facial picture and emotion name)

Step Five

I want you to say the sentence again with the same tone of voice you just used.

Clinician removes card with the target emotion name. The card with the facial picture remains.
To cue the participant to begin, the clinician points first to the sentence and says,

Now say this sentence using this emotion. (clinician points to the facial picture).

Step Six

In just a moment, I want you to say the sentence again with the same tone of voice.

Clinician names the target emotion aloud. Clinician then removes the card with the facial picture.
To cue the participant to begin, the clinician points to the sentence and says,

Now say this sentence.