Effects of Pictures on Children’s Production Of Grammatical Sentences
A Preliminary Study

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Introduction
DIFFERENTIATING A CHILD WITH OR WITHOUT A LANGUAGE IMPAIRMENT:
Grammatical deficits are a hallmark of children with language impairment (Leonard, 2014).
- An emerging line of research has focused on the extent to which grammatical measures that are computed from children’s utterances in daily activities (i.e., language samples) can help clinicians correctly identify children with language impairment (Eisenberg & Guo, 2016).
- One such measure is percent grammatical sentences.
  - Using language samples from a picture description task, Eisenberg and Guo (2013) found that percent grammatical sentences could reliably differentiate three-year-olds with and without language impairment with at least 80% accuracy.

IMPORTANCE OF DIFFERENTIATING A CHILD WITH OR WITHOUT A LANGUAGE IMPAIRMENT:
- The possibility of catching up if a child has delayed acquisition decreases by the age of three, which makes this a key point in a child’s life for identifying a language impairment (Eisenberg, Guo, & Germezi, 2012; Rescorla & Dale, 2013).

WHY STANDARDIZED TEST ARE NOT ENOUGH:
- Applies an arbitrary cutoff score (i.e. 1.5 standard deviation below the mean) in which a child who is truly affected by a language impairment has about an equal opportunity of being incorrectly or correctly identified as a child without a language impairment (Guo & Scheider, 2016).
- Language sample measures are more sensitive to younger children with a language impairment (Eisenburg & Guo, 2013).

Research Question
- Will a different set of pictures for the picture description task influence a child’s production of grammatical sentences (as measured by percent grammatical sentences)?

Methods
PARTICIPANTS:
- 6 males; 1 female
- Monolingual English speakers
- Tested for average cognition, hearing, articulation and oral mechanisms

Data Analysis
DATA COMPUTATION:
- Children’s responses to the questions were transcribed and coded for errors.
- Examples:
  - (E) = error, (EU) = ungrammatical utterance, * = omitted
  - C: a girl is running to his [E] dad [EU].
  - C: the man *is [E] stuck in the tree [EU].
- Percent grammatical sentences was computed for Set 1 and Set 2 for each child.

Percent Grammatical Sentences = total number of grammatical sentences / total number of sentences x 100%

Results
WERE THERE SIGNIFICANT DIFFERENCES BETWEEN EACH CHILD’S PERCENT GRAMMATICAL SENTENCES (PGS)? NO
- Paired t-test showed that PGS scores did not differ significantly between Picture Set 1 and Picture Set 2, t(10) = -1.28, p = 0.247.

WERE THERE SIGNIFICANT DIFFERENCES BETWEEN PICTURE SETS? NO

Results (cont.)
- after age was controlled, PGS scores in Picture Set 1 and Picture Set 2 were highly correlated, r = 0.993, p < 0.001

Conclusion
Since it was shown that each child did not have a significant difference between their own scores and there is not a significant difference between the scores from each set, it can be concluded that pictures do not have a significant effect on a child’s percent grammatical sentences.

CLINICAL IMPLICATIONS:
- Allows clinicians to use pictures of their own choice to measure percent of grammatical sentences in young children
- To determine whether a child has a language impairment, clinicians must use a variety of technically sound assessment tools and strategies (Individuals with Disabilities Education Act, 2004). Thus, this research will lead to the development of a sensitive diagnostic tool for diagnosing language impairment in the field of speech-language pathology.

References