**Introduction**

Evidence-based outcomes:

- For 26 individuals with aphasia (IWA)
- With deficits in production and comprehension after sentence production treatment

Uni-modal generalisation:

- To-same (but untrained) sentence structure: 13/26 IWA
- To other sentence structure: 12/26 IWA

Cross-modal generalisation:

- To-comprehension: 22/26 IWA
- To-production: 4/26 IWA

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**Why Search for Generalisation?**

Achieve best possible outcome of treatment

- Detect functional relationship among cognitive processes underlying sentence comprehension and production

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**Uni-modal Generalisation**

| WhoQ | Byng

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**Uni-modal Modality-specific?**

- Modality-specific?
- Cross-modal?

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**TREATMENT: MULTIPLE CASES**

- 7 IWA (Agrammatism)
- Production treatment, TUP
- Non-canonical sentences

**References**

- Cross-
- Evidence
- Jr
- Thompson

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**Participants | Material | Procedure**

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<th>Gender</th>
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**Broca**

- 53 yrs (33-67)
- Post-onset: 9 yrs (3-15)

**Multiple case series**

- Phase III, efficacy study

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**Questions | Results**

1. Does treatment of sentence production lead to unimodal and cross-modal generalisation effects?

- **Unimodal Training & Generalisation Effect**
  - Production: 2 (0.05)
  - Comprehension: 36 (1.90)
- **Crossmodal Generalisation Effect**
  - Production: 12 (0.60)
  - Comprehension: 6 (0.30)

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2. Does retained sentence comprehension induce generalisation within production?

- **Trained OIRC**
  - Production: 2 (0.15)
  - Comprehension: 36 (1.90)
- **Untrained whoQ**
  - Production: 2 (0.00)
  - Comprehension: 33 (1.83)

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**Summary**

- All IWA show significant training + generalization effects within the treated modality and sentence structure (i.e. in production)

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**Generalisation Informs**

- Lack of cross-modal generalisation:
  - More evidence: n=2 IWA, n=3 IWA
  - Modality specific processes: Production/comprehension
  - But: no double dissociation! Comprehension-production

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**FUNCTIONAL RELATIONSHIP**

- Uni-directional interaction, supporting role of sentence comprehension for production

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**TREATMENT**

- Sentence production (OIRC) Treatment of underlying forms (TUP)

1. SVO-Sentence: Verb / Thematic Roles
   - What is the action? [VERB]
   - Who is the recipient? [AGENT]

2. Derivation of ORC: Movement Operation
   - Cycle 2: Therapist
   - Cycle 2: Patient

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**Clinical Decision**

- Treatment before or in combination with production
  - e.g. starting ech session with sentence picture matching; embedding production into discourse

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**References**