

REPORT

On . Interspeech 2016 , September 8-12, 2016, San Francisco, California, USA.
(name of conference, date, place)

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Date Friday, September 16, 2016. . .

1. Current research activity (approx. 300 words)

Describe briefly the subject of your current research, the framework in which this research is being carried out (Ph.D. thesis, project, etc.) and its stage (the time you have already dedicated to this work, expected time needed to be accomplished).

I have done a research with regard to language development in Mandarin-speaking children with ASD. Some part of the work has been finished and published in Interspeech 2016, titled 'Impaired categorical perception of Mandarin tones and its relationship to language ability in Autism spectrum disorders', which examined the perception of Mandarin tones in six- to eight-year-olds with ASD and emphasized the importance of language-related processing of pitch information among tonal language speakers with ASD.

Recently, I have been examining the efficacy of virtual 3-D articulation animation in teaching ASD children with their pronunciation. An eye-tracking study during the process of learning and a short-term training has been conducted. The pronunciation tutors were presented under two conditions: human face video (HF) and a multimodal 3-D talking head (3-D), each of which has been shown with a front view and a profile view respectively. Preliminary results indicated that ASD learners have showed more preference to the 3-D tutor with a shorter entry time. Moreover, ASD learners observed the lip movement of 3-D tutor for a longer time with a front view, and the multimodal 3-D pronunciation tutor exhibited greater advantage of effectively delivering both articulator movements and airflow information with a transparent profile view. Moreover, the training results also indicated that ASD exposed to the 3-D tutor showed a higher pronunciation mark related to the HF group after 15-days pronunciation training.

I have already finished data-collection for the last three months, and may need another three months for the data-analyses and reporting the findings in a paper.

2. Benefits derived for your research from attending the conference

Please give the following information: (approx. 500 words)

- Title, session and abstract of your paper.

- Questions raised or remarks made on your paper which could be beneficial for your work.
- Papers dealing with the same or similar subject which you deem most important for your work.

Title: Impaired Categorical Perception of Mandarin Tones and its Relationship to Language Ability in Autism Spectrum Disorders

Session: Speech and Hearing Disorders & Perception

Abstract: While enhanced pitch processing appears to be characteristic of many individuals with autism spectrum disorders (ASD), it remains unclear whether enhancement in pitch perception applies to those who speak a tone language. Using a classic paradigm of categorical perception (CP), the present study investigated the perception of Mandarin tones in six- to eight-year-old children with ASD, and compared it with age-matched typically developing children. In stark contrast to controls, the child participants with ASD exhibited a much wider boundary width (i.e., more gentle slope), and showed no improved discrimination for pairs straddling the boundary, indicating impaired CP of Mandarin tones. Moreover, identification skills of different tone categories were positively correlated with language ability among children with ASD. These findings revealed aberrant tone processing in Mandarin-speaking individuals with ASD, especially in those with significant language impairment. Our results are in support of the notion of impaired change detection for the linguistic elements of speech in children with ASD.

During the poster presentation, many questions and remarks were raised and proposed. For example, many are curious about the experimental design of categorical perception (CP), and the standard of recruiting ASD subjects. Of these, one professor from Texas university spoke highly of the findings and suggested that some ERP study (such as MMN) of CP paradigm should be considered in the future work, which could be served as a physiological foundation and neural bases for the present behavioral results.

There are some other studies related to speech and hearing disorders & perception shown in Interspeech 2016. Although no papers were directly related to my study about children with ASD, many research methods sparked my imagination and enlarged my research prospective. Furthermore, I have made many friends from different countries, enabling possible research cooperation in the future.

3. Personal highlight of the conference (*approx. 100 words*)

Please report the most remarkable to you finding of the conference

The past weekend I attended the Interspeech 2016 in San Francisco, California. It was certainly a whirlwind-full of learning, networking, re-connecting with researchers in the field of 'speech', and, most importantly, a reminder of why I love the work that I do. Below are reflections highlighting my experience at the conference.

- 1) Presenting my own study with the form of poster during 11 to 13 at Friday, 9

September. I have communicated with more than 20 researchers who are interested in my work, and I have learned a lot through the face-to-face discussion.

- 2) Attending all the keynote speeches every morning. Specially, one talk by Anne Fernald attracted my attention most: 'Talking with Kids Really Matters: Early Language Experience Shapes Later Life Chances', proposing that the foundation for lifelong literacy is built through a child's experience with language in the first five years.