

Research Methods in Psycholinguistics

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1 Class 1 (24 August): Introduction

1. Research process: Basic concepts (hypothesis, variables, measurement, participants, items, design, data collection, statistical analysis)
2. Linguistics and psycholinguistics (competence vs. performance)
 - phonetics and phonology vs. speech production and speech perception
 - morphology vs. psychomorphology
 - lexicon vs. mental lexicon
 - syntax vs. sentence processing (=parsing)
 - semantics; discourse and pragmatics; interfaces
3. Types of methods in psycholinguistics
 - Offline: questionnaires; grammaticality and preference judgments task; act-out; sentence-picture verification
 - Online: priming; self-paced reading; eye-tracking; event-related brain potentials (ERP); fMRI; MEG
4. Topics and themes in psycholinguistics

[1] Fernandez and Cairns (2011), Ch. 1 and Appendix

[2] *Research methods in cognition* (Chapter)

[3] Ambridge and Rowland (2013)

2 Class 2 (24 August): Offline Methods

1. Pros and cons of offline methods in psycholinguistics
2. Questionnaires:
 - Demographic and language background questionnaires
 - Grammaticality judgments
 - Preference judgments

[4] Grillo and Costa (In prep.)

[5] Fernandez, Bradley, and Taylor (In prep.)

3. Act-out
 - [6] Tanenhaus et al. (1995)
 - [7] Trueswell, Sekerina, Hill, and Logrip (1999)
4. Sentence-picture verification
 - [8] Sekerina, Hestvik, and Stromswold (2004)

3 Class 3 (25 August): Online Methods

1. Cross-modal priming
 - [9] Nicol, Fodor, and Swinney (1994)
2. Self-paced reading
 - [10] Gordon, Hendrick, and Johnson (2001)
3. Eye-tracking
 - Eye movements in reading
 - [11] Frazier and Rayner (1982)
 - Eye movements in spoken language comprehension (the Visual World Paradigm)
 - [7] Trueswell, Sekerina, Hill, and Logrip (1999)

4 Class 4 (26 August): Software and Resources for Psycholinguistic Experiments

1. Chronometry programs:
 - ePrime: Psychology Software Tools: <http://www.pstnet.com/eprimeauthorized.cfm>
 - LINGER: A flexible platform for language processing experiments: <http://tedlab.mit.edu/dr/Linger>
 - SuperLab by Cedrus: <http://www.superlab.com/experiments/>
 - [12] *SuperLab* Manual
 - DMDX
 - [13] Forster and Forster (2003)
 - PARADIGM: <http://www.paradigmexperiments.com/>
2. Google tools (Google forms): <https://support.google.com/drive/answer/87809?hl=en>
3. Web-based interfaces:
 - Amazon Mechanical Turk
 - [14] Gibson, Piantadosi, and Fedorenko (2011)
 - Survey Monkey: <https://www.surveymonkey.com/>
4. Repositories of free materials on the Internet
 - Images and pictures databases
 - Object and action picture naming dataset at UCSD: <http://crl.ucsd.edu/experiments/ipnp/>
 - [15] Bates et al. (2003)
 - Stimulus sets: <http://www.cogsci.nl/stimulus-sets>
 - Assessment materials

5 Class 5 (27 August): Experimental Psycholinguistics of Special Populations

1. Bilinguals, L2 learners, and heritage speakers
[16] Kroll and Rossi (2012)
2. Children
[3] Ambridge and Rowland (2013)
3. Aphasic patients and older adults
[17] Caplan et al. (2007)

References

- [1] Fernandez, E. M., and Cairns, H. S. (2011). Chapter 1: Beginning concepts. (pp. 8-31). Appendix: Experimental designs in psycholinguistics. (pp. 305-310). *Fundamentals of Psycholinguistics*. Wiley-Blackwell.
- [2] Chapter *Research Methods in Cognition*
- [3] Ambridge, B., and Rowland, C. F. (2013). Experimental methods in studying child language acquisition. *WIREs Cognitive Science*, 4, 149-168.
- [4] Grillo, N., and Costa, J. (In prep.). *A novel argument for the universality of parsing principles*.
- [5] Fernandez, E. M., Bradley, D., and Taylor, D. (In prep.) *Prosody and informativeness in the relative clause attachment ambiguity*.
- [6] Tanenhaus, M. K., Spivey-Knowlton, M. J., Eberhard, K. M., and Sedivy, J. C. (1995). Integration of visual and linguistic information in spoken language comprehension. *Science*, 268(5217), 1632-1634.
- [7] Trueswell, J. C., Sekerina, I. A., Hill, N., and Logrip, M. (1999). The kindergarten-path effect: Studying on-line sentence processing in young children. *Cognition*, 73, 89-134.
- [8] Sekerina, I. A., Hestvik, A., and Stromswold, K. (2004). How do adults and children process referentially ambiguous pronouns? *Journal of Child Language*, 31, 123-152.
- [9] Nicol, J. L., Fodor, J. D., and Swinney, D. (1994). Using cross-modal priming lexical decision tasks to investigate sentence processing. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 20(5), 1229-1238.
- [10] Gordon, P. C., Hendrick, R., and Johnson, M. (2001). Memory interference during language processing. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 27(6), 1411-1423.
- [11] Traxler, M. J., Morris, R. K., and Seely, R. E. (2002). Processing of subject and object relative clauses: Evidence from eye movements. *Journal of Memory and Language*, 47(1), 69-90.
- [12] *SuperLab 4.5 Manual*

- [13] Forster, K. I., and Forster, J. C. (2003). DMDX: A Windows display program with millisecond accuracy. *Behavior Research Methods, Instruments, and Computers*, 35(1), 116-124.
- [14] Gibson, E., Piantadosi, S., and Fedorenko, K. (2011). Using Mechanical Turk to obtain and analyze English acceptability judgments. *Language and Linguistics Compass*, 5/8, 509-524.
- [15] Bates, E., et al. (2003). Timed picture naming in seven languages. *Psychonomic Bulletin and Review*, 10(2), 344-380
- [16] m Kroll, J. F., and Rossi, E. (2012). *Bilingualism and multilingualism: Quantitative methods*.
- [17] Caplan, D., Waters, G., DeDe, G., Michaud, J., and Reddy, A. (2007). A study of syntactic processing in aphasia I: Behavioral (psycholinguistic) aspects. *Brain and Language*, 101, 103-150.

6 GP Sentences (temporarily structurally ambiguous sentences)

1. Main clause/Reduced RC:

The horse raced past the barn fell.

2. Sentential clause/DO:

The woman felt the fur was too expensive.

The student told the professor that really unbelievable story.

The student told the professor that taught the course that he wanted a better grade.

3. PP as VP argument/NP modifier:

Put the apple on the napkin in the bowl.

4. DO/S attachment:

Since Jay always jogs a mile seems like a very short distance to him.

7 Complex Sentences (unambiguous, but difficult to process)

1. Center-embedded:

The man the boy the woman saw heard left.

2. Filler-gap dependencies (of various types):

We didnt know which book the teacher read to the children from.

The police stopped the boy that the crowd at the party accused of the crime.

3. Subject vs. Object RCs:

The banker that praised the barber climbed the mountain.

The banker that the barber praised climbed the mountain.