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## Introduction

Older adults show larger top-down effects compared to younger adults

- Increased lexical bias (Mattys & Scharenborg, 2014)
- More difficulty recognizing words with many phonological neighbours (Sommers & Danielson, 1999)
- Possibly due to deficit inhibiting irrelevant top-down information

Revill & Spieler (2012) investigated the role of lexical frequency on the time course of spoken word recognition in older and younger adults

- Older adults pay more attention to high frequency items
- May be beneficial to increase weight of high frequency items to compensate for slowed processing

## Research Aims

Replicate and extend the findings of Revill & Spieler (2012) by investigating lexical frequency and individual inhibitory ability

- Do individual differences in inhibition predict ability to resolve lexical competition in older adults?

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## References

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## Method

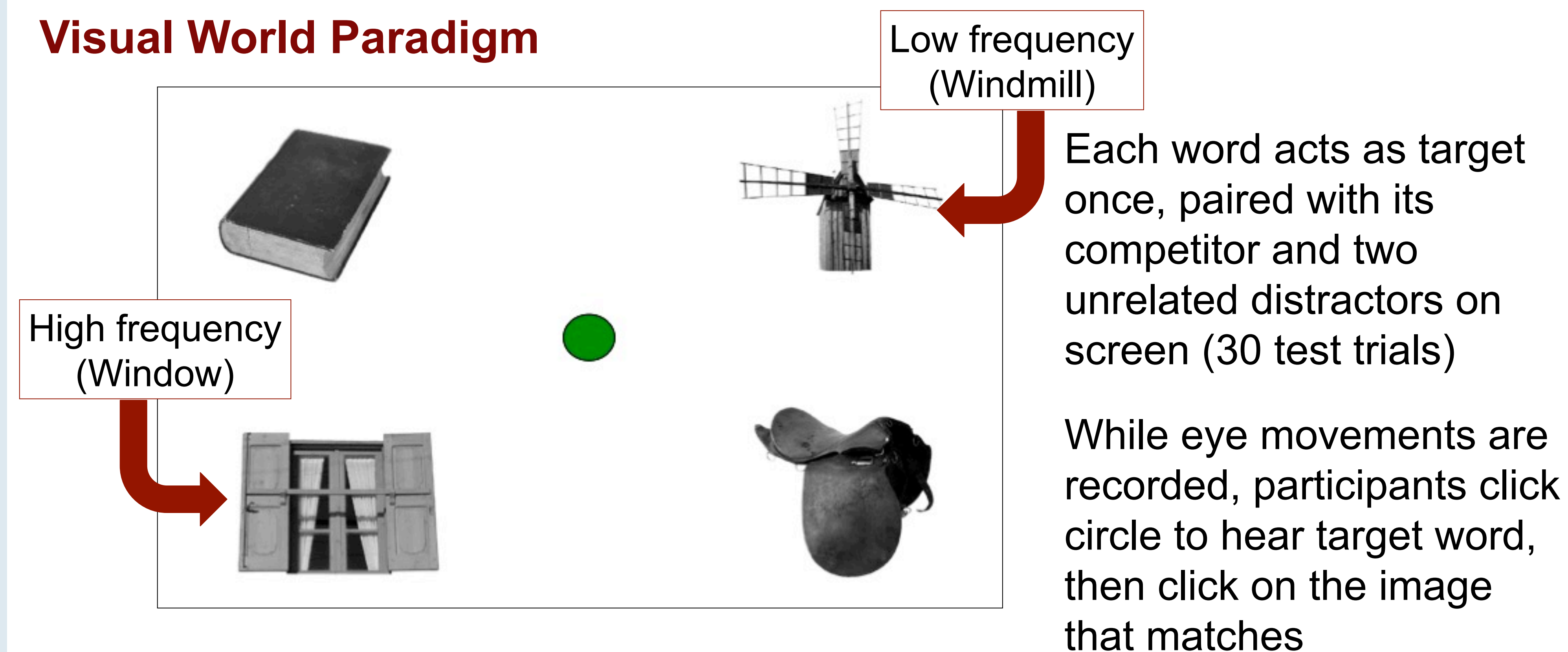
## Participants

- 20 older adults (ages 61-74;  $M_{age} = 69$ )
- 22 younger adults (ages 18-29;  $M_{age} = 21.6$ )

## Stimuli

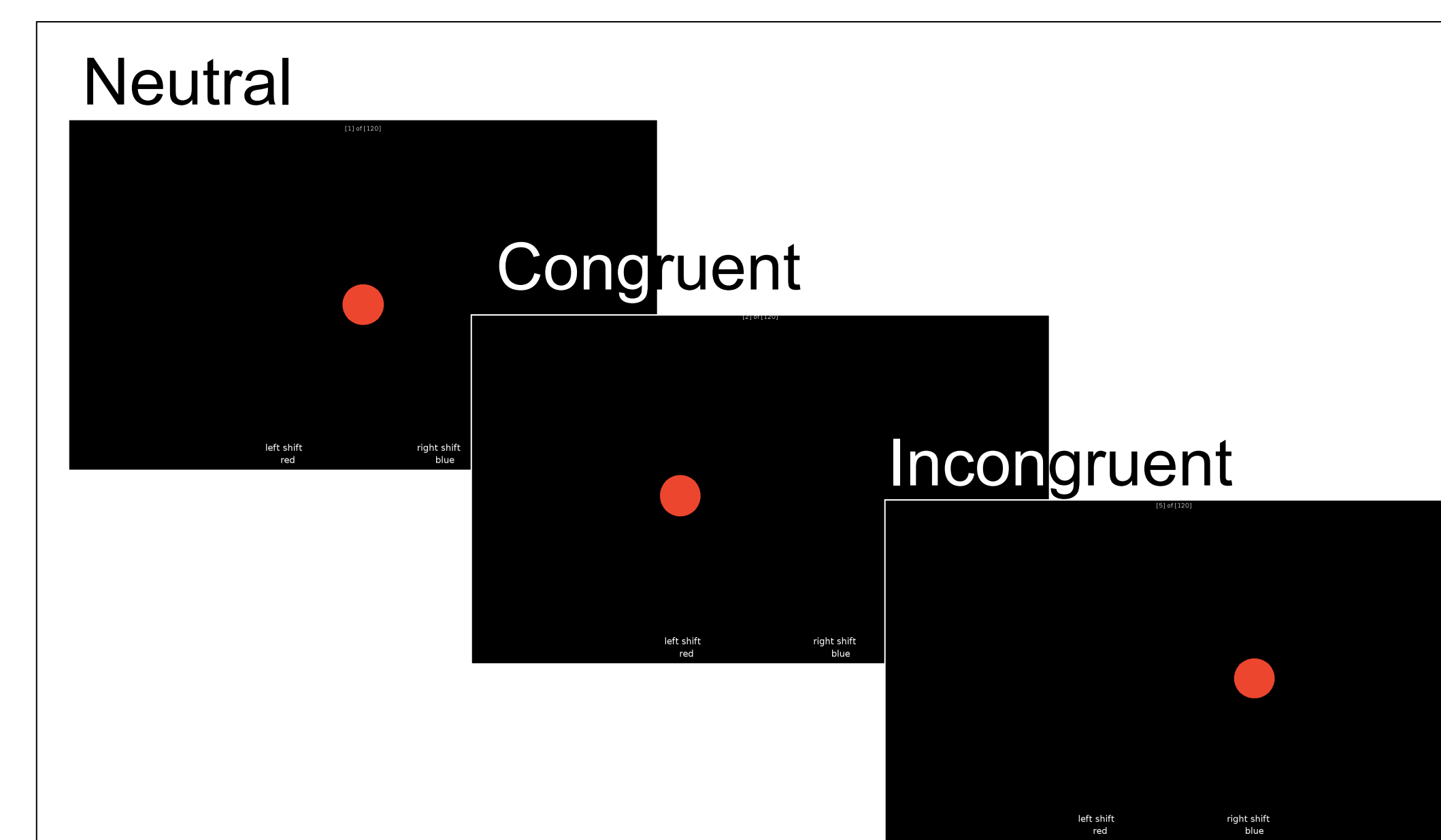
15 pairs of phonological competitors that differ in lexical frequency

## Visual World Paradigm



## Simon Task (Mueller, 2011)

Measure of domain-general inhibition

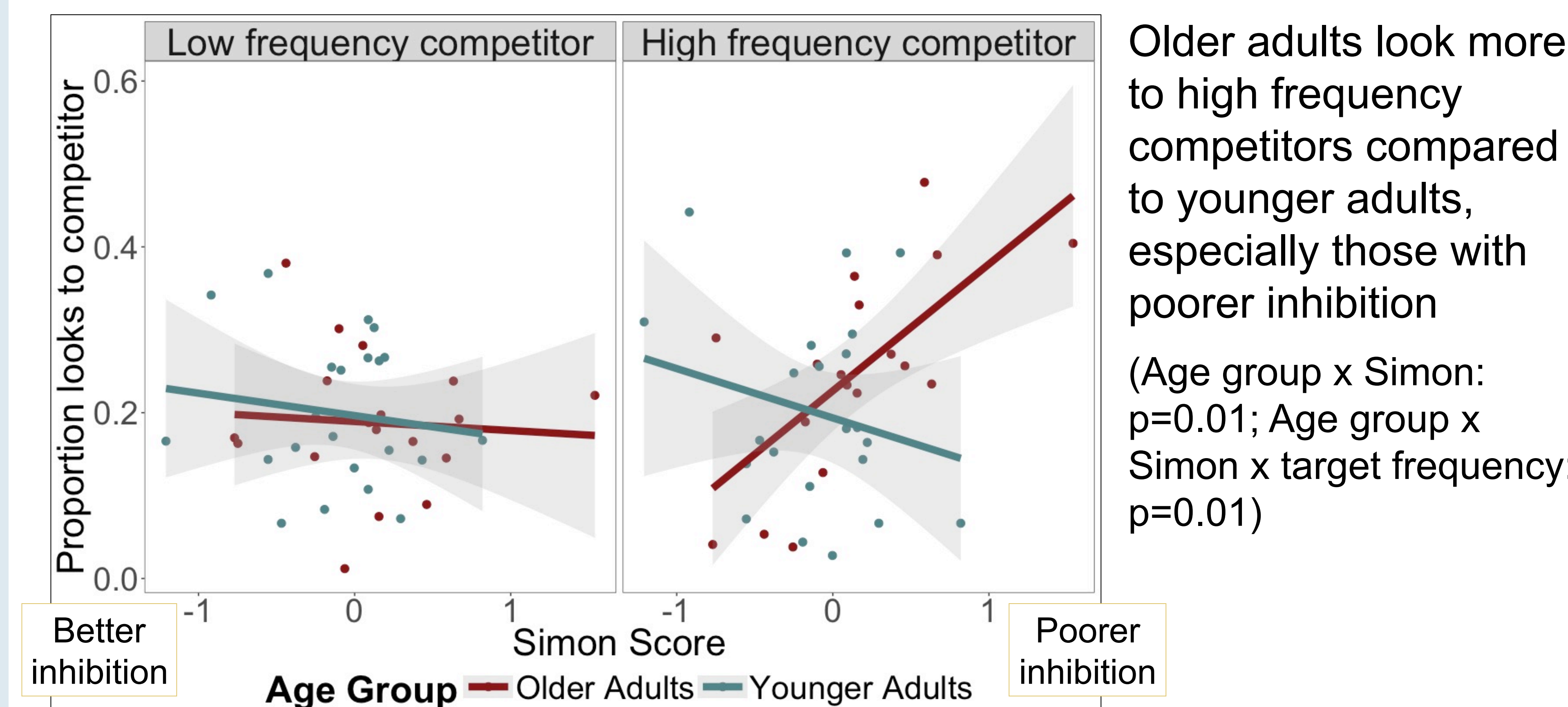
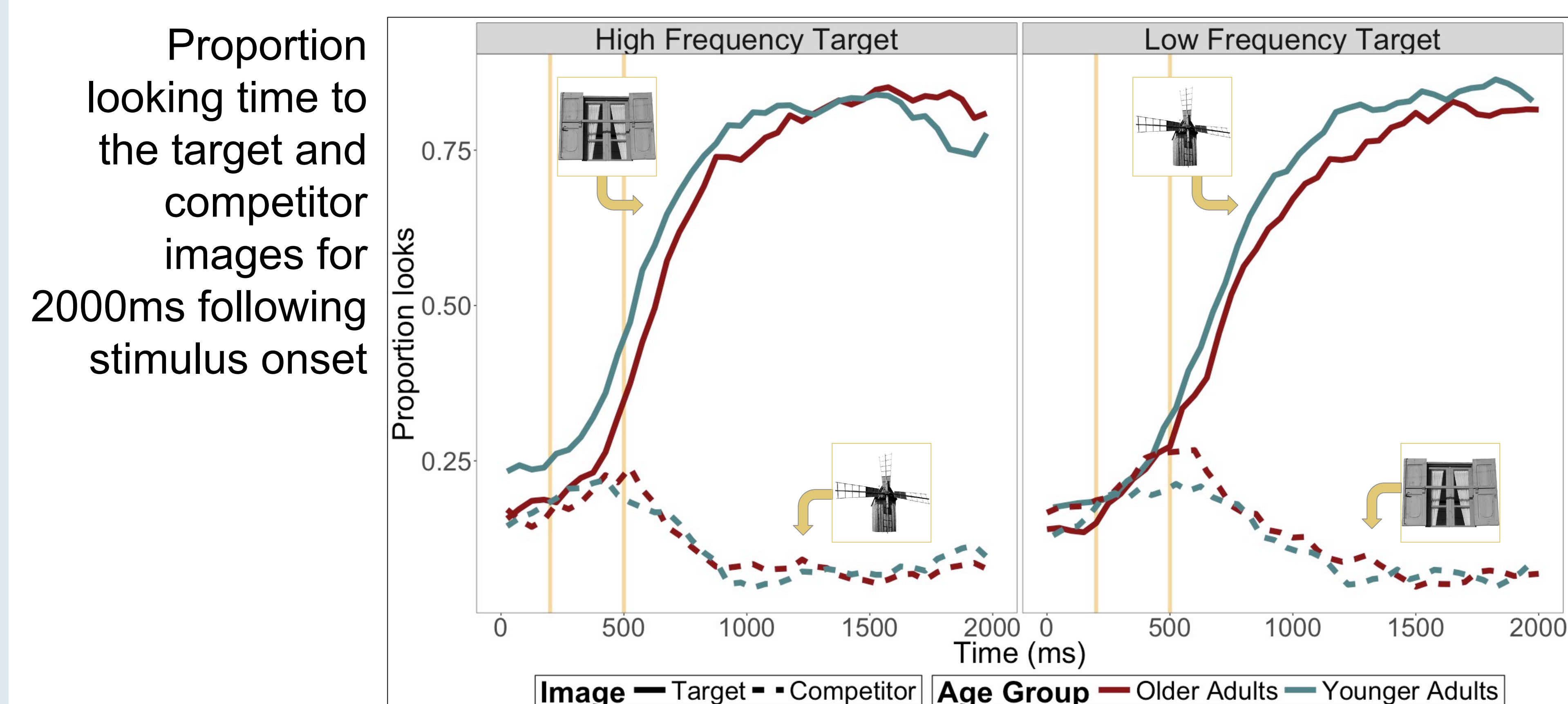


Participants must respond based on colour of stimulus while inhibiting presentation side

Simon score = RT incongruent trials – RT neutral trials

## Results

Mixed-effects linear regression investigating effect of target frequency, inhibition, and age group on proportion looks to the competitor image from 200-500ms post-stimulus onset



## Summary &amp; Conclusion

Low frequency competitors are treated similarly by both age groups, but older adults are more distracted by high frequency competitors if they have poorer inhibition

- Suggests high-frequency advantage in older adults found by Revill & Spieler (2012) may be driven by individual inhibitory ability

Older adults' difficulty ignoring high frequency competitors is related to poorer domain-general inhibitory ability

- Age-related top-down suppression deficit may drive distraction by high-frequency competitors