

Structural priming across the lifespan

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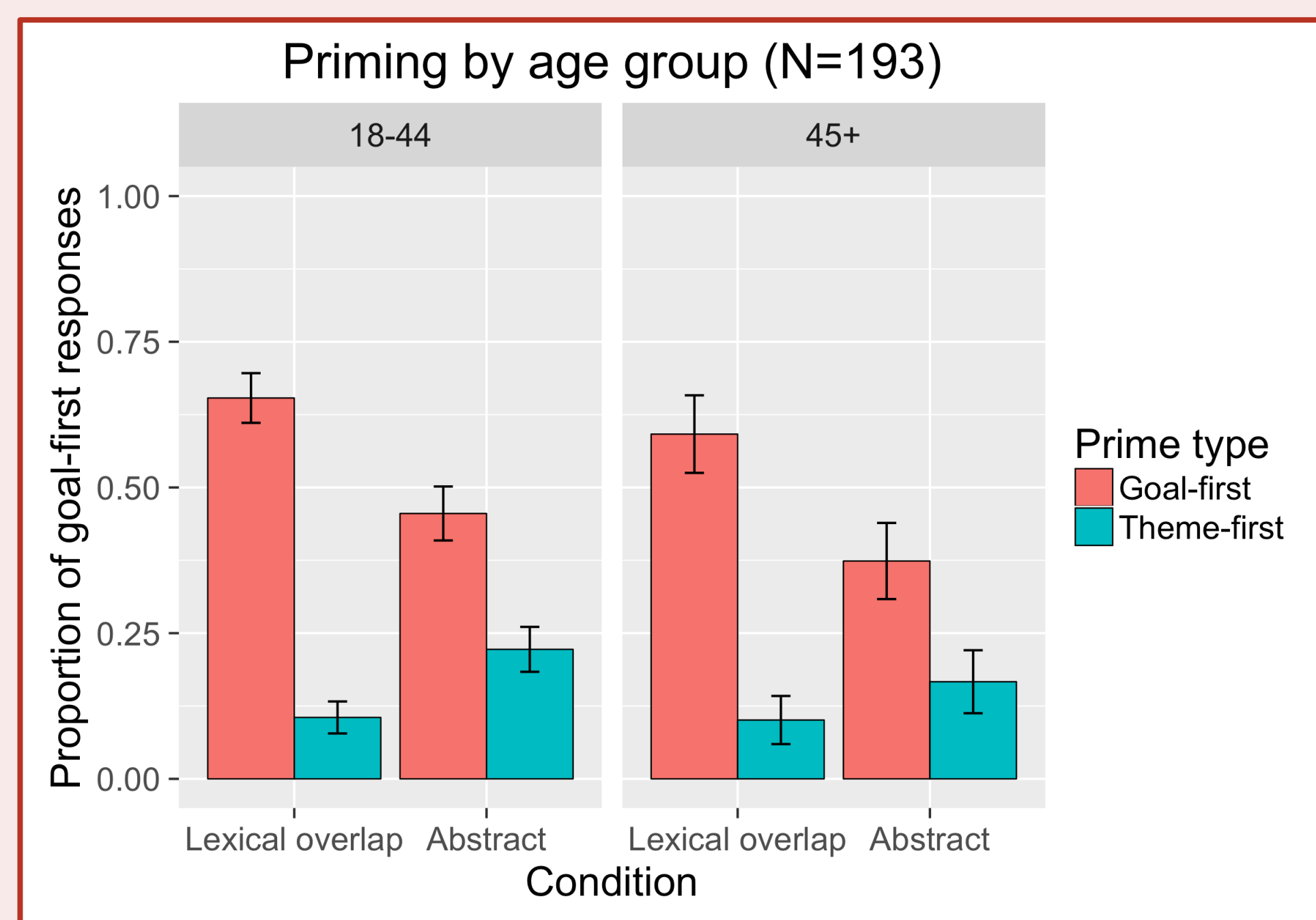
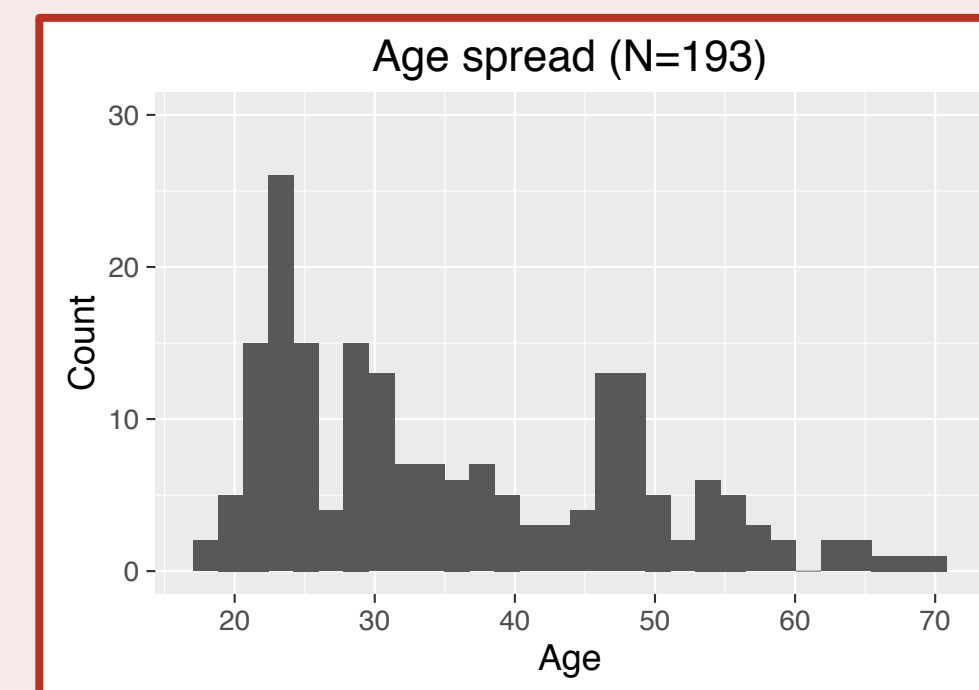
1. Introduction

- Structural priming (SP): repetition of syntactic or semantic structure (Bock, 1986; Chang et al., 2003)
- Lexical boost: lexical overlap b/t prime and target increases size of effect (Pickering & Branigan, 1998)
- Dual-Path Model: two distinct mechanisms proposed to underlie SP (Chang et al., 2006)
 1. Implicit learning (=abstract priming)
 2. Explicit memory (=lexical boost)
- Memory systems dissociate w/ age: explicit memory declines, while implicit memory stays intact (for reviews, see Fleischman, 2007; Mitchell, 1989)
- ? Does SP change across the lifespan, and can this inform us about the mechanisms behind it?
- Prediction: decline in size of lexical boost in older adults, but stable abstract priming

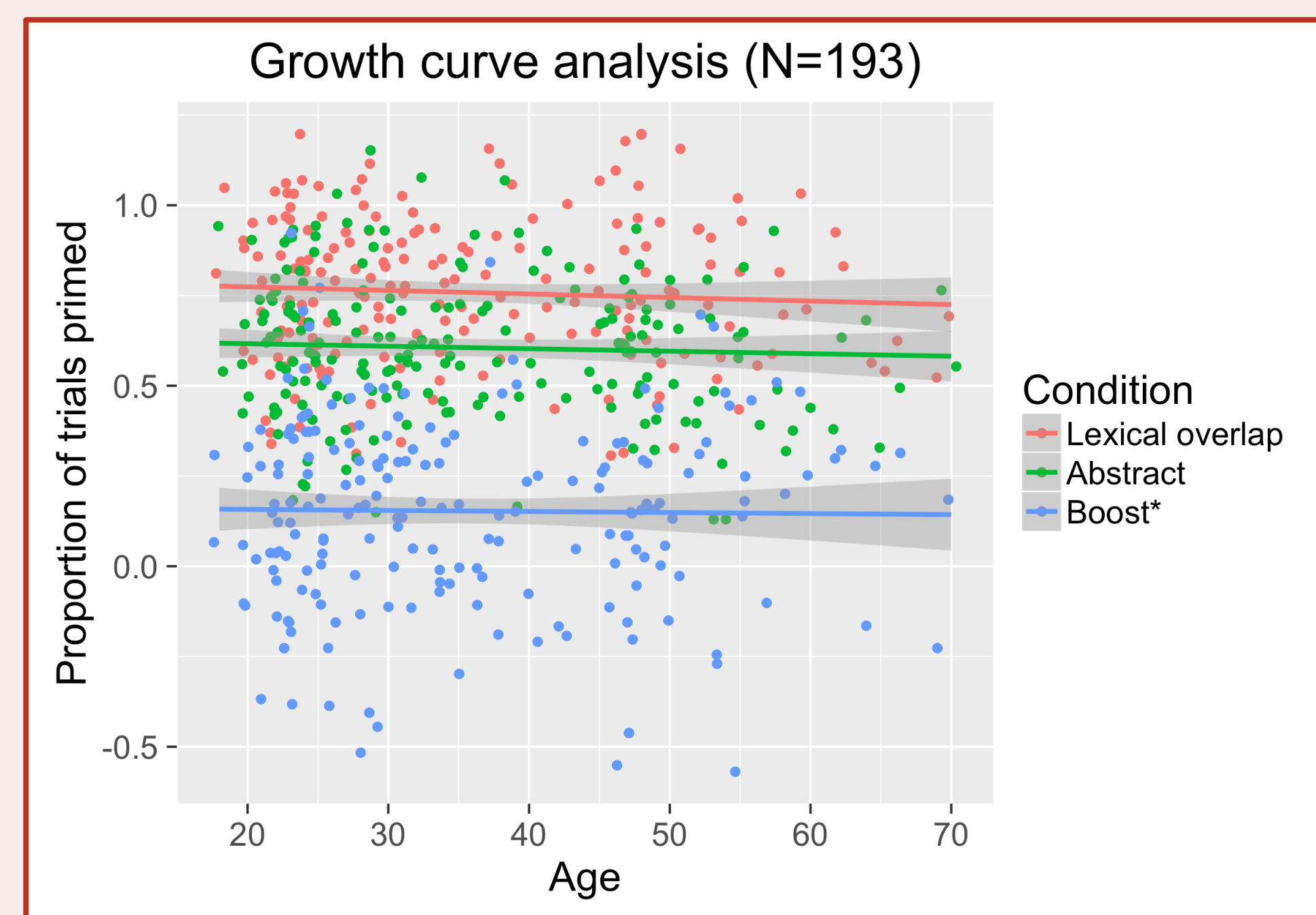
2. Methods / Results

- Animation description task on MTurk (N=193; age range=18-70)
- Stimuli (interspersed):

Goal-first	Theme-first
1. Datives: <i>boy brings camel keys ... keys to camel</i>	
2. Locatives: <i>girl loads van with boxes ... boxes in van</i>	
- ✧ No dissociation b/t abstract priming and lexical boost w/ age (cf. Sung, 2015, for lexically-specific priming in Korean)



Prime type main effect: $p < .001$; Condition by prime type interaction: $p < .001$; Age main effect: $p = .03$



Linear trend: $\rho = .82$; Quadratic trend: $\rho = .85$ * (Lexical) Boost = Lexical overlap - Abstract

3. Implications

- Stable abstract priming w/ age: in line with predictions
- Lack of decline in lexical boost:
 - ? Lexical boost \neq explicit memory
 - ? Explicit memory decline in older adults too subtle to lead to differences in priming
- Concrete contributions:
 1. Two primary effects (abstract priming/lexical boost) observed in college samples are robustly present across the lifespan (supplementing prior findings on SP in aphasics and amnesiacs; for review, see Pickering & Ferreira, 2008; also Alvarez et al., 2006, for abstract priming)
 2. Online task well-suited for more rigorous, large-scale work on individual differences in SP

4. Proposal

- Goal: more directly assess predictions of Dual-Path Model
- Approach: explore correlation of SP w/ measures of implicit and explicit memory
- Task battery:
 1. Current animation description task (=SP)
 2. Explicit (working) memory measure(s):
 - [1] Serial recall: digit span (forwards/backwards), other; [2] verbal recognition
 3. Implicit (procedural) memory measure(s):
 - [1] Lexical decision; [2] word stem/fragment completion; [3] sequence learning: motor, other
 4. Control for g? – [1] vocabulary, [2] matrices (Chabris, 2007)
- Potential confounds:
 1. Differences in browser RTs
 2. Slower RTs overall in older populations

