



Gaze and Turn – Taking in Dyadic Interaction in Children with Specific Language Impairment

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Abstract

This project investigated gaze in relation to turn-taking during a dyadic interaction in children with specific language impairment (SLI) and gender and chronologically aged matched (CA) peers. Gaze was scored at the end of the child's speaking turn as either child's gaze on adult communication partner or child's gaze off adult communication partner. Results show that children with SLI used gaze on adult communication partner to correctly signal change in speaker turns significantly less than peers. This potentially has negative consequences as less gaze directed to a speaking partner at the turn juncture could result in poor turn exchanges possibly resulting in overall fewer turns and limited participation. An additional negative consequence could be that children with SLI miss paralinguistic cues such as facial expression from speaking partners due to gaze being directed elsewhere.

References

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Introduction

- A key pragmatic behavior for enabling social success in adult and peer interactions is the ability to exchange speaker turns efficiently.
- Craig & Evans (1989) observed children with specific language impairment (SLI) to have higher rates of break down in turn-exchanges during dyadic interactions. These breakdowns were characterized by an increased rate of speaker overlap, where children with SLI accidentally "talked over" their adult speaking partner more often than their peers. Analysis of these points of breakdown suggested that children with SLI differed from their peers in important ways that were mediated by gaze.
- Studies show that during spontaneous dyadic discourse, successful turn-taking requires the speaker to look at the listener to signal the end of the speaking turn, and if interrupted, the speaker immediately looks to the listener to reestablish turn reciprocity (Sacks, Schegloff, & Jefferson, 1974).
- Gaze aversion in response to increases in cognitive processing load is a natural phenomenon that occurs in typical populations as averting the gaze reduces environmental demands thereby allowing for allocation of additional resources to cognitive processing (Glenberg, Schroeder, & Robertson, 1998).

Purpose

The purpose of this study was to analyze gaze patterns in more detail at the critical juncture of turn exchanges, the end of the speaking turn, in children with specific language impairment (SLI) and gender and chronologically aged matched (CA) peers.

Prediction

It was hypothesized that children with SLI would exhibit more gaze off the adult communication partner at the end of the child's speaking turn.

Methods

- The gaze patterns at the end of the child's turn were investigated in 10 adult-child dyadic interactions for 5 male children with SLI and 5 CA peers (ages 7:1 to 10:1). See Craig & Evans (1989) for a full participant description.
- A 15 minute spontaneous language sample was collected using the Evans & Craig (1992) Interview protocol where children sat at a 90° angle from the examiner, and were asked to talk about their family (5 min), school (5 min), and free-time activities (5 min). Sessions were video- and audio-taped.
- Children's gaze was scored at the end of their speaking turn as either gaze off the adult communication partner (not looking at the adult) or gaze on the adult communication partner (looking at the adult).

Examples of Gaze Patterns

Gaze Off Communication Partner

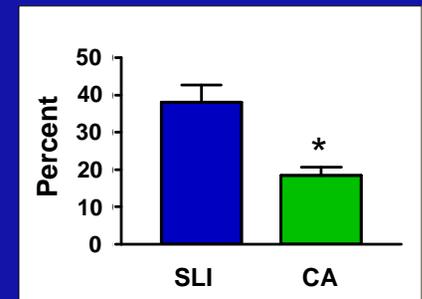


Gaze On Communication Partner



Results

Percentage of Gaze Off at Turn Juncture



- Results show that children with SLI used significantly more gaze off the adult communication partner at the end of the child's speaking turn than CA controls. $F(1,8) = 13.79, p = .006, \eta^2 = .63$, observed power = .90.

Conclusions

- These results suggest that children with SLI place their gaze off the communication partner at a critical point in the interaction, the turn juncture. This has potentially negative consequences as less gaze on the communication partner could result in poor turn exchanges possibly resulting in overall fewer conversational turns and limited participation in the interaction on the part of the children with SLI.
- Further, gaze directed off the communication partner could result in a loss of feedback of additional cues vital to conversational discourse, such as facial expression and the perceived attention level of their communication partner.
- It is believed that children with SLI do not use gaze off the communication partner as a means of social avoidance e.g. children with autism. However, the processing load of conversational discourse for children with SLI could be much higher thus inducing gaze aversion as a compensatory mechanism.

Reliability

- Interobserver agreement was analyzed between the first author and two graduate students in the School of Speech, Language, and Hearing Sciences programs who were blind to group.
- The two additional raters were trained with a description of the coding and given five minutes of a video to analyze from a participant not included in the current study. All three raters watched the next five minutes of video together until agreement was reached.
- After completion of the training, point by point interobserver agreement was analyzed on four pages of transcript from three study participant videos. Interobserver agreement was 100%