

Understanding the Relative Effects of Activity Type and Time of Day on the Language Environment across Child Care Settings

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*This powerpoint talk is posted on our website for the information of our research participants.

*If you wish to cite this research, please contact the lab for a current citation: info@babylanguagelab.ca



Why Is This Research Important?

- In 2003, 54% of children from the ages of 6 months to 5 years attended some form of childcare (Statistics Canada, 2006)
- Not a lot known about the language environments and learning opportunities these programs provide



Why Is This Research Important?

- IQ is correlated with good language development, and the quality of the environment is correlated with language development (Hart and Risley, 1992; NICHD, 2000)



Previous Research

- Socioeconomic status is correlated with quality of language interactions, which has subsequent effects (Hart & Risley, 1995)
- Conversational turns have been shown to promote good language development; good quality interactions can be used as interventions for children with language delay (Zimmerman et al. 2009; Chapman, 2000)



Previous Research

- In comparison of home and daycare environment, quality of interactions was the same while quantity was lower in daycare (Murray, Fees, Crowe, Murphey and Henriksen, 2006)
- Snack time's ability to promote interaction was researched (Bouchard et al., 2010)



This Study

- When looking at interaction, which activities facilitate good language learning environments?
- How do differences in activities affect the difference between the daycare and home environment?

Variables

- Dependent (language output)
 - Conversational turns (CT)
 - Child vocalizations (CV)
 - Adult Word Count (AWC)
- Independent
 - Time of day
 - Child care environment
 - Activity categories

Activity Categories

- Naptime
- Diaper change/potty training
- Playtime
 - Organized
 - General
 - Outside
- Mealtime
- Snack time
- Transition time
- TV time
- Bath time
- Outside visit
- Travel time
- Other

Hypotheses

- Hypothesis 1: Activity will have an effect on language output variables
- Hypothesis 2: AWC will be promoted or discouraged due to time of day
- Hypothesis 3: There will be an interaction between activity and time of day
- Hypothesis 4: Having different activities will manifest in differences between the home and daycare environment

Method

- All data was taken from an ongoing study (Soderstrom, in progress)
- Participants – 11 children total
 - Daycare, N = 6, M = 21 mo.
 - Home, N = 5, M = 19 mo.
 - Each child has 3 recordings of a minimum 7 hours
- Apparatus
 - LENA device

Method

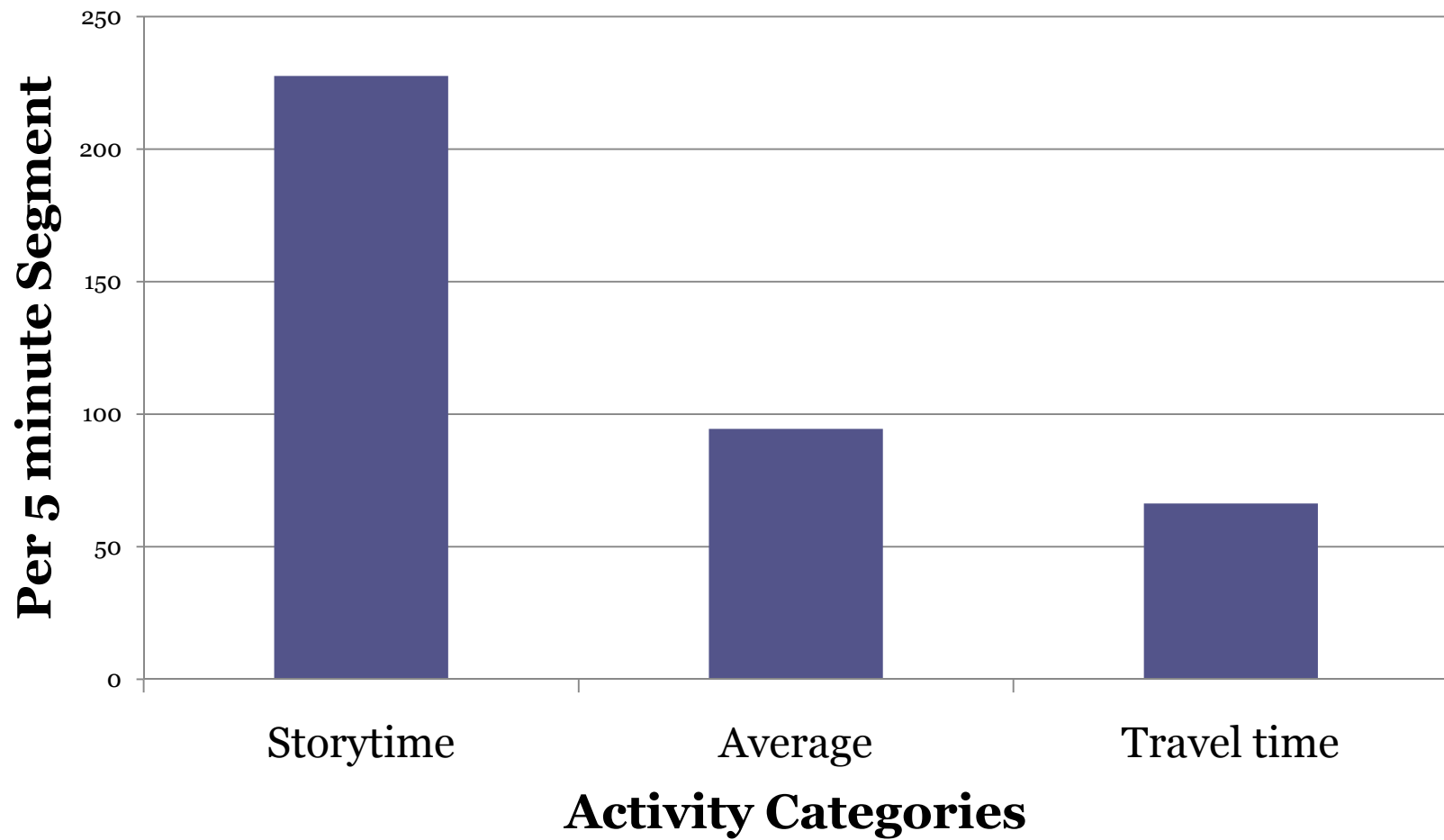
- **Materials**
 - Observation sheets were written at original data collection: no system for activities
- **Design**
 - Created new categorical system (activities)
- **Procedure**
 - Retrospective coding, match to 5 minute blocks, run analyses



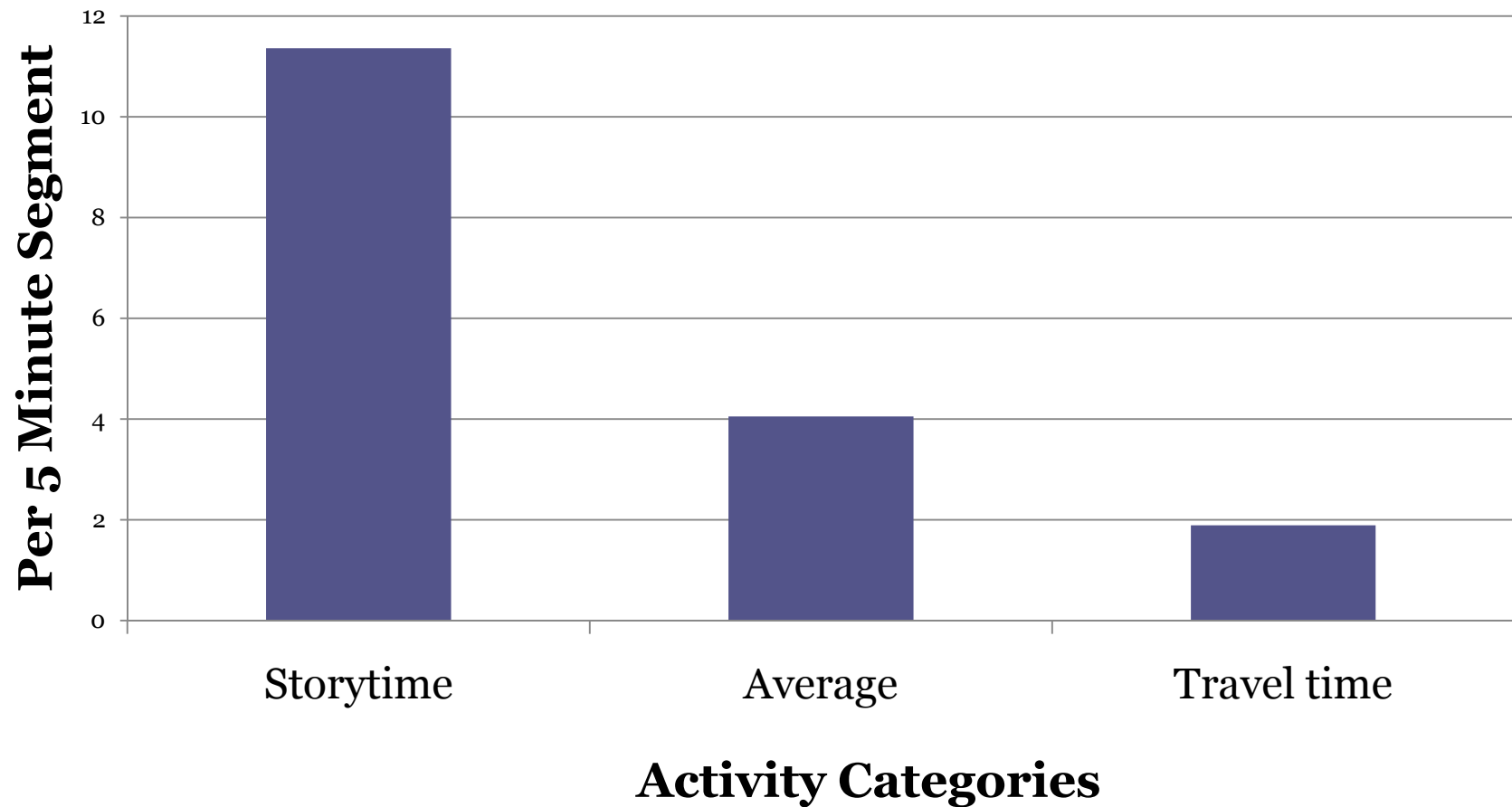
Descriptive Statistics

- Daycare environment – general playtime most frequent at 28%
- Home environment – general playtime most frequent at 39%

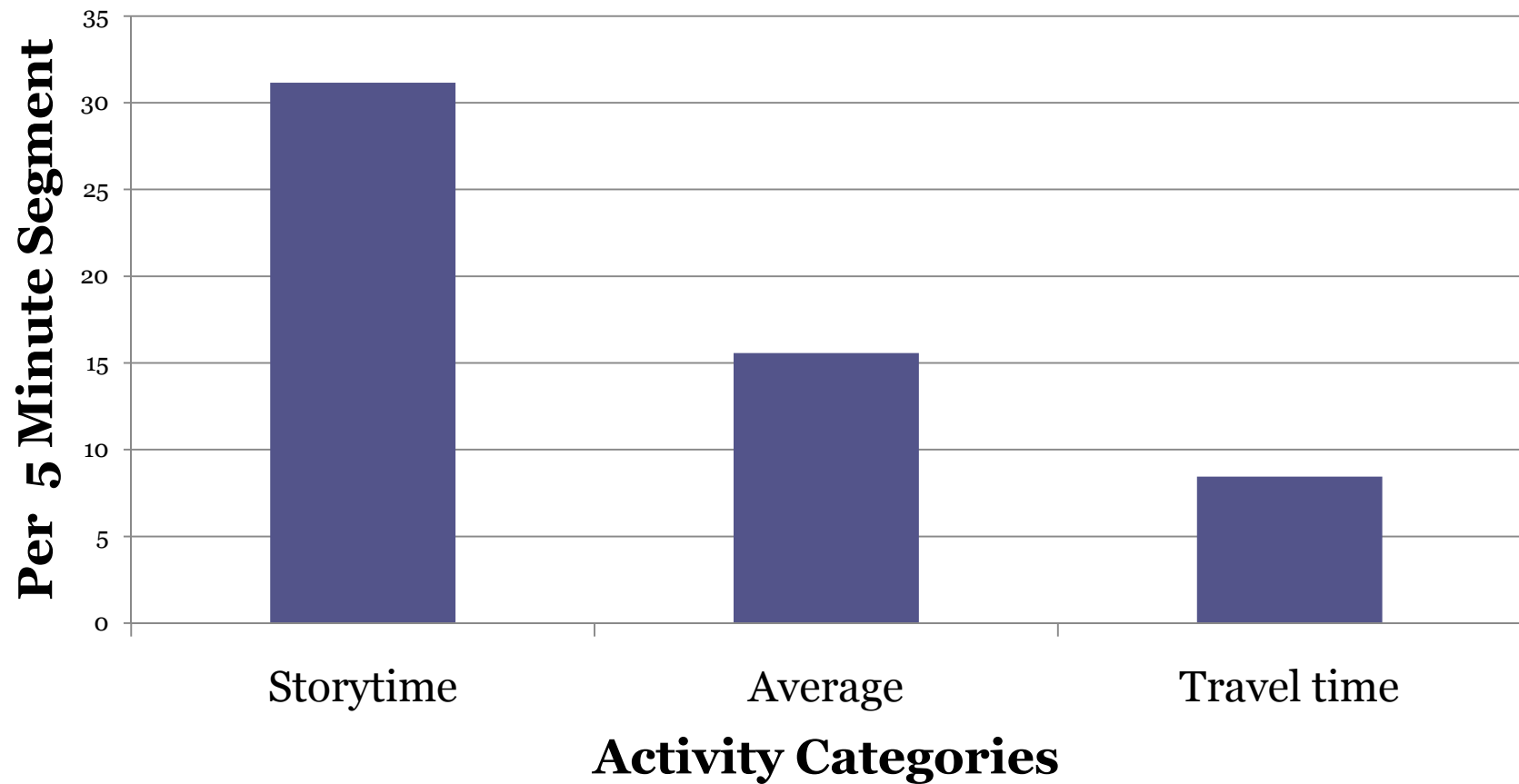
Mean Adult Word Count Across Activities



Mean Amount of CT's Across Activities



Mean Amount of CV's Across Activities



MANOVA #1

- Hypothesis 1,3,4
 - Main effects and interactions were highly significant, with F's ranging from = 2.13 to- 355.31, p 's < 0.01.
- Hypothesis 2
 - Effect of time of day on AWC not significant, $F(3,7380) = 0.235, p = 0.87$

MANOVA #2

- Is general playtime significantly different from organized playtime?
- Main effects and interactions all highly significant, $F(3,1254) = 34.679$, $p = 0.001$



Discussion

- Hypotheses 1, 3 and 4 are all supported by the data
- Why? Activities differ due to lack of interaction or attention
- Did not replicate time of day effects
- Differences between the home and daycare environments



Implications

- Storytime had the highest amounts of AWC, CT, and CV and yet was one of the least frequent activities
 - Agrees with literature
- Activities are important
 - Children's days can be structured to promote opportunities for good language learning



Questions?