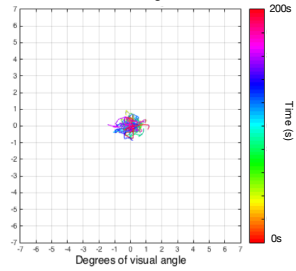
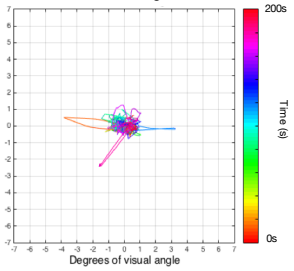
A.



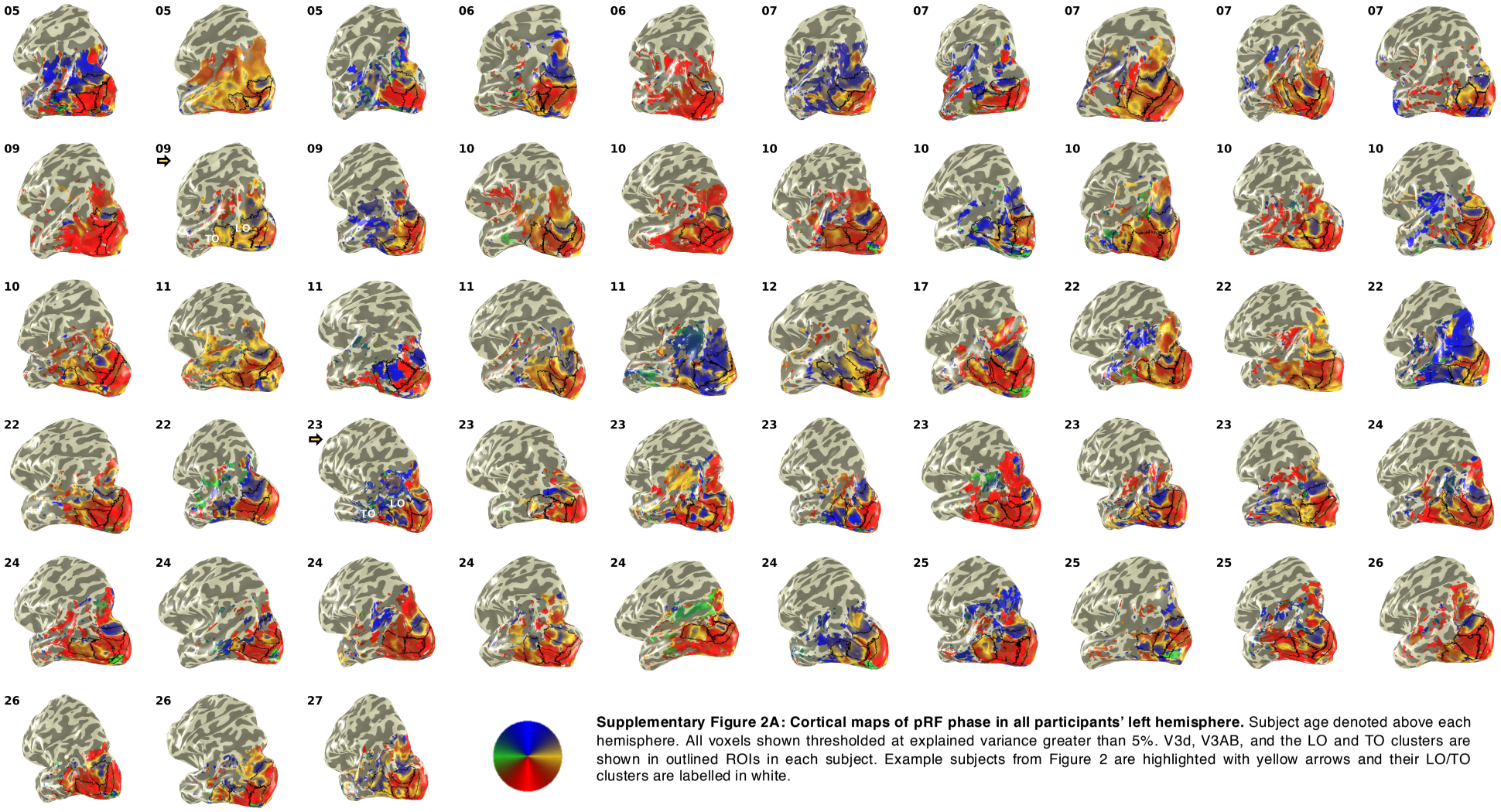
B.



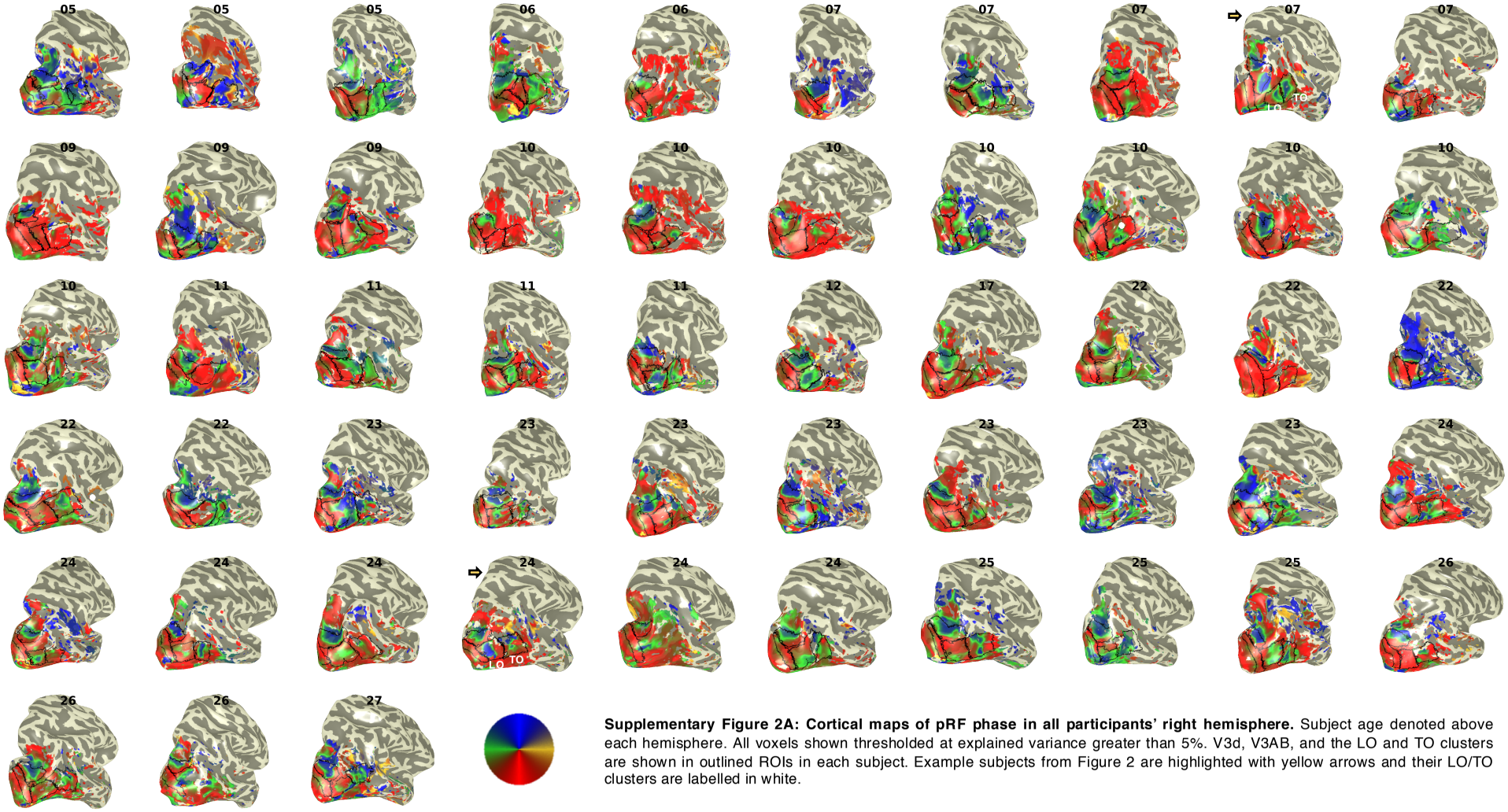
C.

	Mean # Saccades	Mean Accuracy	Motion
Ages 5-12	1.48 (+/- 0.44)	99.67% (+/- 0.23	0.89mm (+/- 0.2mm)
Ages 22-28	0.48 (+/- 0.28)	98.43%(+/-0.74)	0.7mm (+/- 0.33)

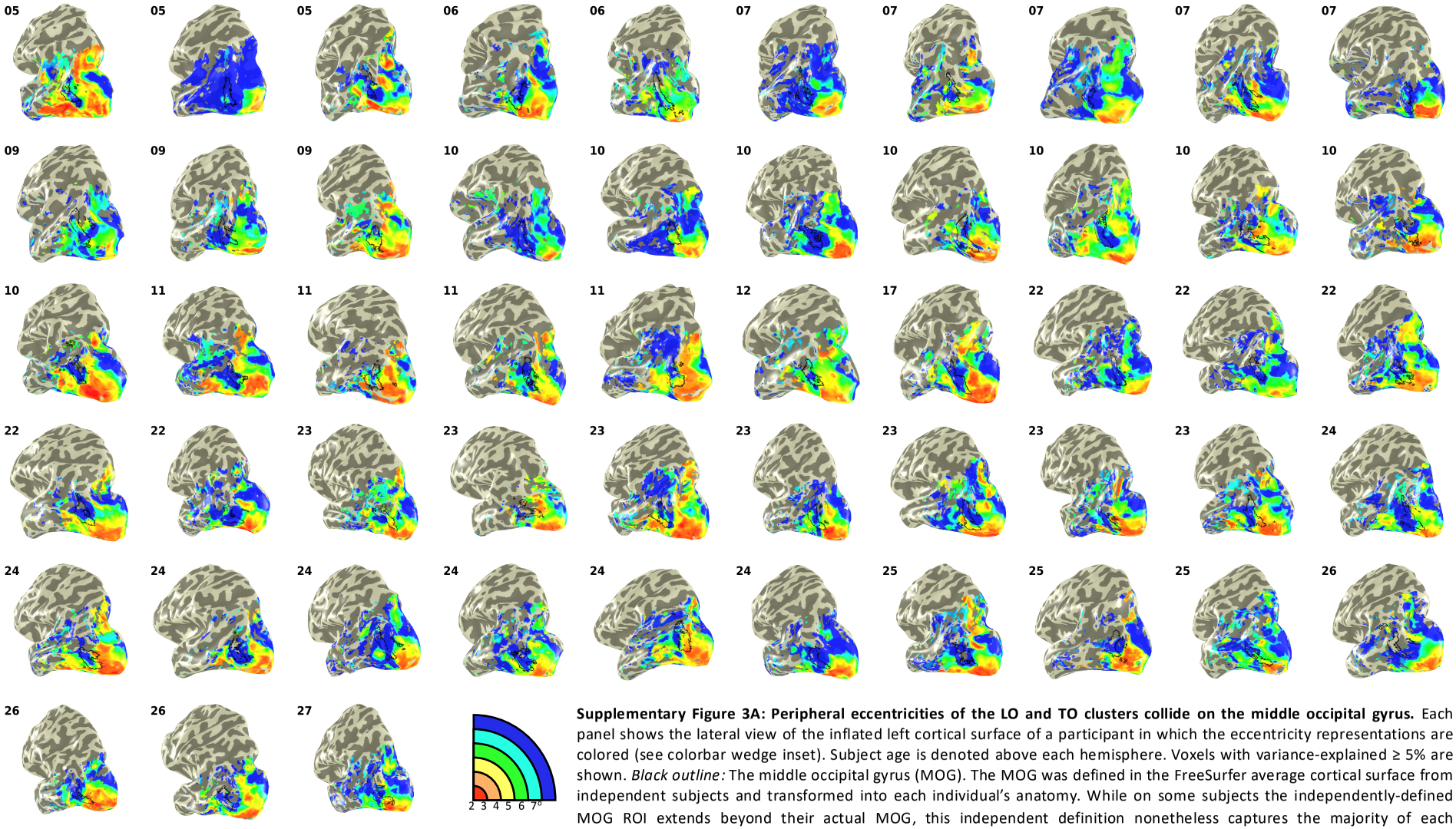
Supplementary Figure 1: Fixation and behavioral performance during retinotopic scanning. Fixation patterns from example subjects either fixating (A) or (B) making minor saccades. The fixation path is color coded according to time (seconds) during the retinotopic mapping. Small deviations from the center are likely microsaccades and pupil-tracking noise from the scanner environment. There was no significant difference in fixation performance during pRF mapping between children and adults: t(30)=1.73, *n.s.* (C) Behavioral performance and motion during pRF mapping. Numbers indicate mean and standard deviation. There is no significant difference between children and adults in motion during pRF mapping: t(39)=1.4, *n.s.* This figure a reproduction from Gomez et al 2018. The same participants have been scanned during retinotopy for the present and prior paper



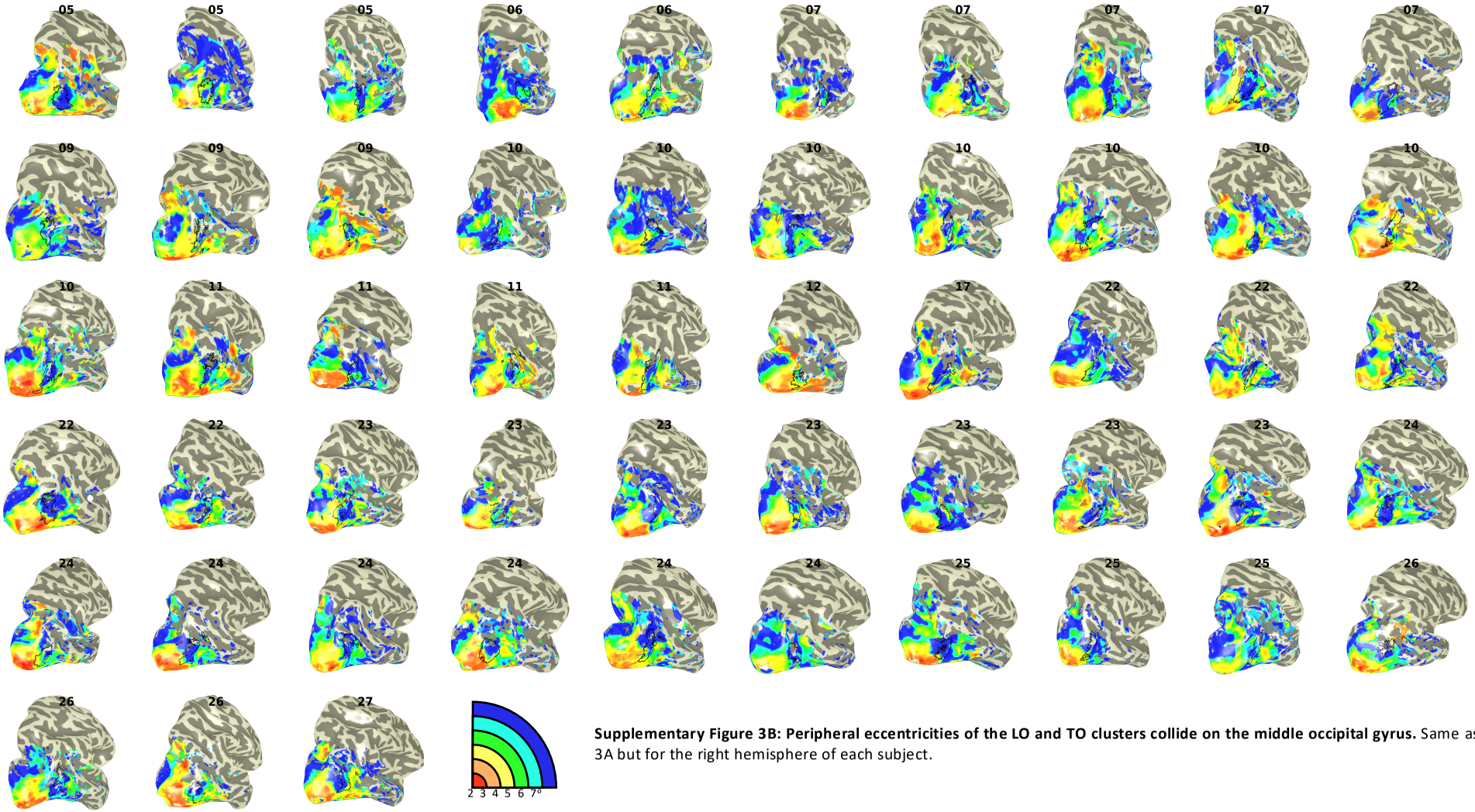
Supplementary Figure 2A: Cortical maps of pRF phase in all participants' left hemisphere. Subject age denoted above each hemisphere. All voxels shown thresholded at explained variance greater than 5%. V3d, V3AB, and the LO and TO clusters are shown in outlined ROIs in each subject. Example subjects from Figure 2 are highlighted with yellow arrows and their LO/TO clusters are labelled in white.



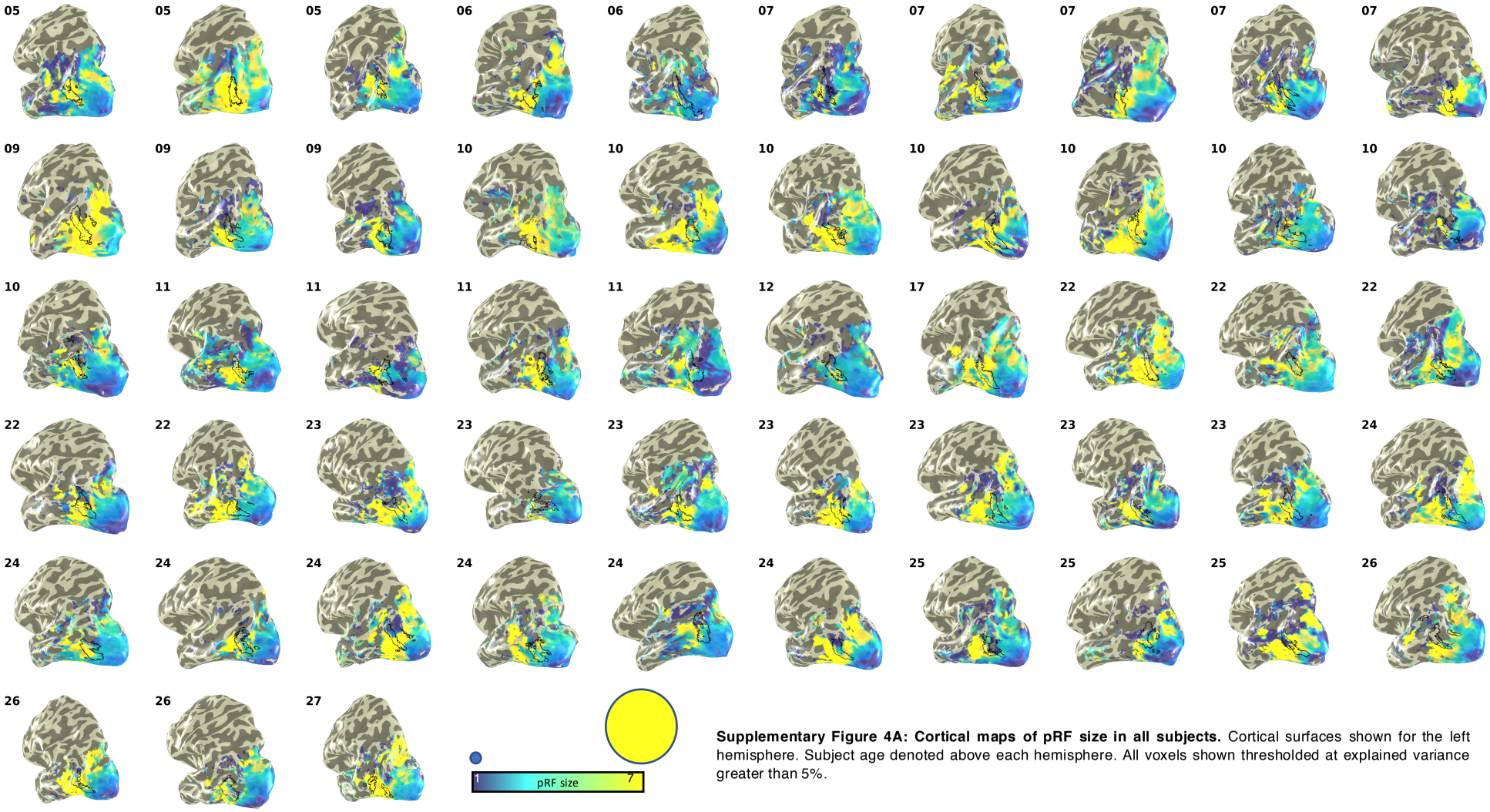
Supplementary Figure 2A: Cortical maps of pRF phase in all participants' right hemisphere. Subject age denoted above each hemisphere. All voxels shown thresholded at explained variance greater than 5%. V3d, V3AB, and the LO and TO clusters are shown in outlined ROIs in each subject. Example subjects from Figure 2 are highlighted with yellow arrows and their LO/TO clusters are labelled in white.



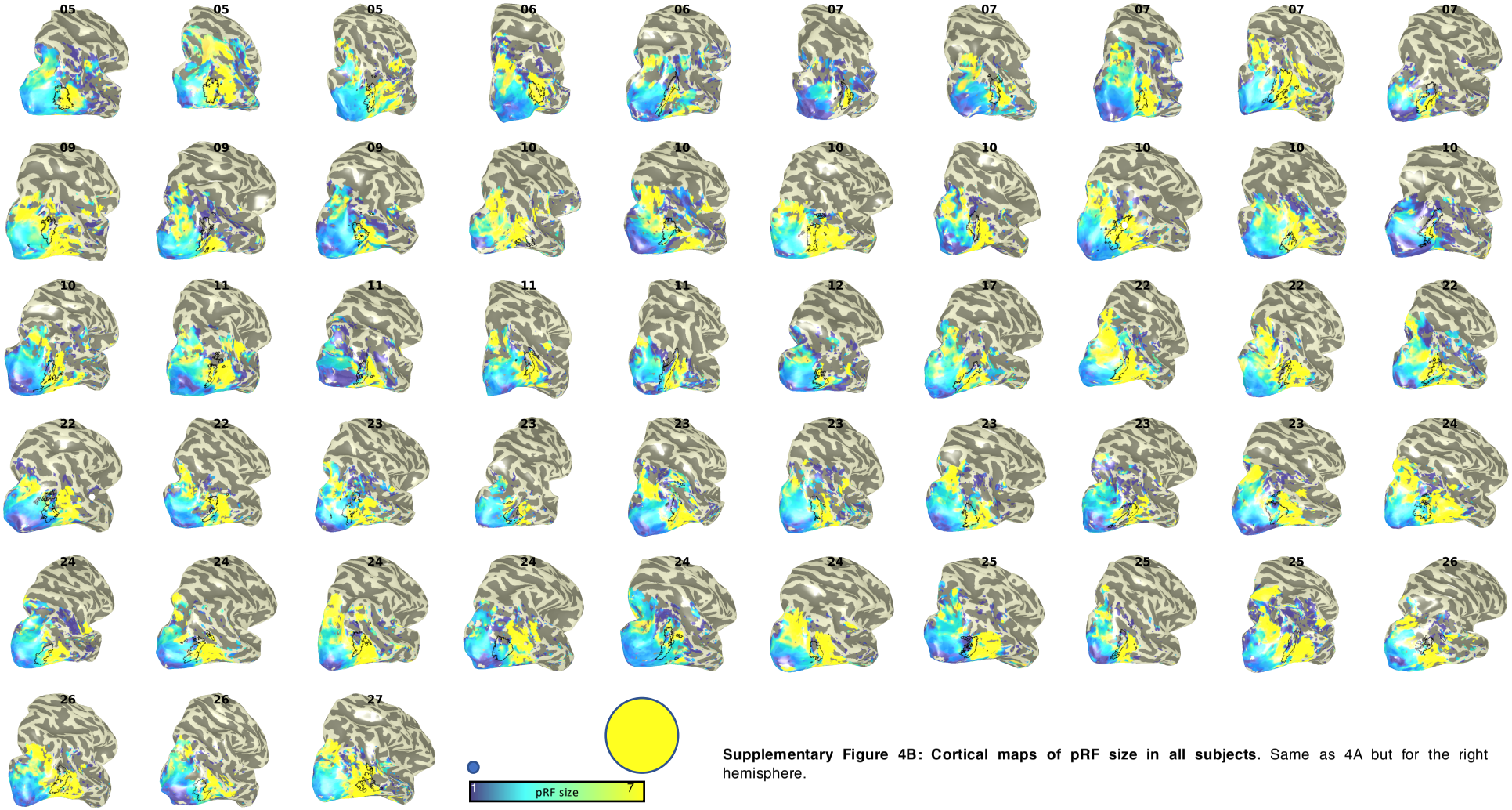
Supplementary Figure 3A: Peripheral eccentricities of the LO and TO clusters collide on the middle occipital gyrus. Each panel shows the lateral view of the inflated left cortical surface of a participant in which the eccentricity representations are colored (see colorbar wedge inset). Subject age is denoted above each hemisphere. Voxels with variance-explained ≥ 5% are shown. *Black outline:* The middle occipital gyrus (MOG). The MOG was defined in the FreeSurfer average cortical surface from independent subjects and transformed into each individual's anatomy. While on some subjects the independently-defined MOG ROI extends beyond their actual MOG, this independent definition nonetheless captures the majority of each individual's MOG. Notably in all individuals the MOG overlaps the periphery representation bridging the LO and TO eccentricity representations.



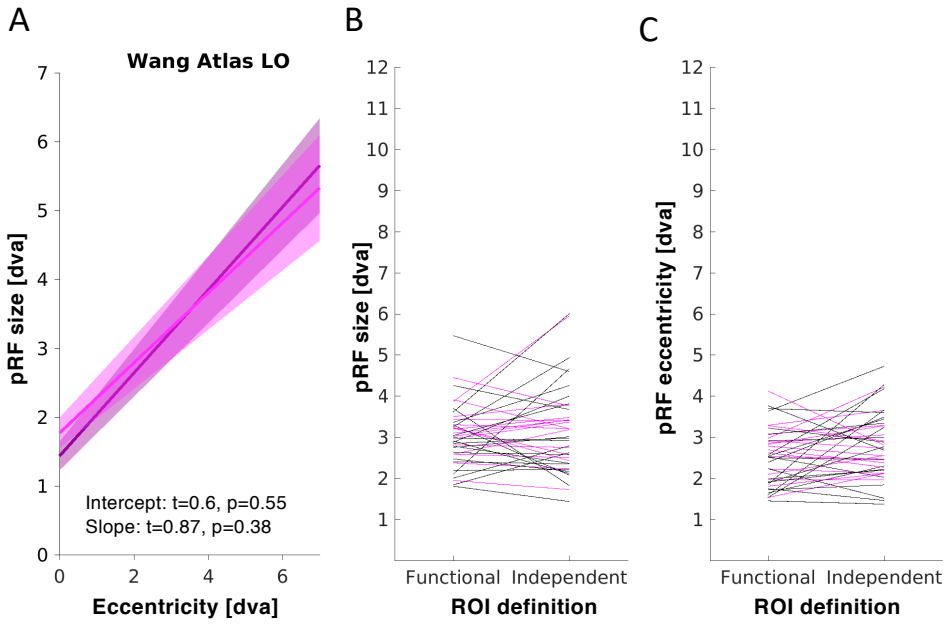
Supplementary Figure 3B: Peripheral eccentricities of the LO and TO clusters collide on the middle occipital gyrus. Same as 3A but for the right hemisphere of each subject.



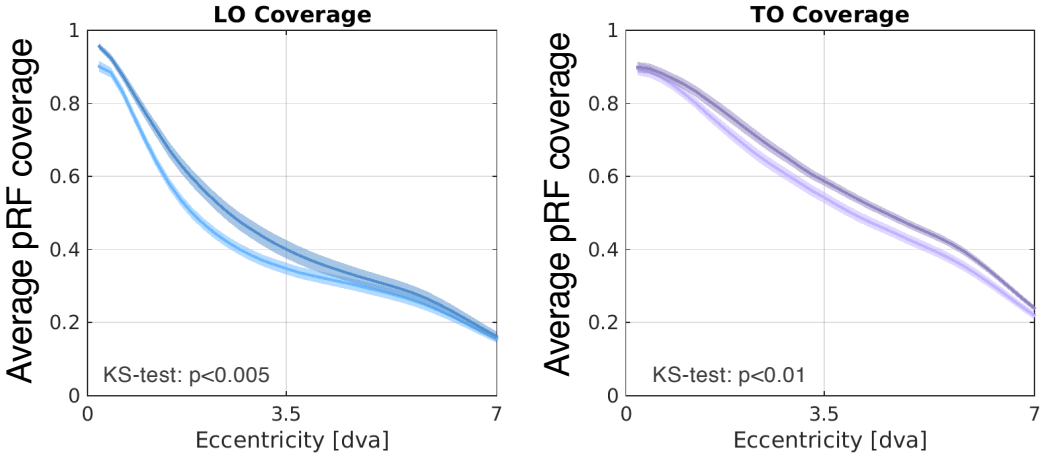
Supplementary Figure 4A: Cortical maps of pRF size in all subjects. Cortical surfaces shown for the left hemisphere. Subject age denoted above each hemisphere. All voxels shown thresholded at explained variance greater than 5%.



Supplementary Figure 4B: Cortical maps of pRF size in all subjects. Same as 4A but for the right hemisphere.



Supplementary Figure 5: Using an independent definition of the LO map cluster does not change estimates of pRF properties. (A) Using the LO1 and LO2 definition from the Wang Atlas on the FreeSurfer average brain, we also observe no significant difference in the size vs. eccentricity fits between children (light) and adults (dark). **(B)** Line plots demonstrating no significant change in pRF size when using either our functionally-defined LO cluster or the Wang LO cluster. **(C)** Same as B but for pRF eccentricity. *Pink*: children; *Black:* adults



Supplementary Figure 6: pRF coverage in LO and TO increases with age. We measured pRF coverage along iso-eccentricity lines in each subject to generate the subject's pRF coverage by eccentricity curve. Then we averaged these curves across subjects in each age group. pRF coverage differences in LO are largest within the central 3 degrees of the visual field, while differences in TO peak after 3.5 degrees and extend more peripherally. Children are shown in light colors, adults in dark colors. Shaded regions depict standard error of the mean. LO data includes 16 children and 21 adults; TO data includes 14 children and 20 adults. The K-S test compares the distributions across age groups