# The comprehension dance: a dynamic view of intelligibility and comprehensibility and the dyadic relationship between listener and speaker


Jeniffer Albuquerque (UTFPR - Brazil)
Ubiratã Alves (UFRGS CNPq-Brazil)

# Research Background

- Different variables and contexts underlying the intelligibility construct (Isaacs & Trofimovich 2012; Munro & Derwing 2015; Levis 2020).

- Intelligibility and comprehensibility as complex and dynamic constructs (Derwing, Munro 2013; Albuquerque, 2019; Alves, Albuquerque & Bondaruk 2021; Nagle et al. 2021).

# Research Background


Derwing and Munro - timeline of main contributions

# Intelligibility and comprehensibility: gaps

- It is still unclear how well these findings are able to account for variability patterns over time and the dyadic relationship between speaker-listener.

> *Variability is not something to be ignored, but rather offers an indispensable source of information*. (Larsen-Freeman, 2020: 295).

- Insights from production and perception processes, emphasizing the construct of "dialog" in an interpersonal system (Fusaroli, Rączaszek-Leonardi & Tylén, 2014).

- Need to think of a comprehension dance: individuals are not intelligible or comprehensible by themselves, but context or even person-dependent.

# Intelligibility and comprehensibility: gaps

S: There are seven among India. All over India. There are seven such kind of
/'ʃegwən/ /'ʃegwən/
union territories.
P: What is "*shewen*", "*showen*"? There are...?
/'ʃegwən/, /'ʃowen/
S: Seven, seven, seven.
/ʃjiegwən/, /ʃegwən/, /ʃjegwən/
A: Seven
/'sewən/
S: Five, six seven.
/fai/, /ʃɪks/, /'ʃegwən/
A: Seven
/'sewən/
P: Oh! Seven!
S: Seven, OK?
/ʃewən/
S: Yeah! Now you understood!

Luchini & Alves (2022)

# RESEARCH GOAL

To analyze the dyadic relationship between Haitian speakers (learners of Brazilian Portuguese as an L2) and Brazilian listeners and to discuss their shared speaker-listener intelligibility and comprehensibility processes throughout time

# Method

- 12-point longitudinal data collection (time window of 6 months, within a time scale of each 15 days);
- Tasks:

-Oral sentence repetition task (for intelligibility).

-9-point likert scale (for comprehensibility) 1 “very difficult to understand” and 9, “very easy to understand”).

- Analysis: dynamic grids, based on state space grids for modeling temporal team dynamics (Meineckle et al. 2019);
- **Speaker-Listener categories**:

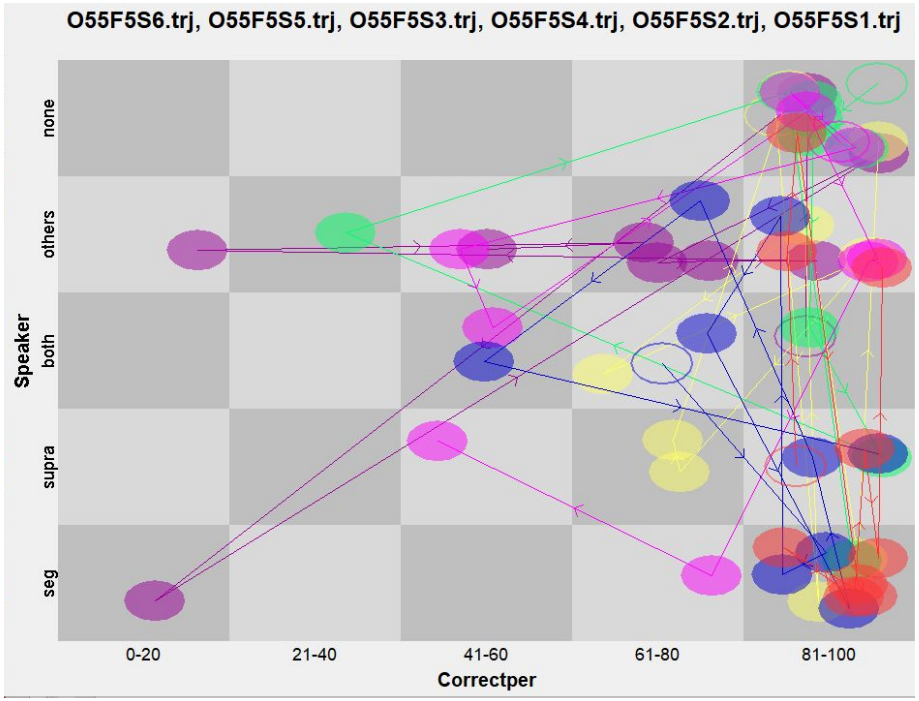
- Speaker: segmental, suprasegmental, both, other, none;
- Listener:
  - intelligibility (5 percentage categories);
  - comprehensibility (raw Likert scale scores).

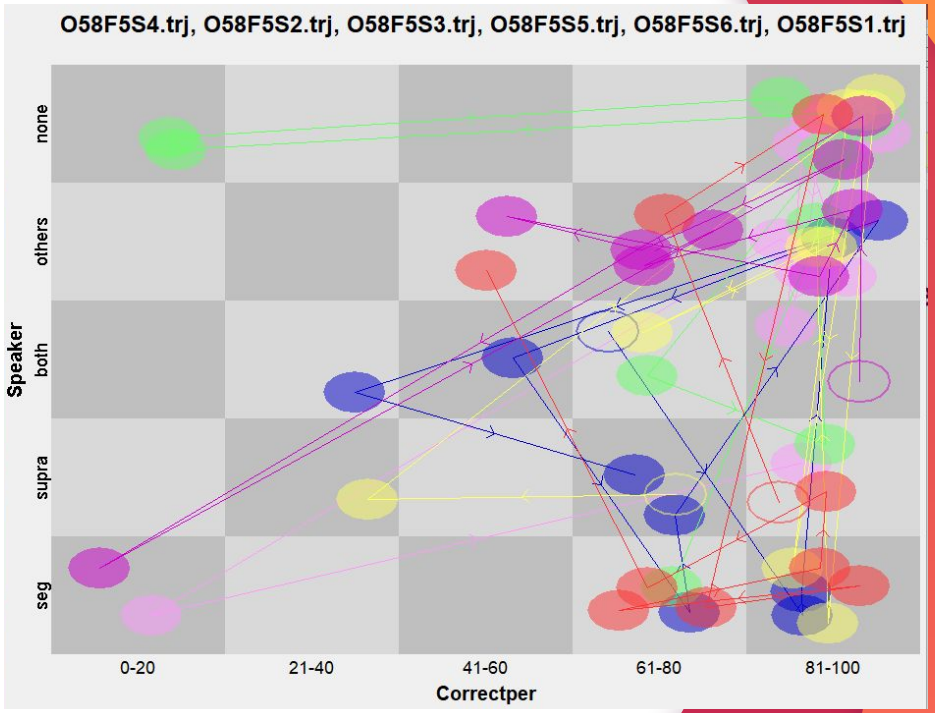
# Participants

| | Speakers | |
|---|---|---|
| | S5 | S6 |
| Age | 36 | 23 |
| Gender | Male | Female |
| L1 | Haitian-creole | Haitian-creole |
| L2 | French | French |
| L3 | Portuguese | Portuguese |
| Formal training of Portuguese in hours at the beginning of the research (November/2018) | 36h (Basic 1) | 72h (Basic 2) |
| Formal training of Portuguese in hours at the end of the research (April/ 2019) | 72h (Basic 2) | 108h (Pre-Intermediate) |
| Time in Brazil at the beginning of the research (November/2018) | 09 months | 06 months |
| Time in Brazil at the end of the research (April/2019) | 1 year e 3 months | 1 year |
| Contact with Portuguese | - At the portuguese classes<br>- At work<br>-With some Brazilian friends<br>-social events with Haitian and Brazilian friends. | - At the portuguese classes<br>- Small everyday interactions (e.g. shopping for grocery, going to the bank, etc) |

| | Listeners | |
|---|---|---|
| | L55 | L58 |
| Age | 27 | 31 |
| Gender | Female | Male |
| L1 | Brazilian Portuguese | Brazilian Portuguese |
| L2 | Advanced English | Advanced English |
| L3 | Basic French | Basic German |
| Contact with foreigners (speakers of other languages) | No contact | Yes (montly) |
| Experience with teaching foreign languages | 4 years experience | Yes (2 years) |

# What are the most frequent speaker—listener intelligibility patterns throughout the 12 data points? (speaker 5)

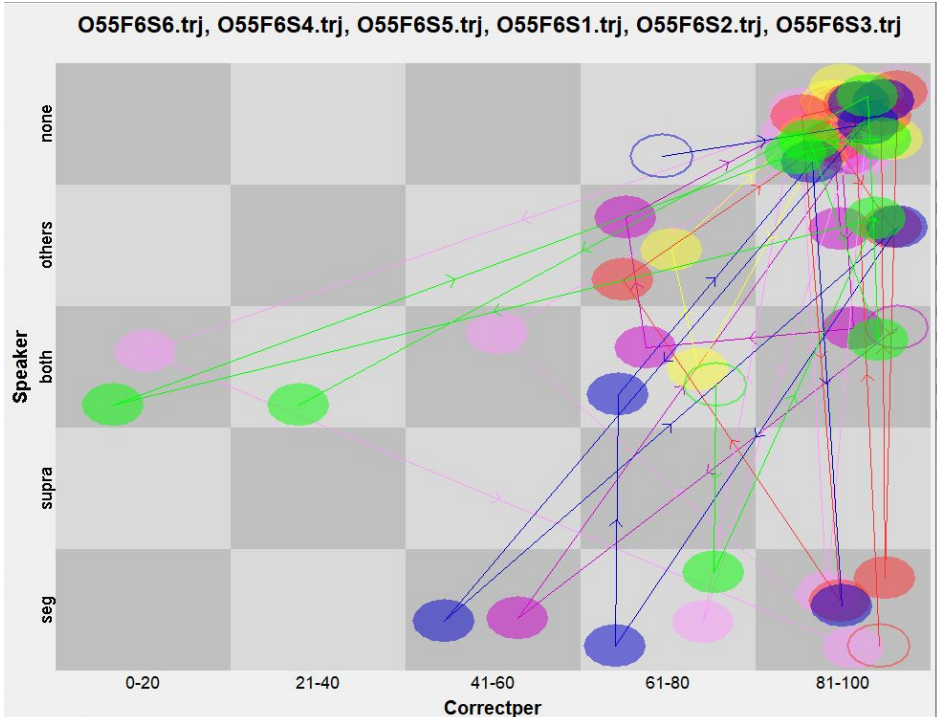


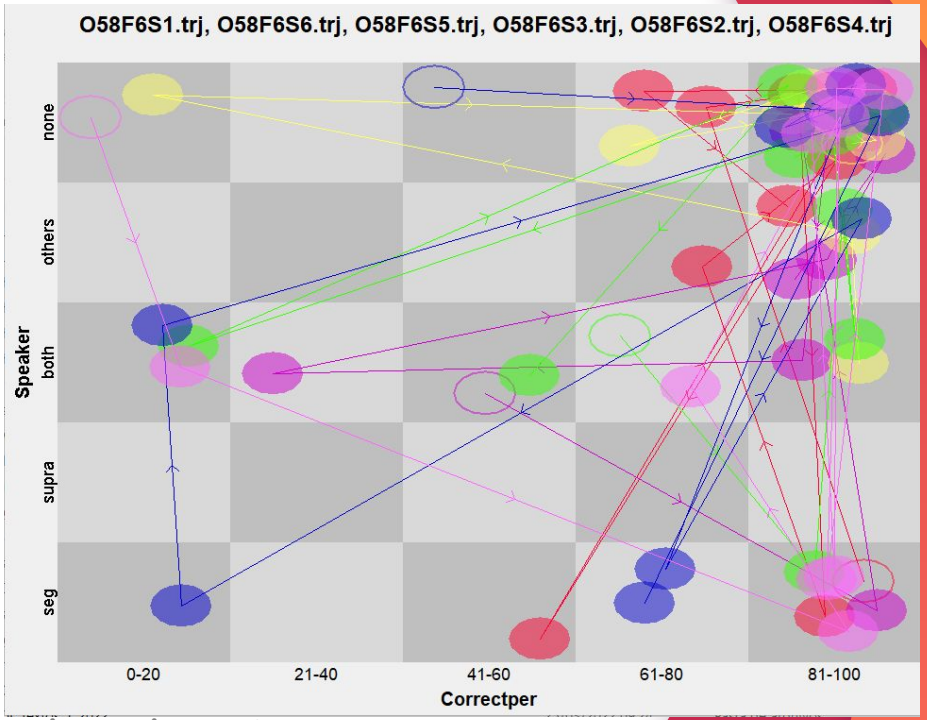




Red – data points 1 and 2
Blue – data points 3 and 4
Green – data points 5 and 6
Pink – data points 7 and 8
Yellow – data points 9 and 10
Purple – data points 11 and 12

Dispersion value:
0.76 to listener 55 speaker 5
0.81. to listener 58 – speaker 5

# What are the most frequent speaker—listener intelligibility patterns throughout the 12 data points? (speaker 6)

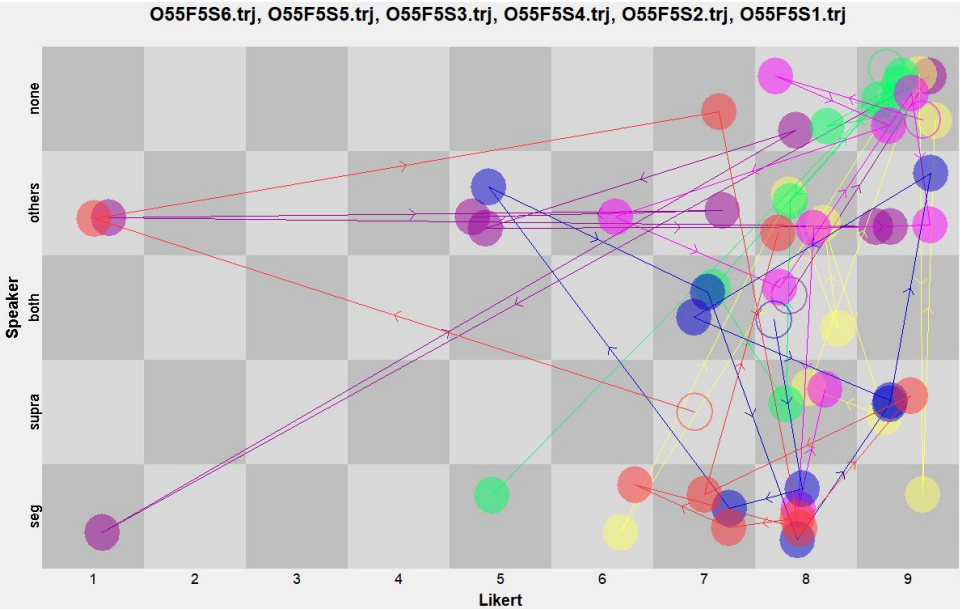


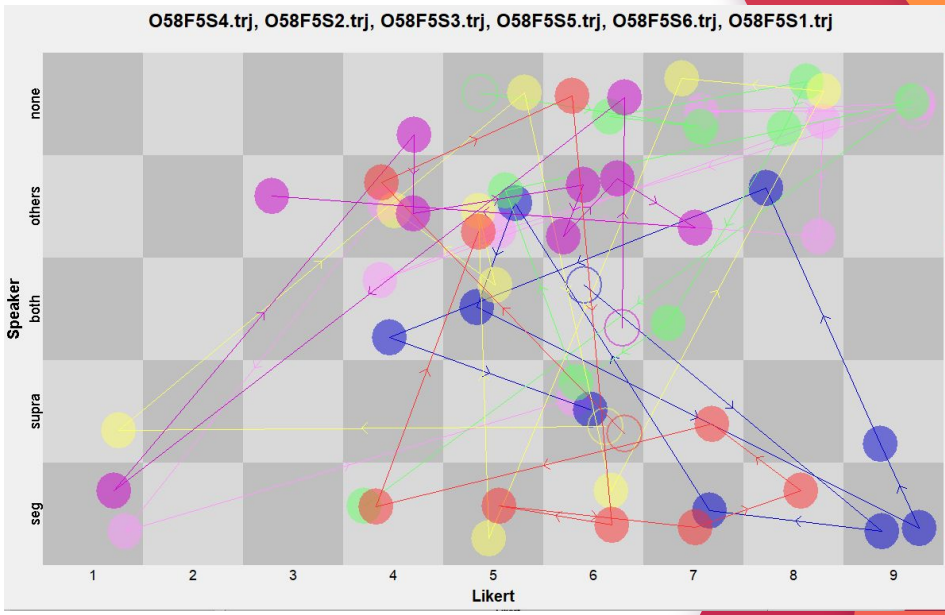




Red – data points 1 and 2
Blue – data points 3 and 4
Green – data points 5 and 6
Pink – data points 7 and 8
Yellow – data points 9 and 10
Purple – data points 11 and 12

Dispersion value:
0.69 to listener 55 speaker 6
0.76 to listener 58 – speaker 6

# What are the most frequent speaker—listener comprehensibility patterns throughout the 12 data points? (speaker 5)

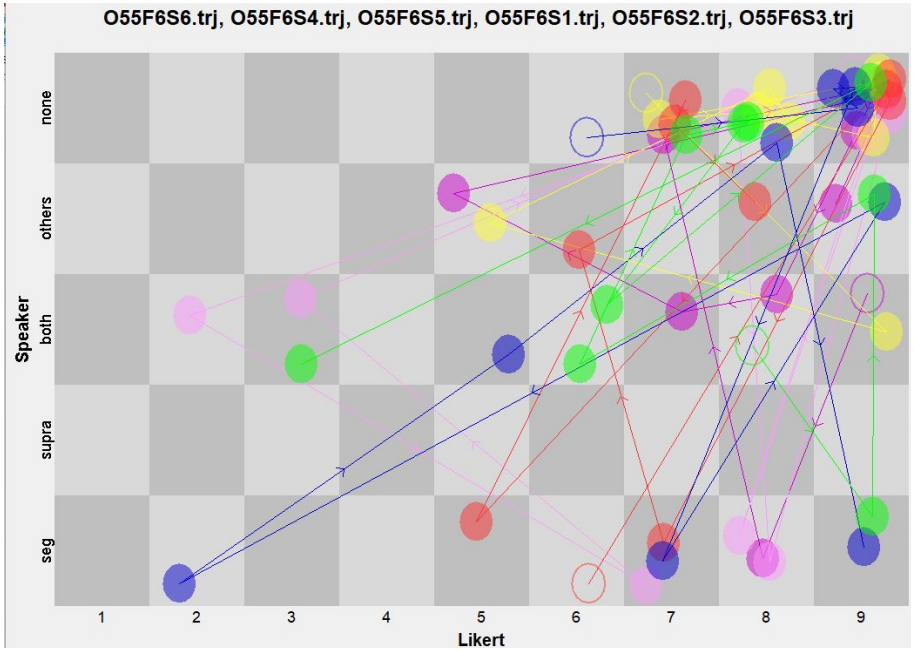


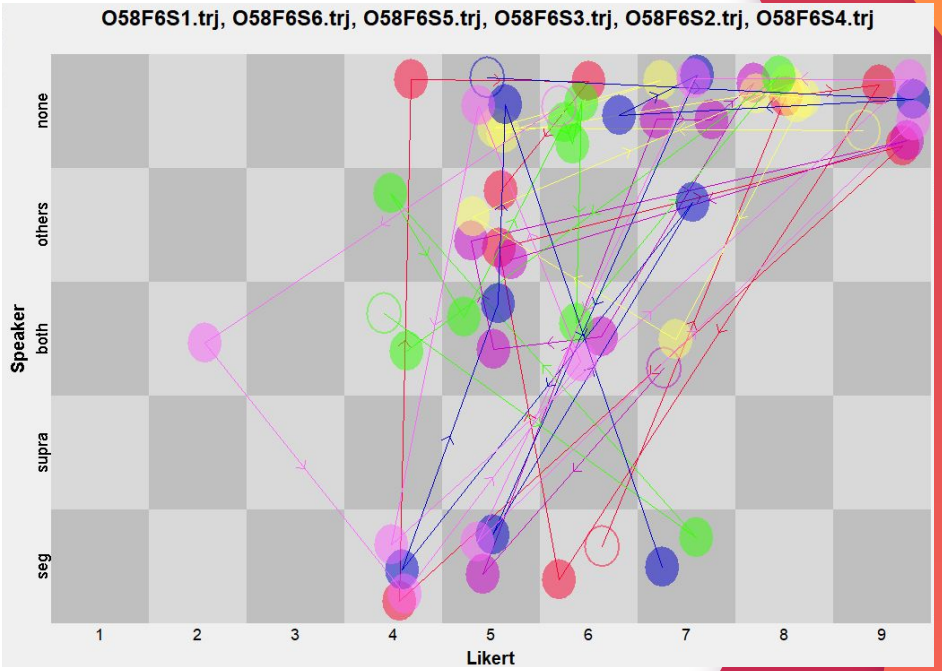




Red – data points 1 and 2
Blue – data points 3 and 4
Green – data points 5 and 6
Pink – data points 7 and 8
Yellow – data points 9 and 10
Purple – data points 11 and 12

Dispersion value:
0.83 to listener 55 speaker 5
0.9 to listener 58 – speaker 5

# What are the most frequent speaker—listener comprehensibility patterns throughout the 12 data points? (speaker 6)




Red – data points 1 and 2
Blue – data points 3 and 4
Green – data points 5 and 6
Pink – data points 7 and 8
Yellow – data points 9 and 10
Purple – data points 11 and 12

Dispersion value:
0.83 to listener 55 speaker 6
0.85 to listener 58 – speaker 6

# Overall discussion

- Both intelligibility and comprehensibility change over time, considering the same speaker-listener pair.
- Variability could be found among the data points and inside the same data point (more in the last data points).
- Influence of speakers and listeners' profiles: findings for binomial relationship.

# Overall discussion

Table 1: Speaker-Listener examples of the oral repetition task.

| Speaker | Listener |
|---|---|
| Aimed production by the speaker: “Curitiba is too hot” (in BP “Curitiba é muito calor”). | Listener A’s comprehension: “I think he said ‘Curitiba is too warm’, but I am not sure because there was a problem with a sound. |
| Actual produced sentence by the speaker: “Curitiba is too ‘hor’ (in BP “Curitiba é muito caror). | Listener C’ comprehension: “I understood he said ‘Curitiba is very expensive’, but the pronunciation of the final sound caused me problems, it may be another word”. |

# Overall discussion

- Difference between tasks: oral repetition tasks as an interesting process of retrieving information, from phonetic info to semantic content.
- Path to a comprehension dance: individuals are not intelligible or comprehensible by themselves, but context or even person-dependent, with changing behaviors in time.

# Overall discussion

- It is important to consider the constructs of “intelligibility” and “comprehensibility” in accordance with a larger view of language/language development.
- A dynamic account as the one defended in this talk proves appropriate, as Complex Dynamic Systems:
  (i) are variable in their nature;
  (ii) change over time;
  (iii) is always open to changes;

# Overall discussion

(iv) considers initial conditions;
(v) may present some chaotic behavior;
(vi) is person-dependent;
(vii) views language phenomena as an emergent process.

In this sense, intelligibility and comprehensibility may be seen as dynamic constructs that emerge in view of the context in which speech is produced and perceived.

# References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# Thanks!

**Jeniffer Albuquerque**
Professor at the Federal University of Technology – Brazil
jeniffer.albuquerque@gmail.com

**Ubiratã Kickhöfel Alves**
Professor at the Federal University of Rio Grande do Sul – Brazil
ukalves@gmail.com