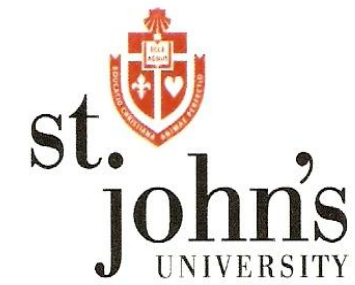


Evaluating Communication Breakdowns using a Diapix Task



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Purpose:

This presentation explores the use of a semi-structured conversation task, the **Diapix Task** (Van Engen, Baese-Berk, Baker, Choi, Kim, & Bradlow, 2010) as a tool to assess communication function in subjects with normal hearing and hearing loss (HL) with and without assistive listening devices (ALDs).

Lind (2011), citing other sources (Clark, 1999), described communication breakdowns as occurring due to four causes:

- ❖ **Hearing breakdowns:** I did not hear you speak.
- ❖ **Utterance breakdowns:** I heard you speak but I did not recognize the sounds as words.
- ❖ **Reference breakdowns:** I heard what you said but did not know what you referred to.
- ❖ **Intent breakdowns:** I know what you referred to but did not understand what you meant.

Methods:

The **Diapix Task** was used. A dialogue elicitation procedure in which two conversational partners collaboratively find differences between two similar pictures. Subjects were paired with a conversational partner with normal hearing who was naïve to the Diapix Task. Transcriptions were coded for communication breakdown occurrence as well as cause of communication breakdown independently by the study's two authors.

Subjects: 22 subjects (19 F, 3 M)
mean age 82.45 years (70-93 yrs)

Inclusion Criteria: MMSE= ≥ 25 score
HL= >40 dB BPTA (Jupiter, 2009)
HHI-E (Weinstein, 1986)

Group 1: No HL with ALD (5)
Group 2: No HL No ALD (5)
Group 3: HL with ALD (7)
Group 4: HL No ALD (5)



Figure 1. The Diapix task elicited a structured dialogue. Van Engen, Baese-Berk, Baker, Choi, Kim and Bradlow (2010) used with permission

Results:

The HL No ALD had a greater number of Total Communication Breakdowns than any other group. As a post-hoc test, a Mann-Whitney U Test was used.

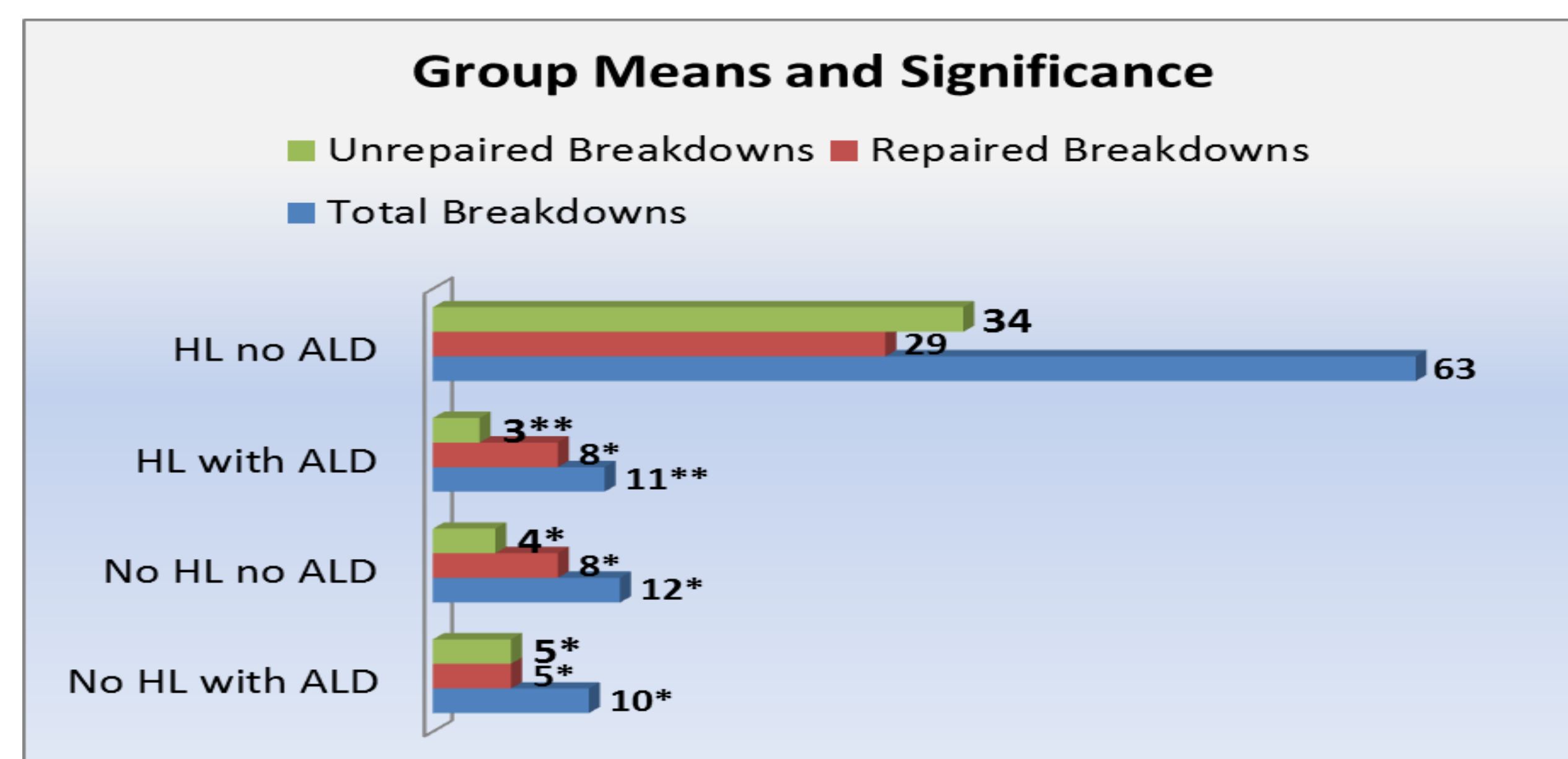


Figure 2. Mann Whitney U Results for Groups by Total Breakdown, Repaired Breakdown, and Unrepaired Breakdown * $p < .05$; ** $p < .01$

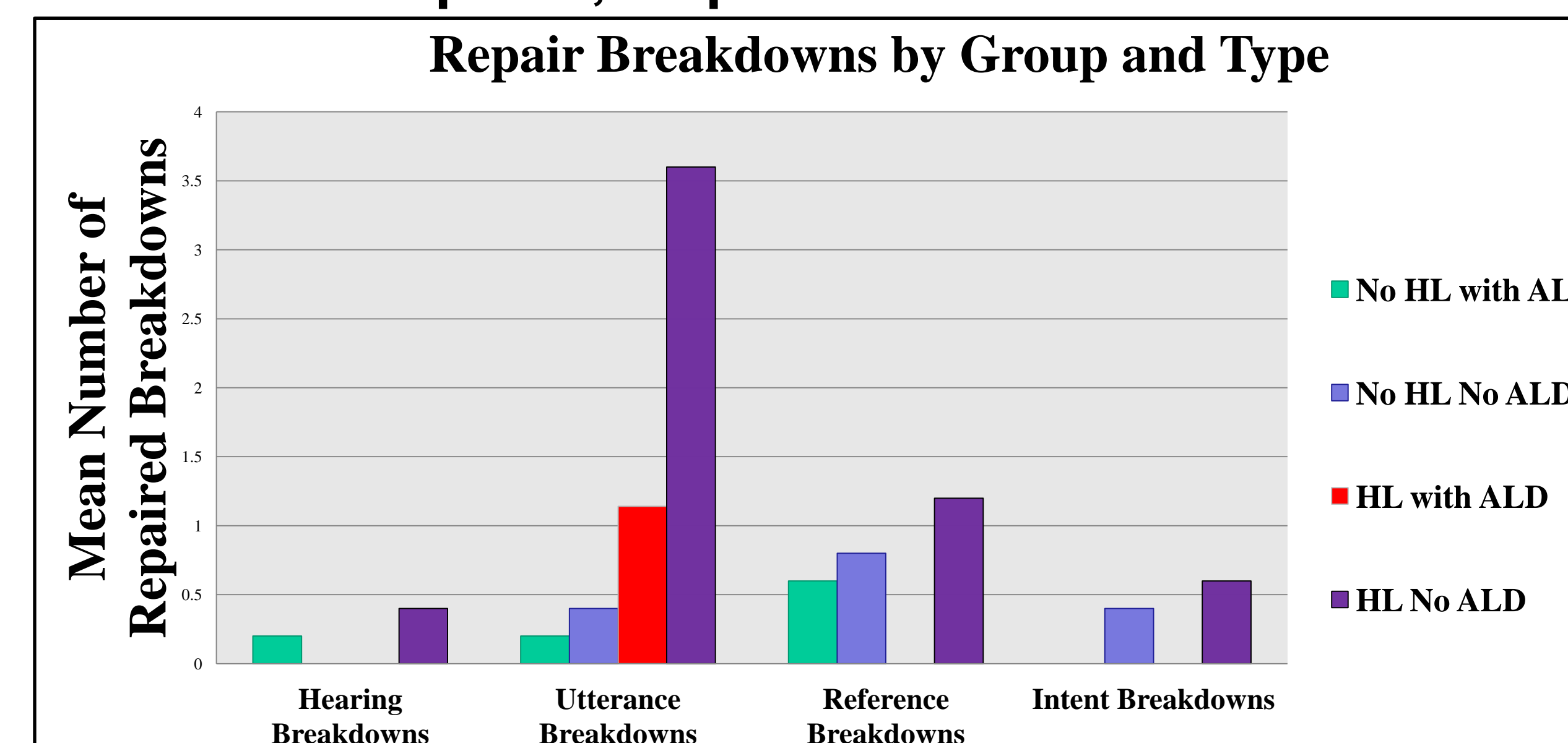


Figure 3. Mean Number of Repaired Breakdowns by Group and Type

There were differences between all groups and the HL No ALD group in the number of utterance breakdowns- heard you speak but I didn't understand the sounds as words. There were no differences noted between the No HL with ALD, No HL No ALD, and HL with ALD groups on any of the variables studied.



Figure 4. Percentage of Repair Breakdowns by Group with standard deviations noted.

Conclusion:

When refining rehabilitative strategies for the hearing impaired it has been suggested that it may prove useful to identify the causes of communication breakdown. Preliminary results suggest that the use of a semi-structured conversation task can be useful. Due to the small sample size, group comparisons on causes of breakdown were interpreted with caution.

References

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