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Conceptualization in process: Motion event processing in English and French

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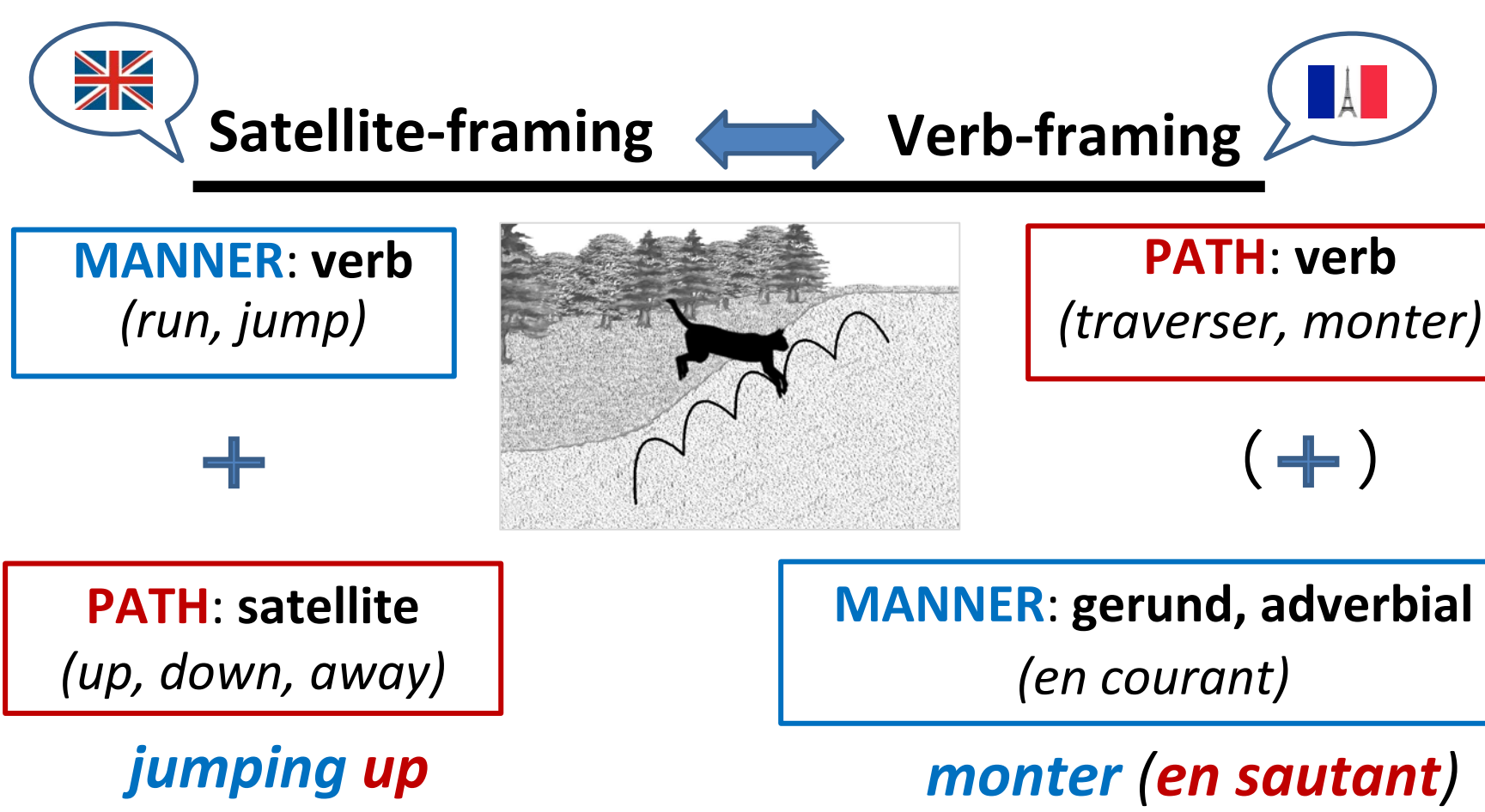
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Introduction

Thinking-for-speaking hypothesis [1,2]

- Language as filter on event construal
- Language-specific encoding patterns affect attention allocation during online speech processes
- Routinely encoded aspects of reality are more salient to speakers
- Effect on children's conceptual and linguistic development [3,4]

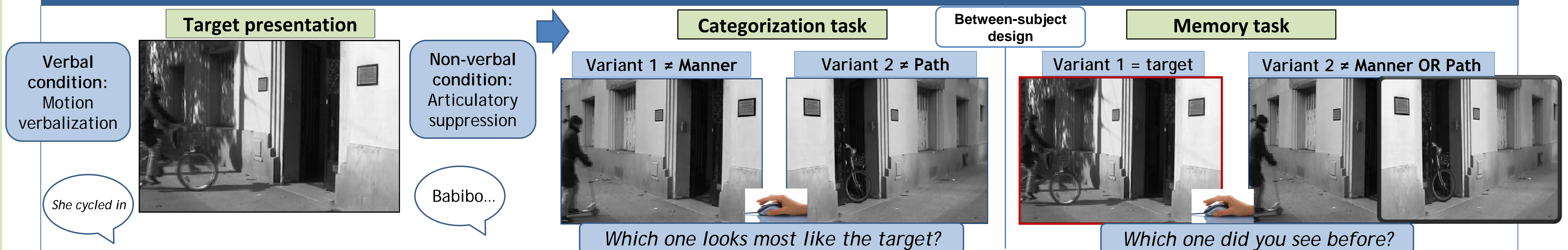
Motion Event Typology [5]



Research Questions

- ❖ **Q1:** Do cross-linguistic differences in motion expression affect motion event processing?
- ❖ **Q2:** Which domains of cognition are affected and in what condition (verbal and/or non-verbal)?
- ❖ **Q3:** Does typology impact children's linguistic and conceptual development of motion representation?

Materials & Procedure



Eye-tracking: Dynamic AOIs



Fig 1. Definition of dynamic zones of interest

- Tobii X120 head-free binocular remote desktop eye-tracker (120 Hz)
- Dynamic AOIs hand-drawn for each stimulus, allowing precise monitoring of fixations

Hypotheses

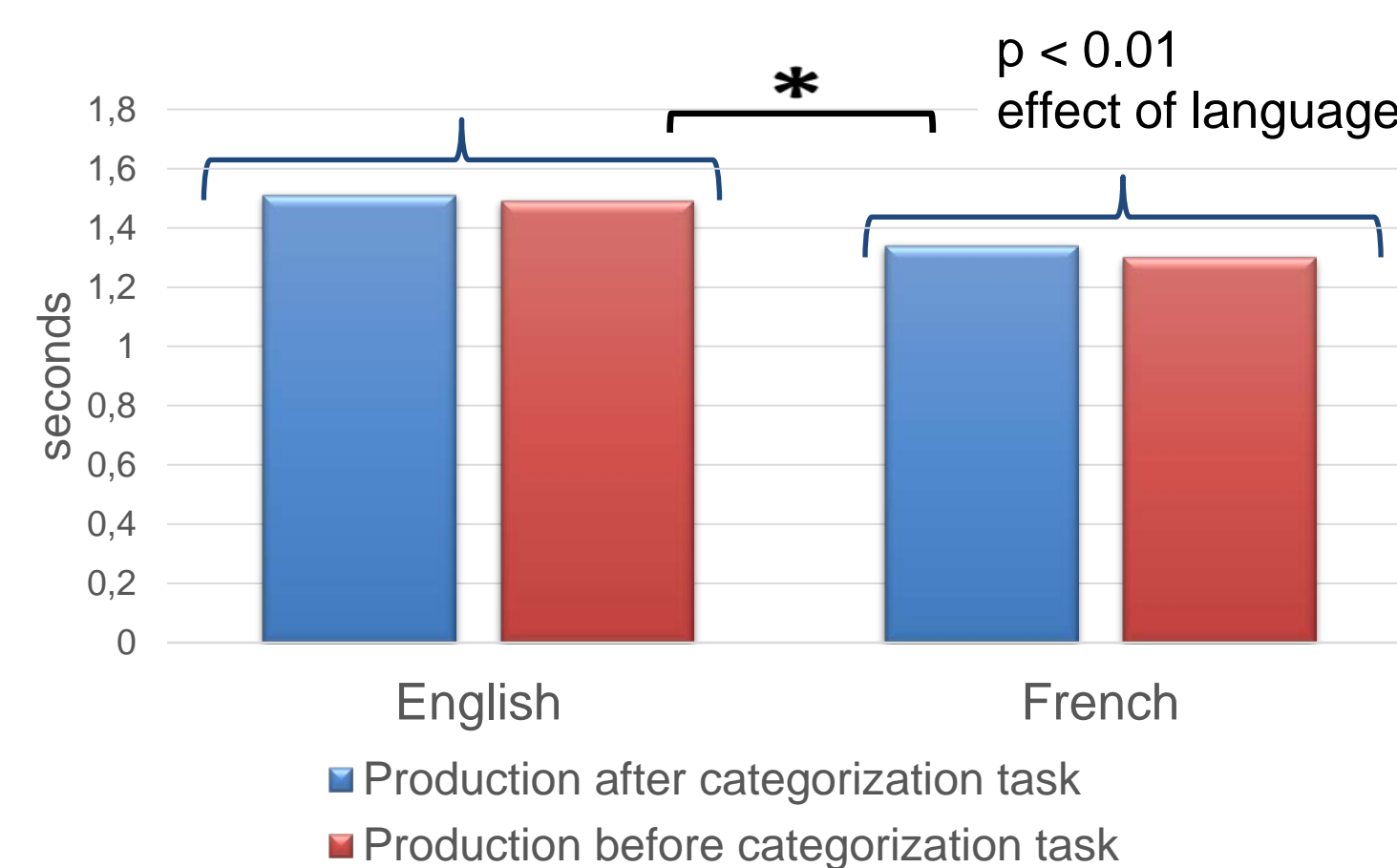
- **Categorization:** Manner criterion EN > FR
- **Memory:** Manner recognition errors FR > EN
- **Gaze pattern:** Total fixation duration on Manner-relevant AOI EN > FR

Participants

Adults	NV English	VE English	NV French	VE French
Categorization	22	19	18	19
Memorization	19	20	19	18

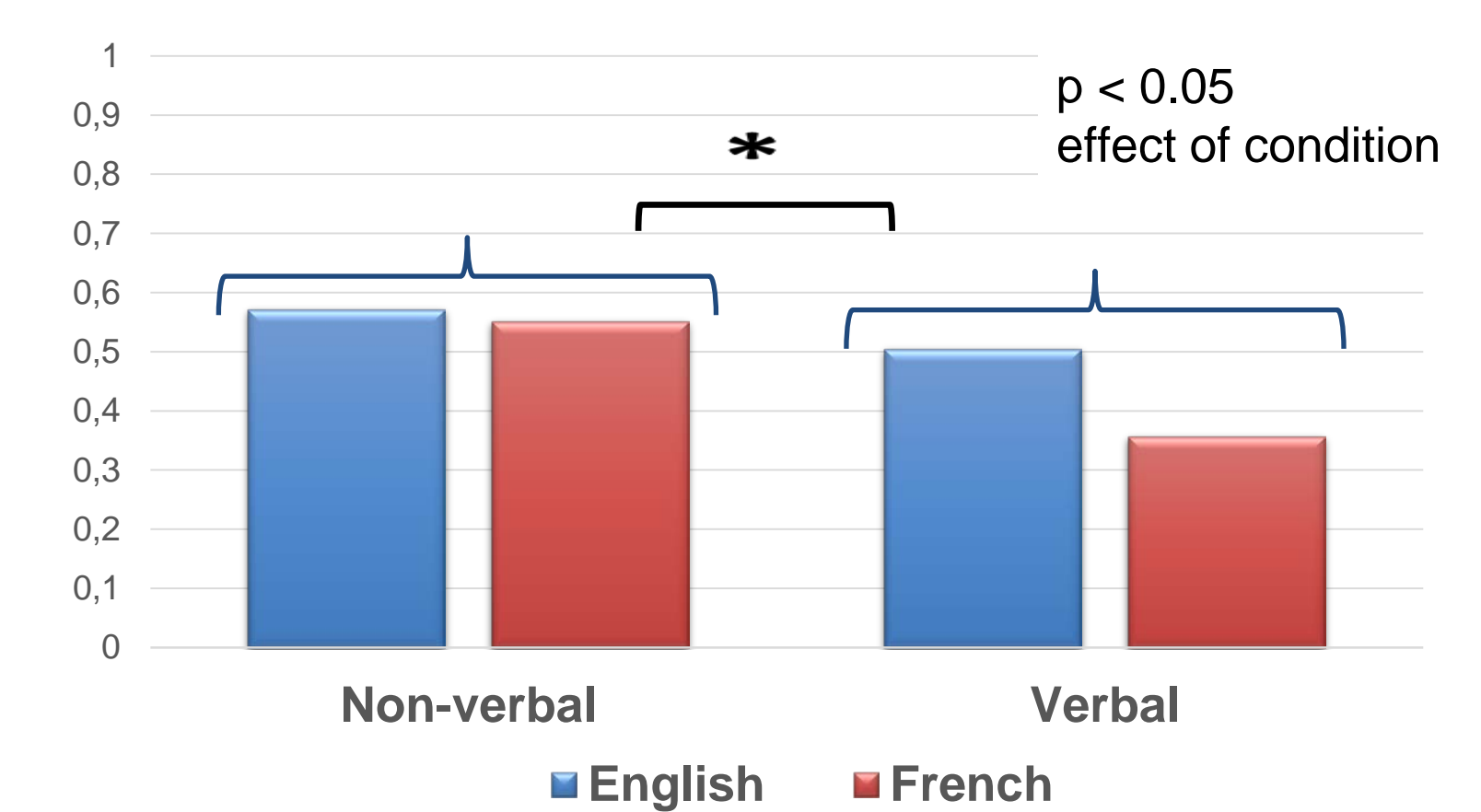
Results eye movements [6,7]

Fixation duration during viewing for production



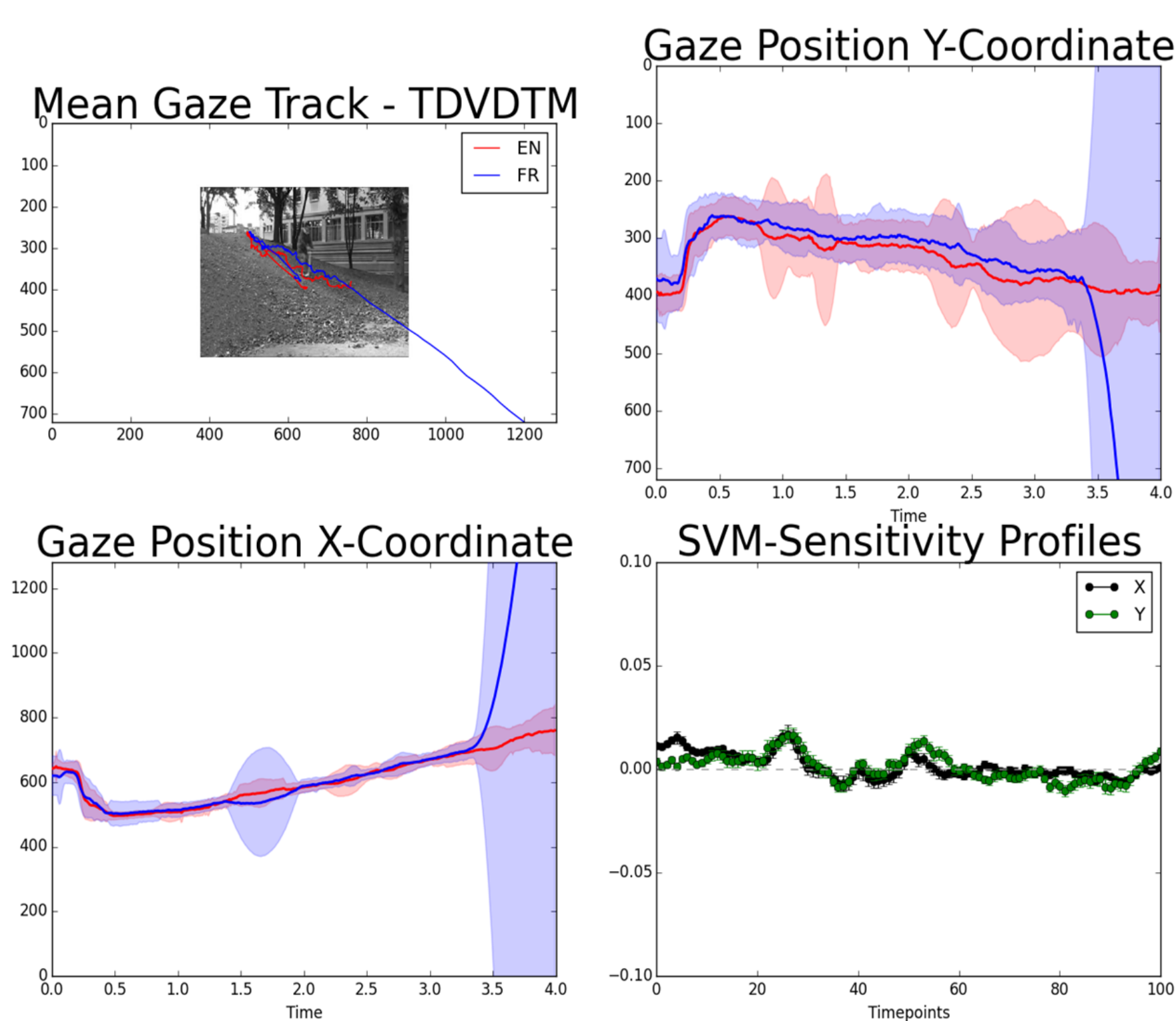
Results offline measures

Categorization: Manner responses



Exploratory gaze analysis [8]

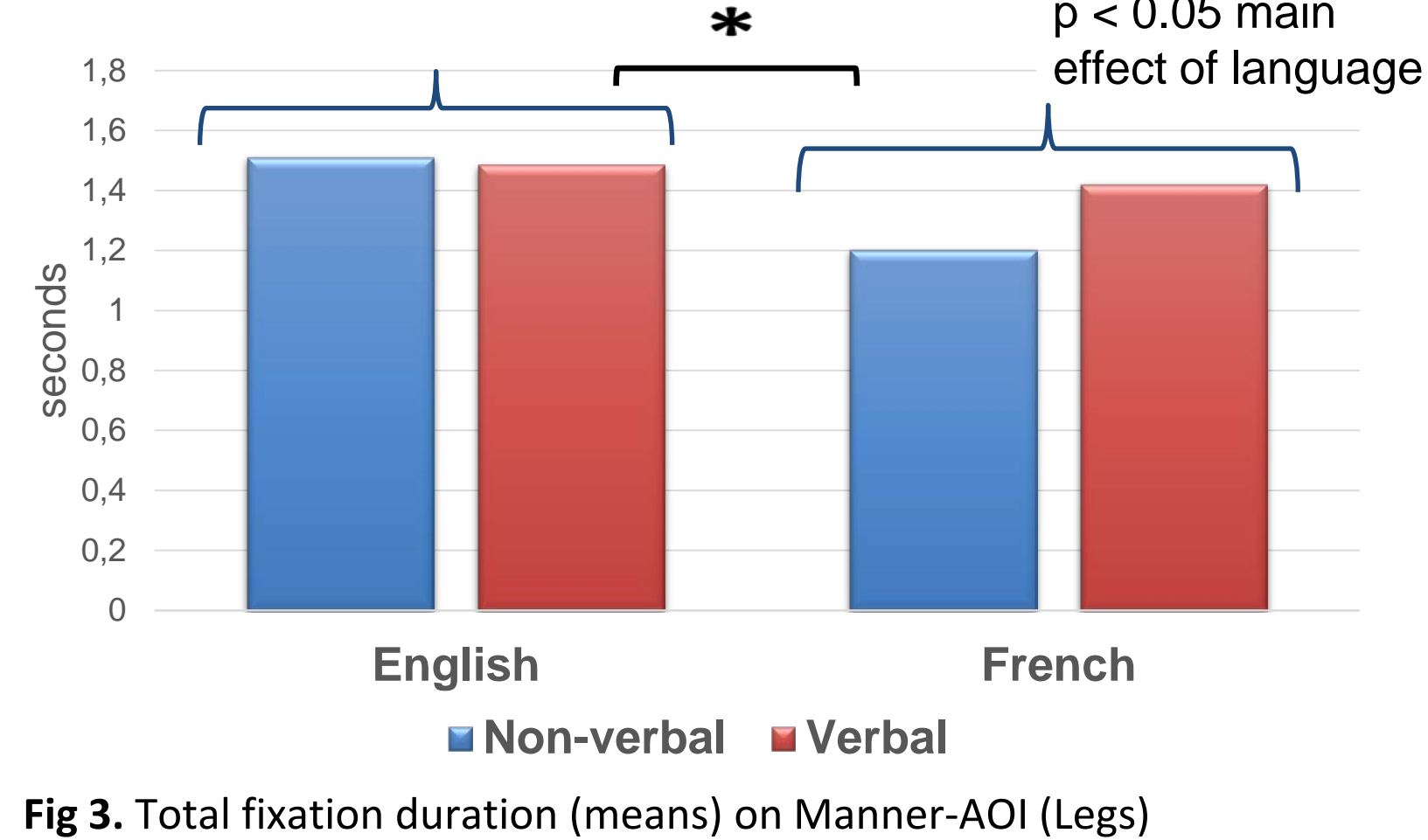
Classification using PyMVPA algorithm



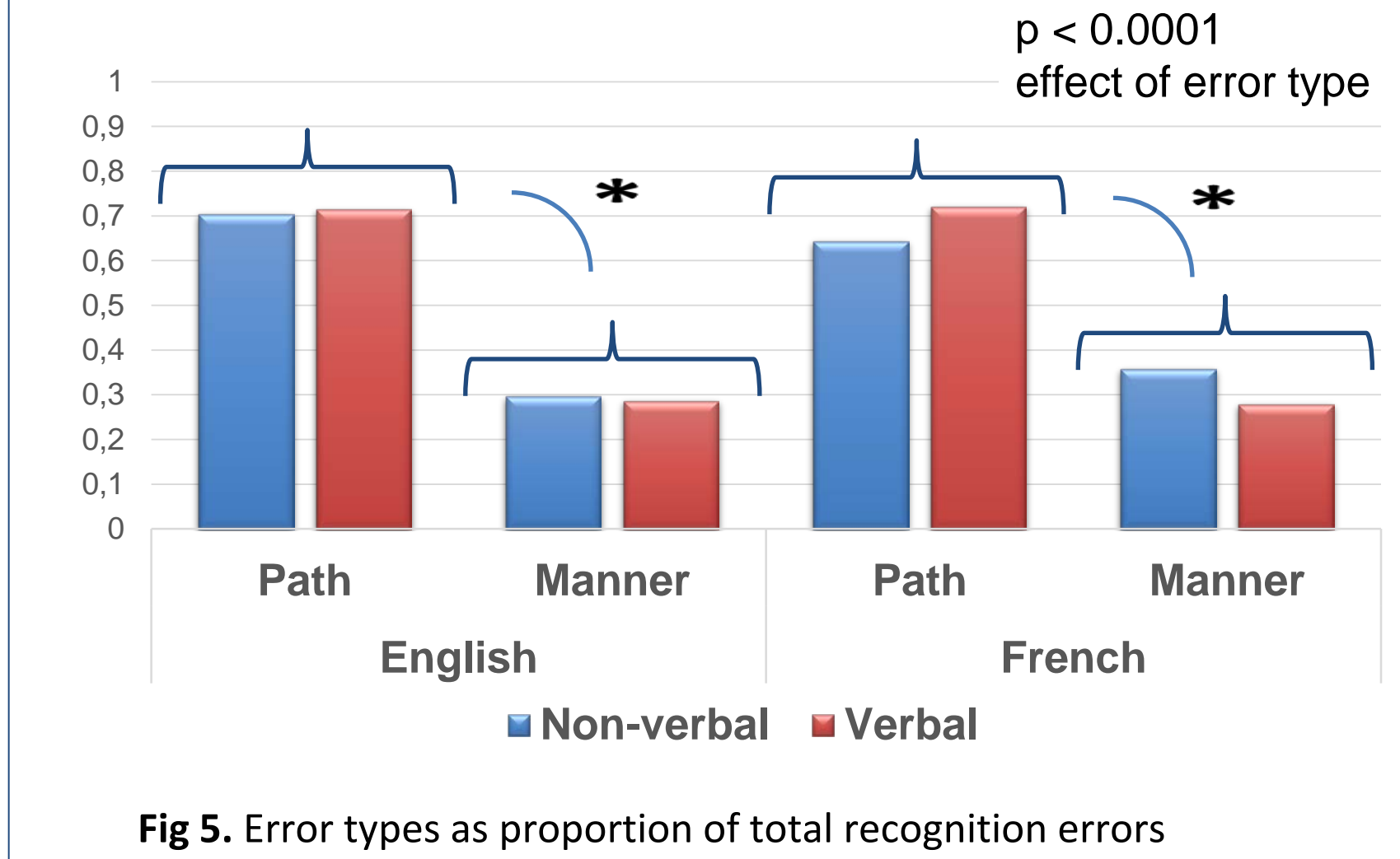
```

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predictions\targets  1  2
-----
p=0.00026
1  32  30
2  12  10
Summary \ Means:
CHI^2  19.09
ACC  0.5
ACC%  50
    
```

Fixation duration during categorization



Memory: types of recognition error



Fixation duration memorization: No sig. differences

- Offline measures show effects of condition (NV vs. VE)
- Eye movements reveal significant language-specific processing differences, also in non-verbal conditions
- Not all cognitive processes affected alike: impact on fixations during categorization, but not memorization
- No meaningful results with classification analysis
- Future directions: Investigating motion processing in children's development and in bilingual speakers

Discussion & future directions

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