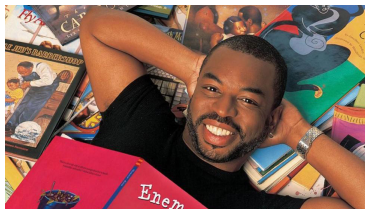


Take a Look!: Investigating the Relative Contributions of Children's Books and Child-Directed Speech

Joseph Denby

Computational Content Analysis

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- Caregiver speech and picture books are two prominent sources of linguistic input for children
- Research has historically neglected the latter
- Important to assess their relative (unique?) contributions

Montag et al. (2015), 2

What language-learning data might early picture books provide that everyday conversations do not?

- UChicago-based initiative to document parent-child interactions with a socioeconomically-diverse sample
- Ecological check-ins between ages 14 - 58 months at four month intervals
- Analysis draws from transcripts of caregiver speech

Corpora – Picture Books

Montag, J. L., Jones, M. N., & Smith, L. B. (2015). The words children hear: Picture books and the statistics for language learning. *Psychological Science*, 26, 1489-1496.

Alexander and the Terrible, Horrible, No Good, Very Bad Day by Judith Viorst

Angelina Ice Skates by Katharine Holabird

Are You My Mother? by P. D. Eastman

Arnie the Doughnut by Laurie Keller

Arthur Writes a Story by Marc Brown

A Bad Case of Stripes by David Shannon

Bark, George by Jules Feiffer

Bear Wants More by Karma Wilson

The Berenstain Bears and the Green-Eyed Monster by Stan Berenstain and Jan Berenstain

The Berenstain Bears Forget Their Manners by Stan Berenstain and Jan Berenstain

Blueberries for Sal by Robert McCloskey

Bread and Jam for Frances by Russell Hoban

Brown Bear, Brown Bear, What Do You See? by Bill Martin, Jr.

Bunny Party by Rosemary Wells

Caps for Sale by Esphyr Slobodkina

The Carrot Seed by Ruth Krauss

The Cat in the Hat by Dr. Seuss

Charlie and the New Baby by Ree Drummond

Chicka Chicka 1-2-3 by Bill Martin, Jr., Michael Sampson, and Lois Ehlert

Chicka Chicka Boom Boom by Bill Martin, Jr., and John Archambault

Chrysanthemum by Kevin Henkes

How Do Dinosaurs Say Good Night? by Jane Yolen and Mark Teague

How to Train a Train by Jason Carter Eaton

If You Give a Moose a Muffin by Laura Joffe Numeroff

If You Give a Mouse a Cookie by Laura Joffe Numeroff

I'm a Big Sister by Joanna Cole

The Keeping Quilt by Patricia Polacco

Knuffle Bunny by Mo Willems

Ladybug Girl at the Beach by David Soman and Jacky Davis

Lilly's Purple Plastic Purse by Kevin Henkes

Little Blue Truck Leads the Way by Alice Schertle

The Little Engine That Could by Watty Piper

The Little House by Virginia Lee Burton

Llama Llama Home With Mama by Anna Dewdney

Llama Llama Red Pajama by Anna Dewdney

The Lorax by Dr. Seuss

Love You Forever by Sheila McGraw

Madeline by Ludwig Bemelmans

Maisy Goes Camping by Lucy Cousins

Maisy Goes to the Library by Lucy Cousins

Make Way for Ducklings by Robert McCloskey

Mike Mulligan and His Steam Shovel by Virginia Lee Burton

Miss Rumphius by Barbara Cooney

The Napping House by Audrey Wood

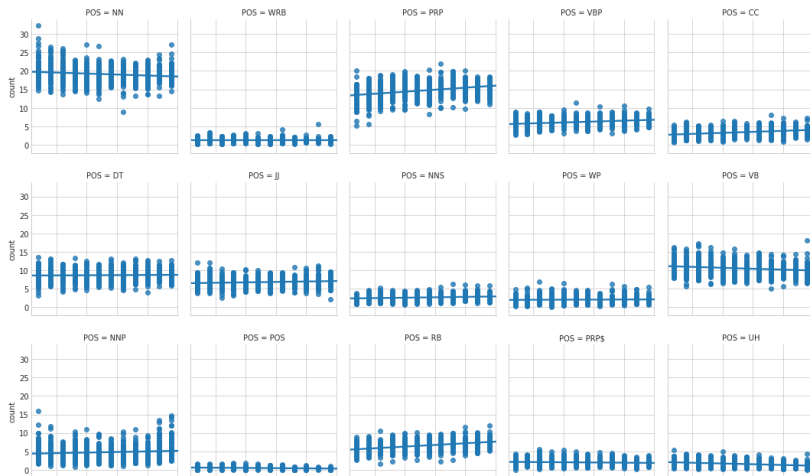
No, David! by David Shannon

Oh, the Places You'll Go by Dr. Seuss

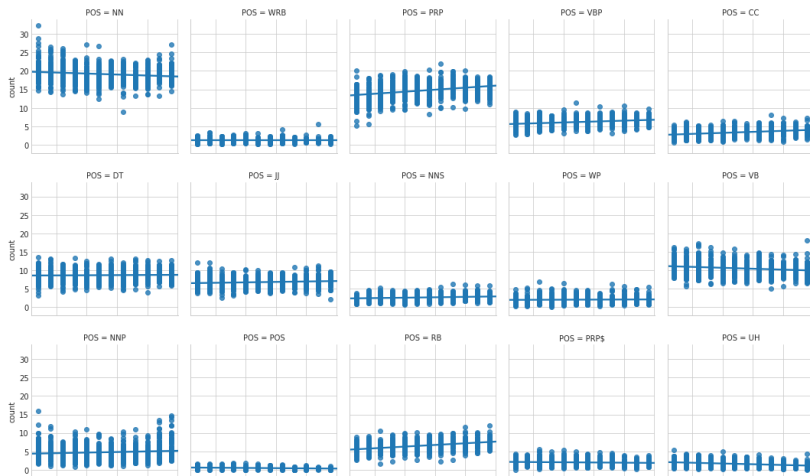
- ① Compare POS usage between the two corpora
 - Randomly sample 150-word contiguous windows from books and conversations
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- ② Analyze and compare sentence complexity within and between corpora
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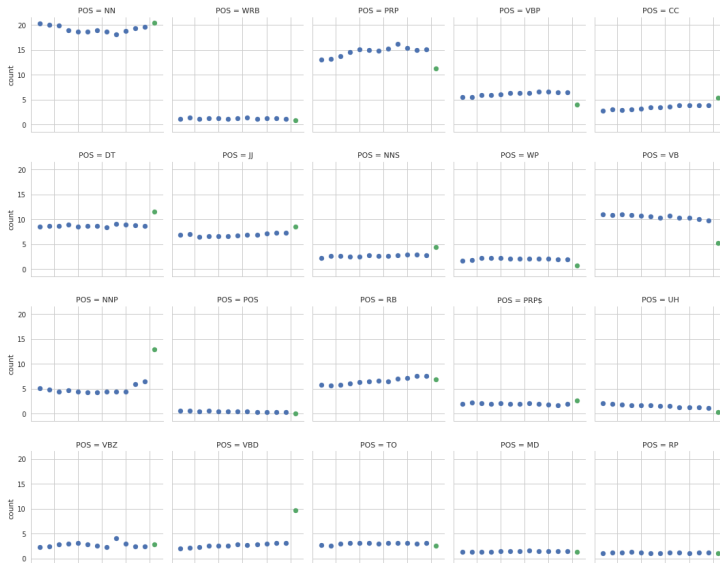
Analysis – Chat POS (14-58mth, 4mth interval)



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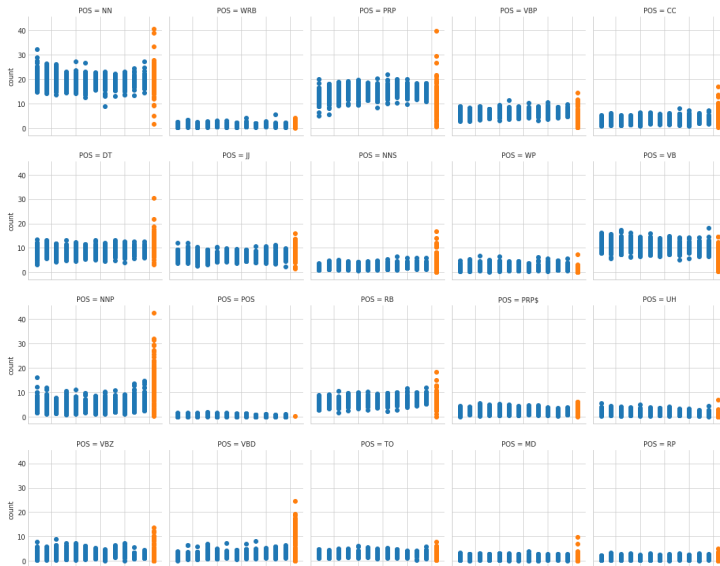
Analysis – Chat&Book POS (14-58mth, 4mth interval)



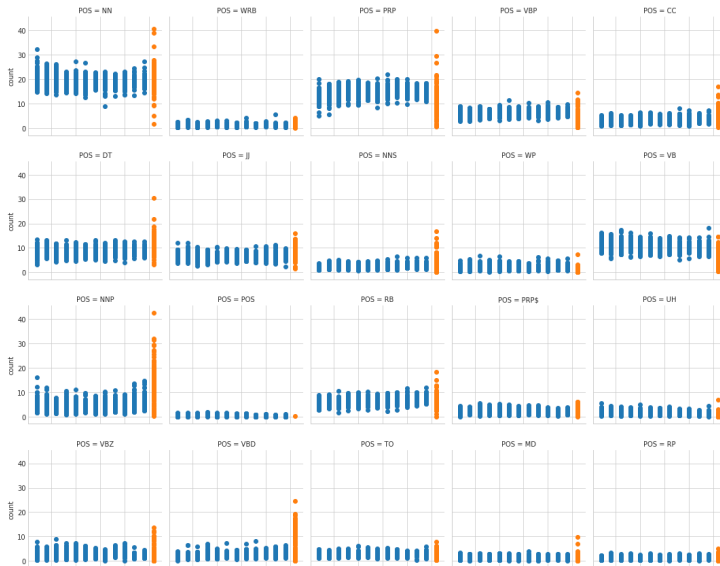
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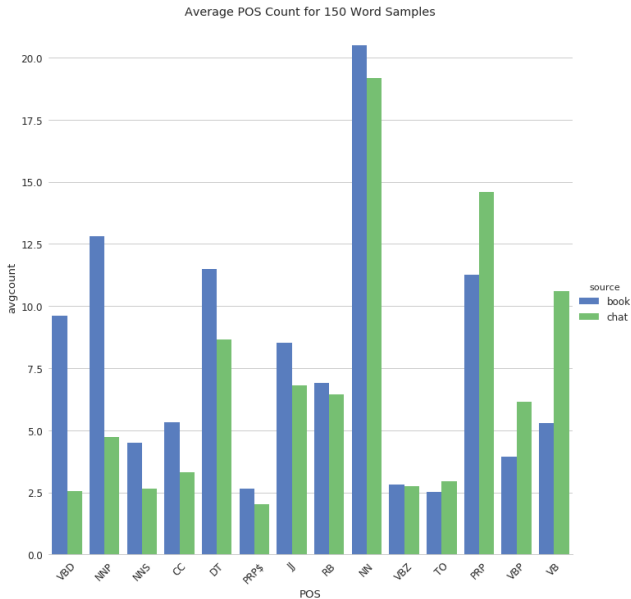
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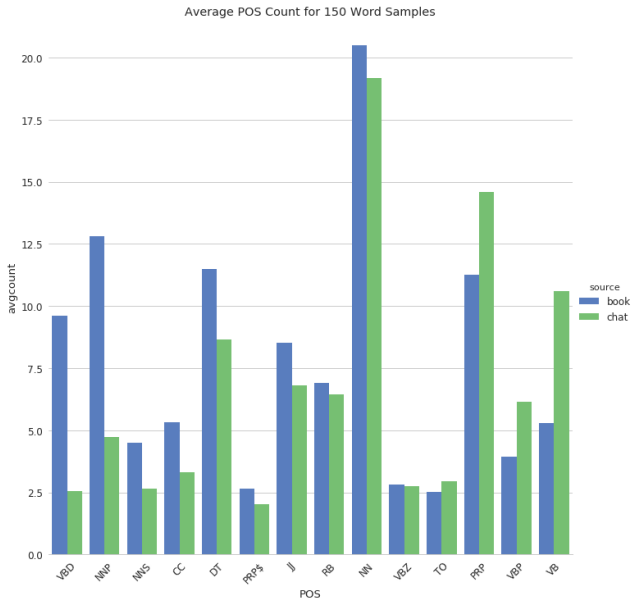
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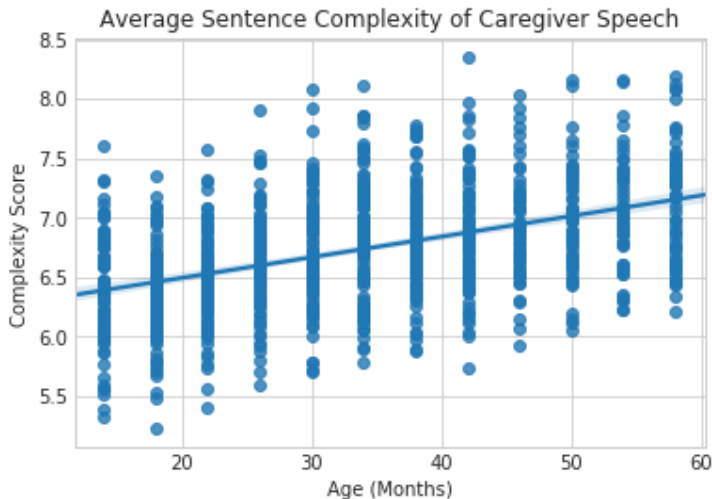
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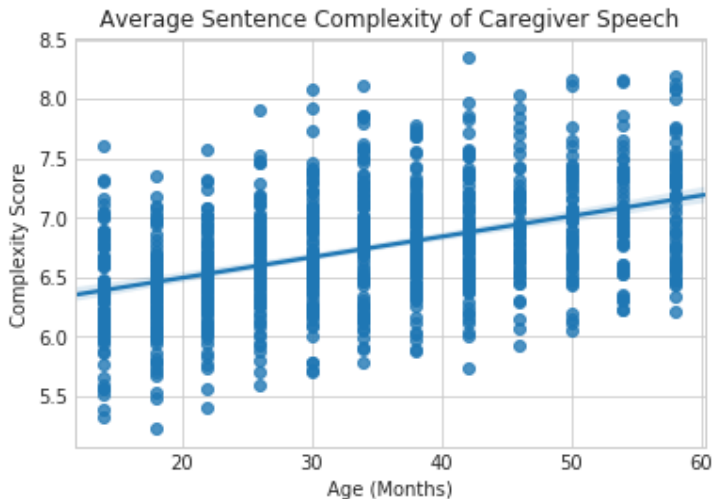
Analysis – Chat&Book POS



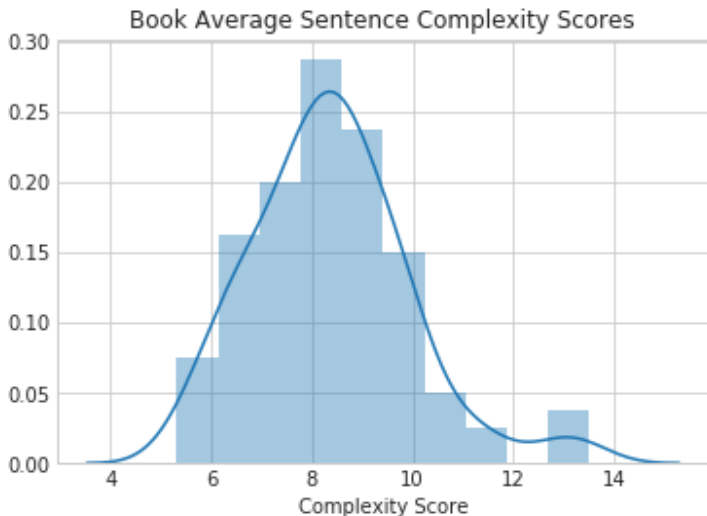
Analysis – Chat Complexity



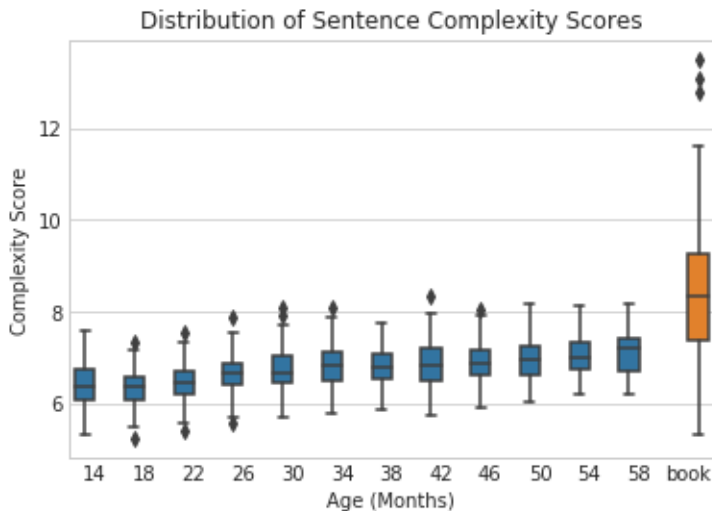
Analysis – Chat Complexity



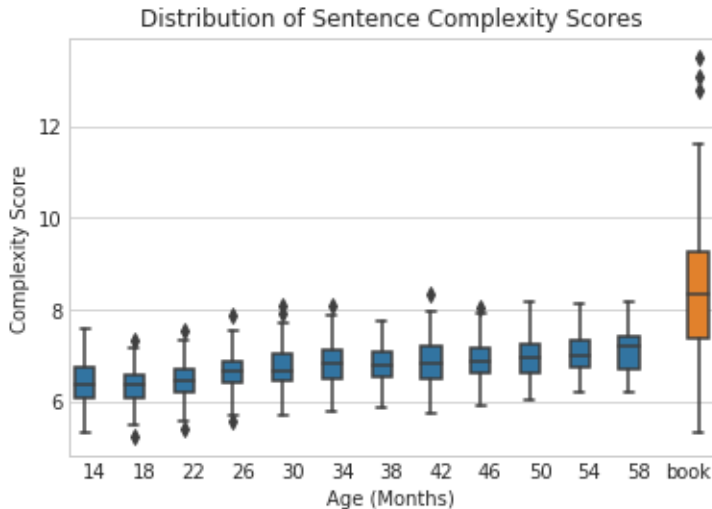
Analysis – Book Complexity



Analysis – Chat&Book Complexity



Analysis – Chat&Book Complexity



Future Directions

- Investigate variance further
- Collect temporal data for books (e.g., intended audience)
- Run similar analyses for child speech
- Compare children's book with adult books
- Compare child-directed speech with adult-directed speech