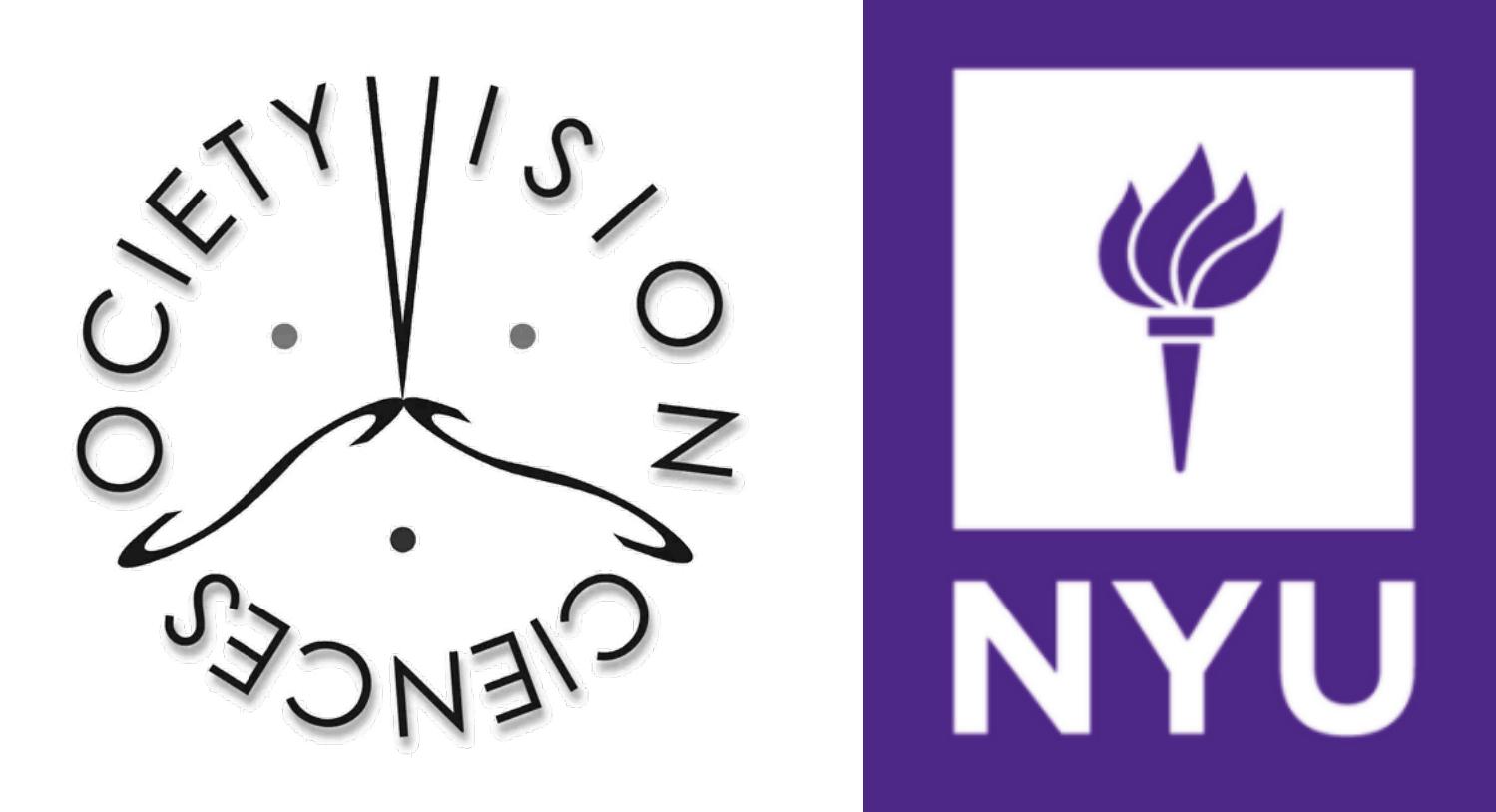


Adolescents' and adults' sensitivity differs around the visual field

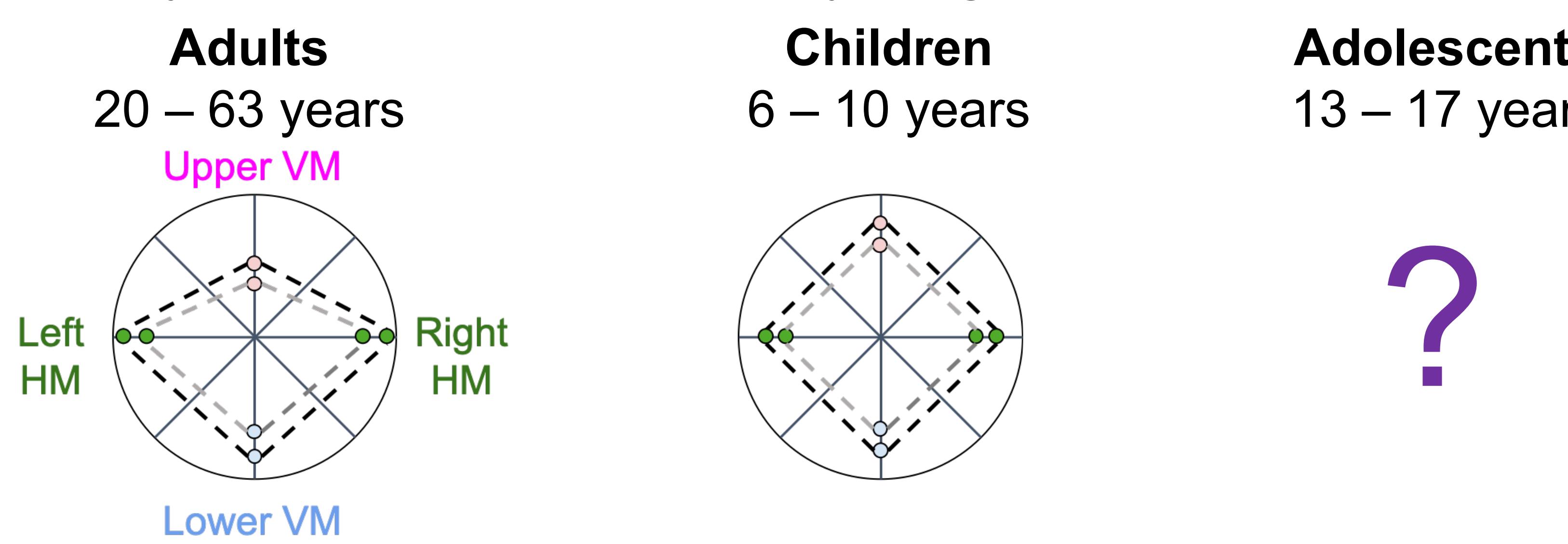
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Background

- Perceptual performance decreases with eccentricity¹⁻² and differs across isoeccentric locations.³⁻⁷
- The adult visual performance field is characterized by a horizontal-vertical anisotropy (HVA) and a vertical meridian asymmetry (VMA).³⁻⁷
- Exogenous^{4,5} and endogenous⁷ covert attention boosts performance to a similar degree at isoeccentric locations, preserving performance field shape.
- These asymmetries are absent in young children.⁸

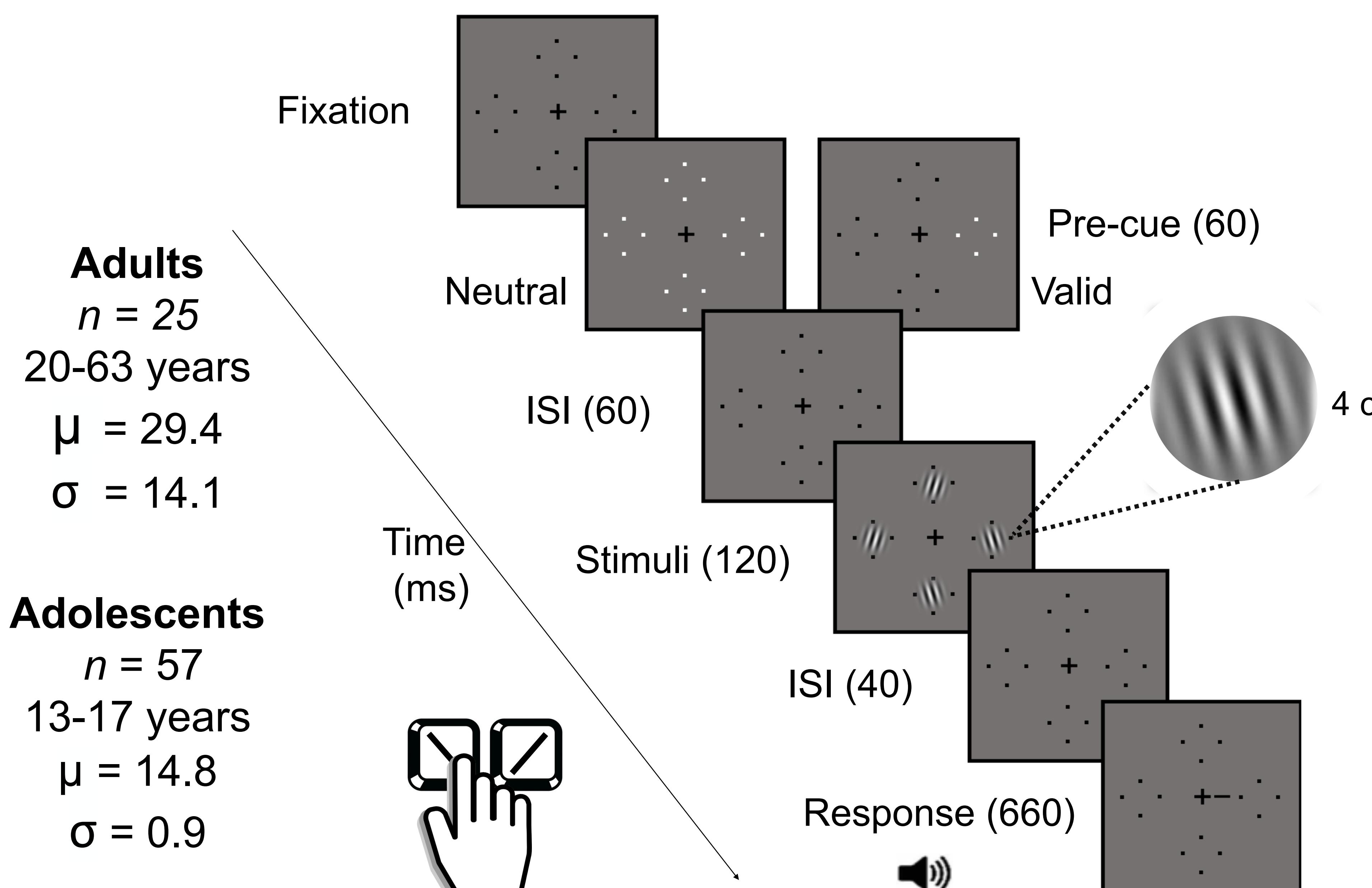


Questions

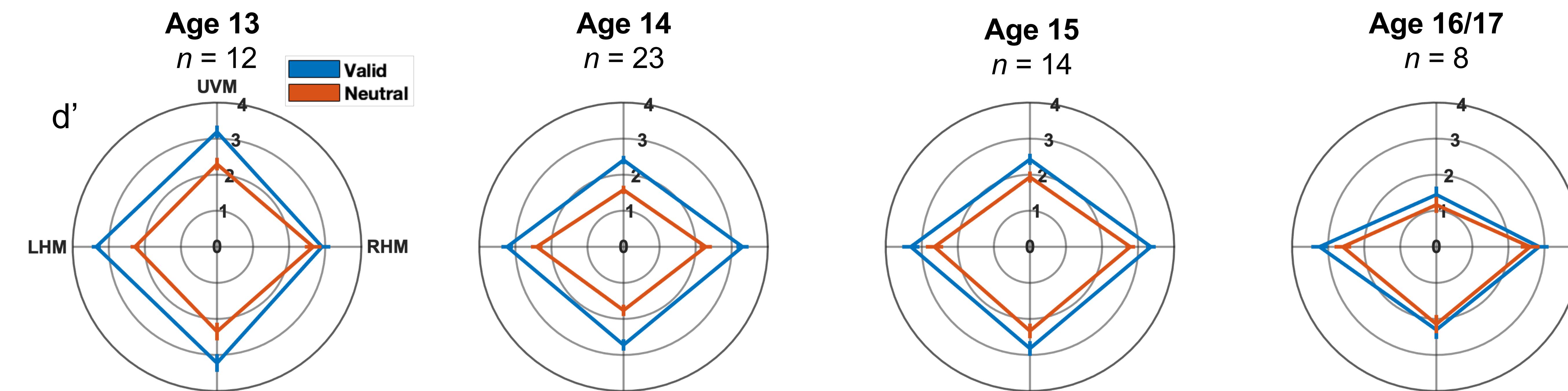
When during adolescence do the visual field asymmetries present in adulthood (HVA/VMA) emerge?

Does covert exogenous spatial attention modify the shape of the adolescents' performance fields?

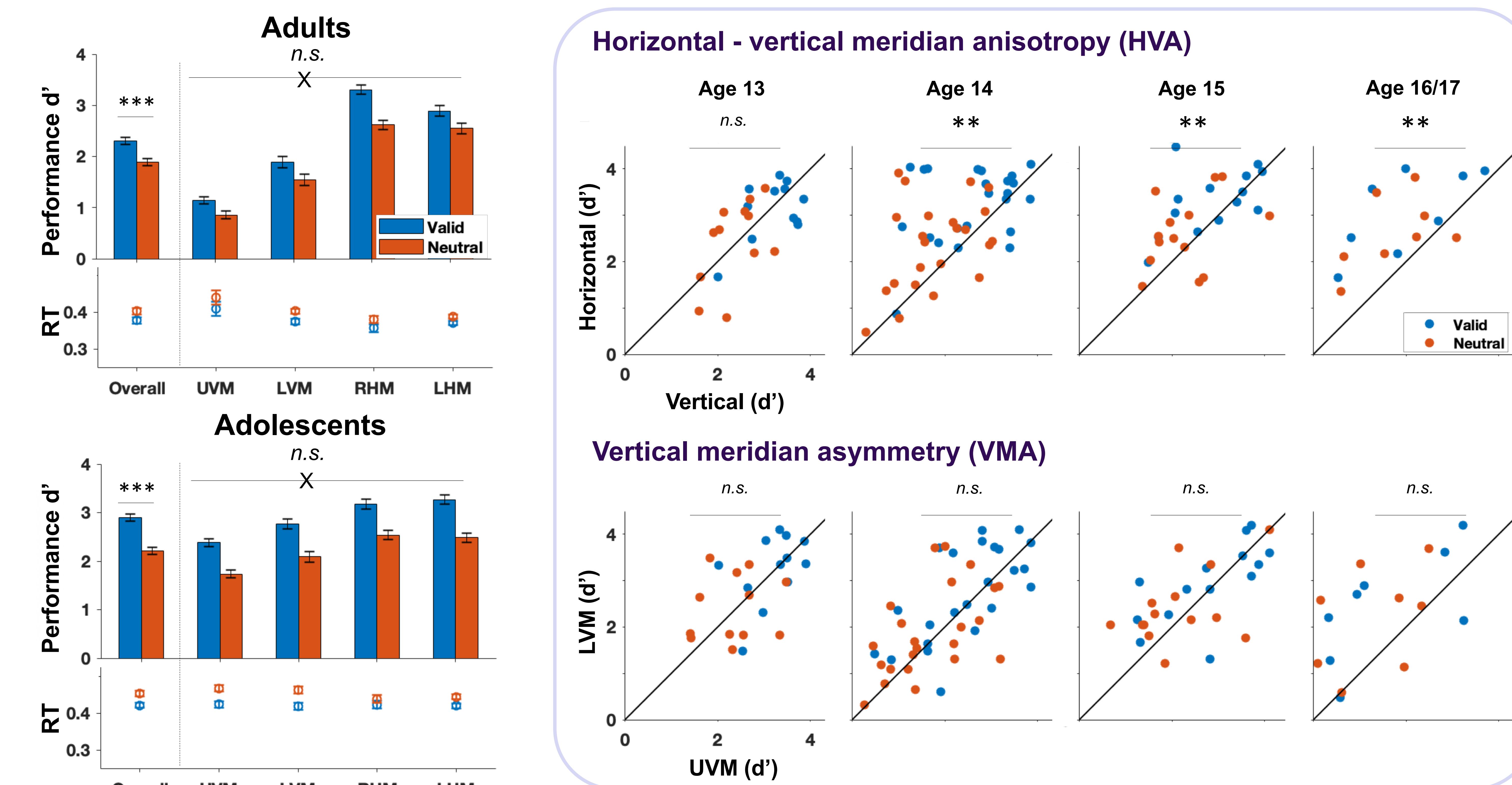
Task: 2-AFC orientation discrimination



Results: Performance asymmetries develop gradually



Results: HVA emerges before VMA



Conclusions

- The visual field asymmetries (HVA and VMA) emerge gradually during adolescence, with the HVA emerging before VMA (preliminary conclusion, COVID-19 has precluded more data collection).
- In adolescents, like in adults, covert spatial attention boosts performance to a similar degree across cardinal locations.

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 - Abrams, Nizam & Carrasco (2012). *Vis Res*.
 - Purokayastha, Roberts & Carrasco, VSS poster 2019.
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- For other presentations on Performance Fields, see talk 543 and posters 116, 1524, and 270.

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