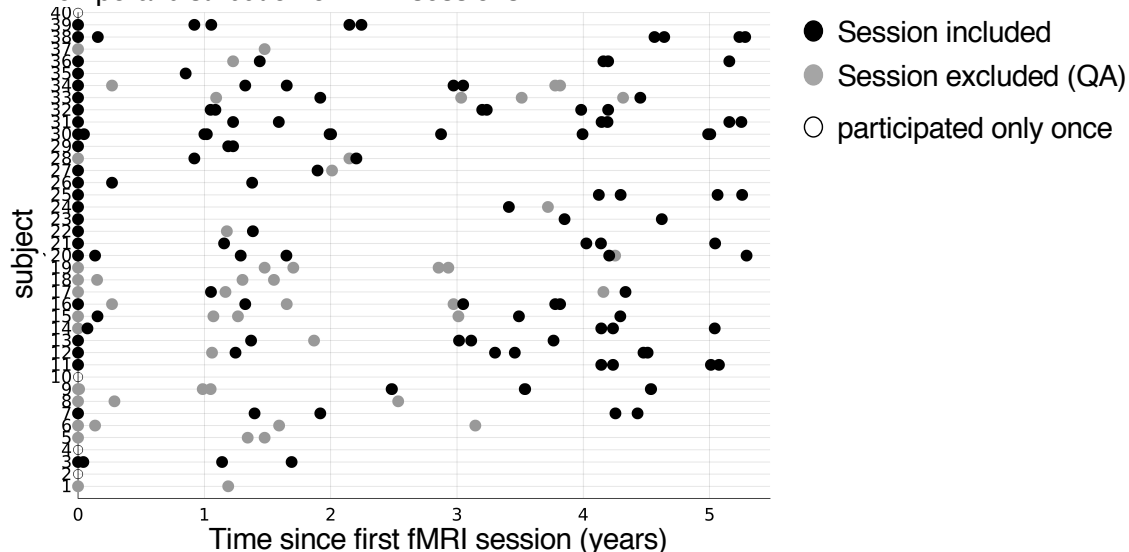
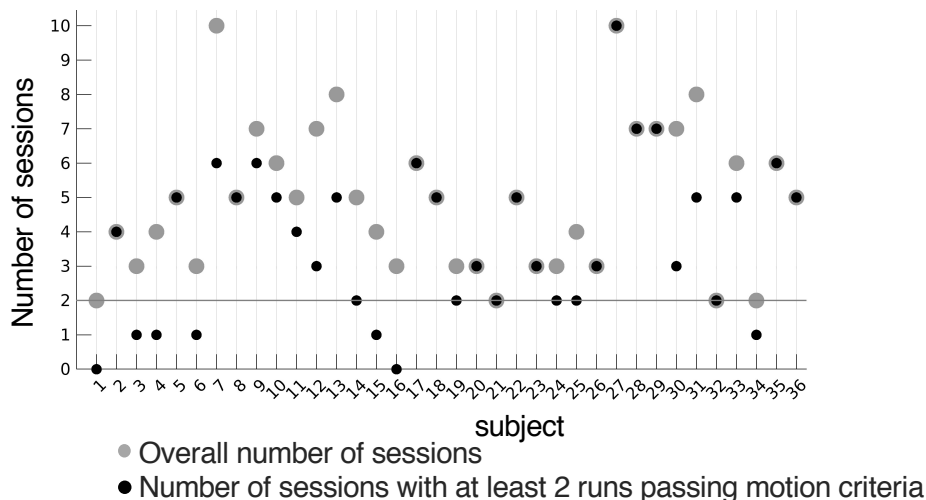


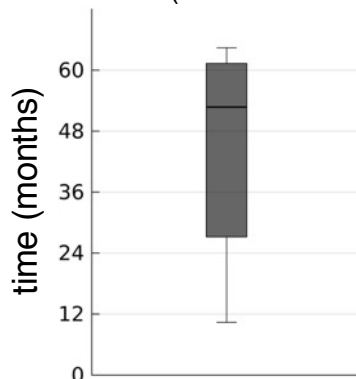
A Temporal distribution of fMRI sessions



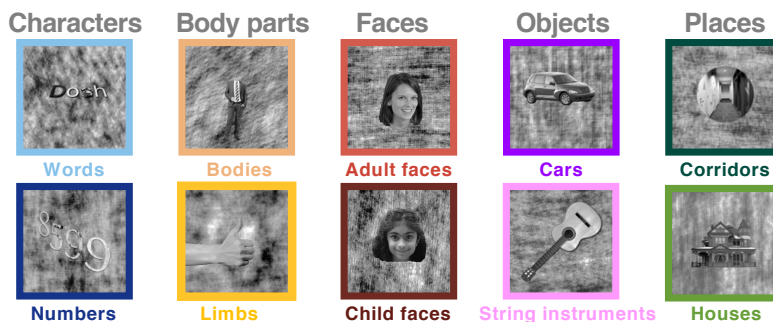
B Number and quality of sessions in children with ≥ 2 sessions



C Time between first & last scan (included sessions)



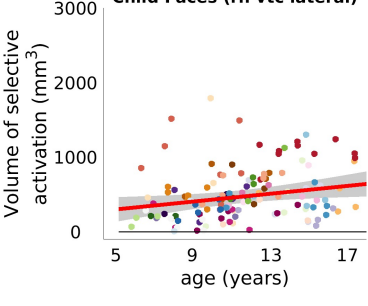
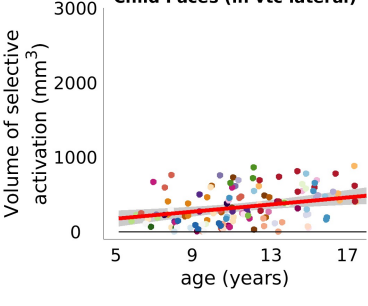
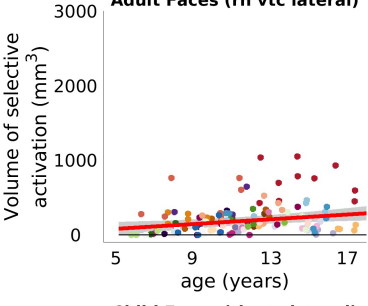
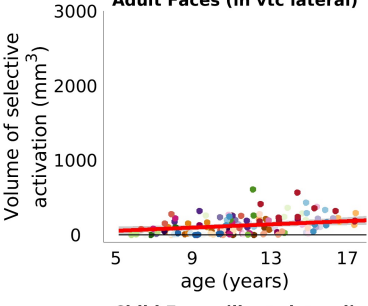
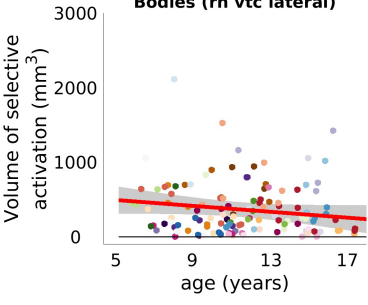
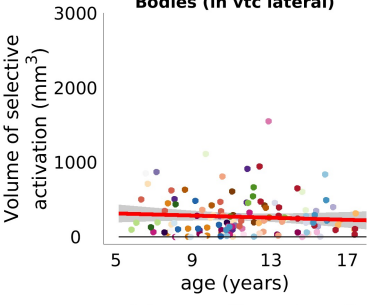
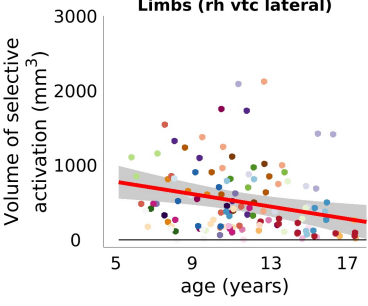
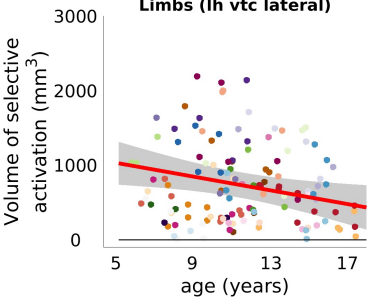
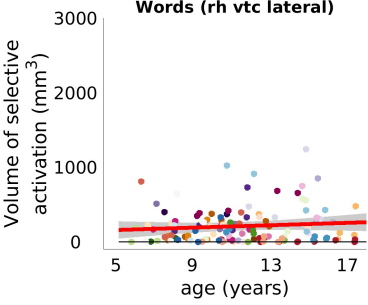
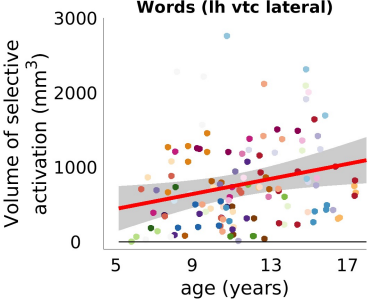
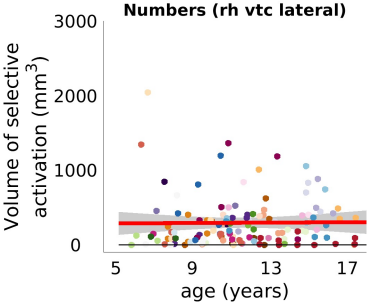
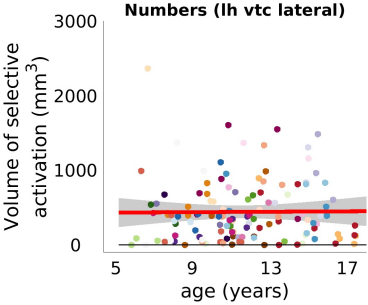
D Sample stimuli

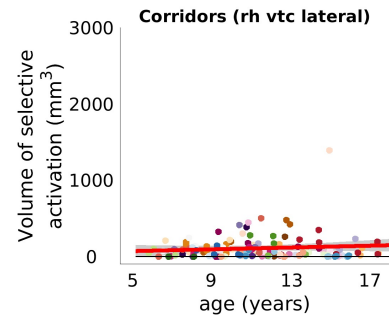
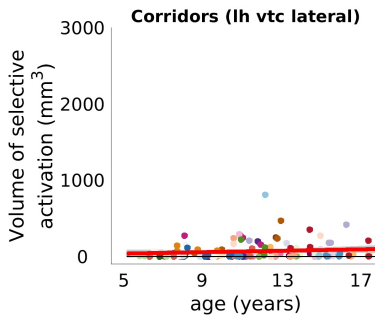
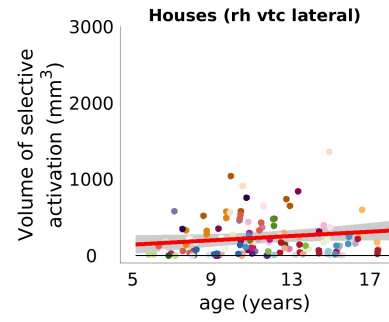
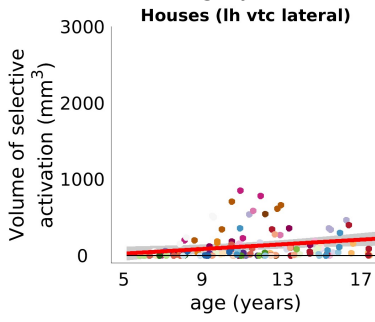
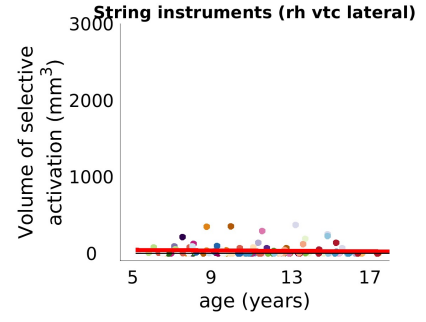
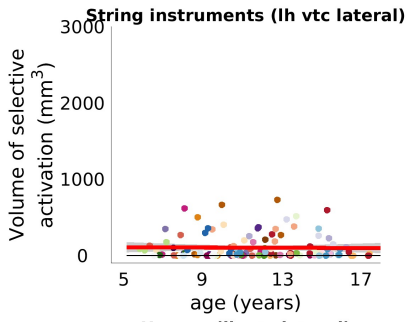
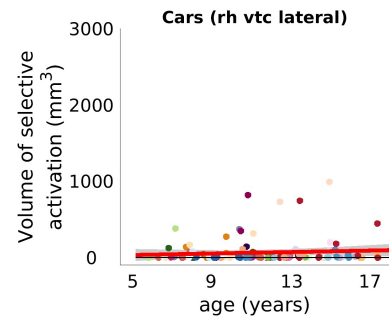
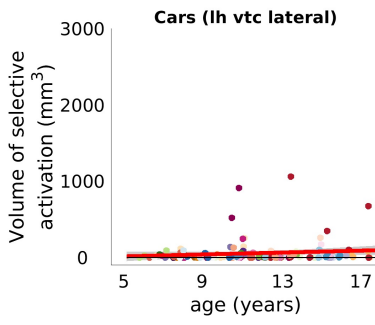


Supplementary Figure 1. Inclusion and temporal distribution of fMRI sessions and stimuli

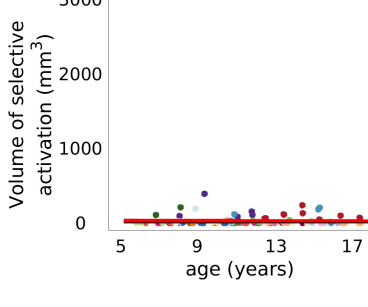
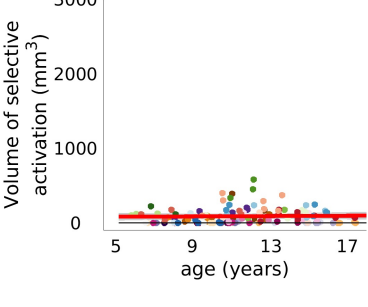
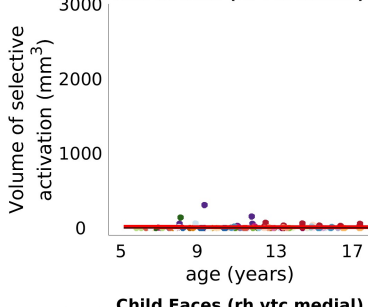
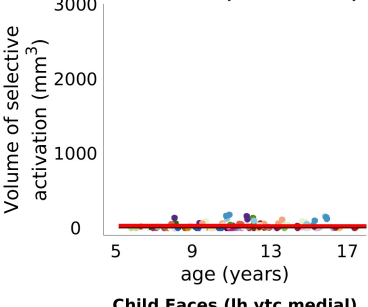
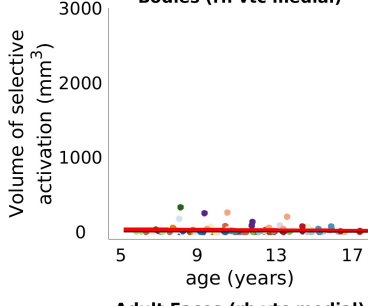
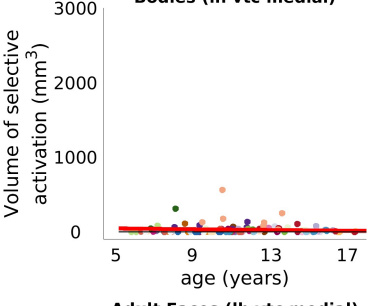
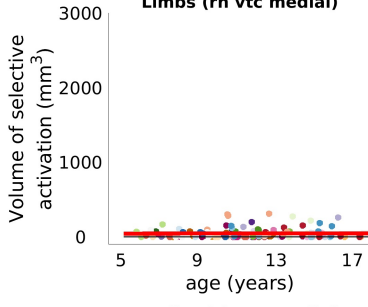
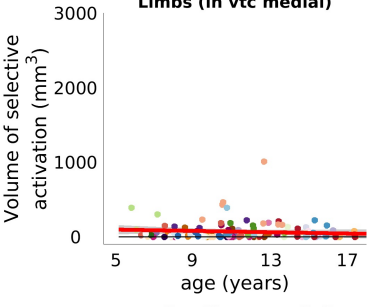
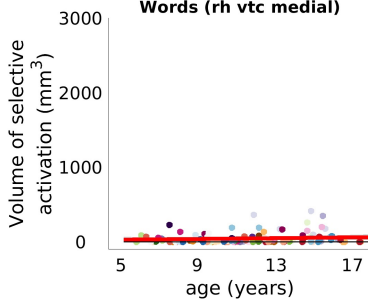
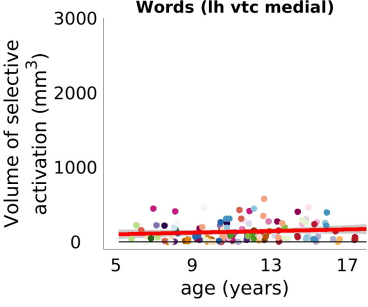
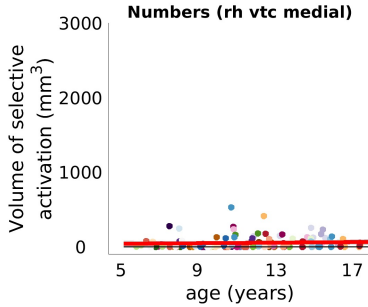
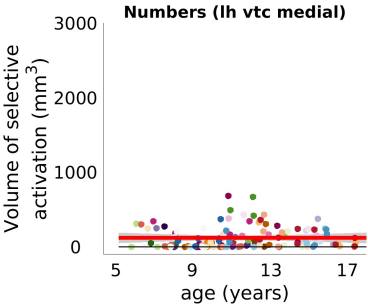
(A) The temporal distribution of fMRI sessions is plotted relative to each subject's first session. *Filled black dots*: included sessions. *Filled gray dots*: sessions that were excluded due to quality assurance (QA). *Black outlined dots*: sessions of children who participated only once. (B) Overview of data from children who participated more than once. *Gray dots*: number of total sessions per child. Not included are 2 sessions which were excluded due to technical error. *Black dots*: number of sessions passing motion criteria. *Horizontal black line*: cut-off for inclusion in the present study (≥ 2 sessions passing motion criteria). (C) The boxplot displays the time between the first and last included fMRI session in all included subjects ($n=29$). Boxplot shows the 75% and 25% percentiles (gray area) and the median (horizontal line). Whiskers extend to the most extreme data points not considered outliers (minimum and maximum). (D) Sample stimuli for the 10 categories which can be grouped into five domains. Each domain consists of two categories: characters (words, numbers), body parts (headless bodies, limbs), faces (adult faces, child faces), objects (cars, string instruments), and places (corridors, houses).

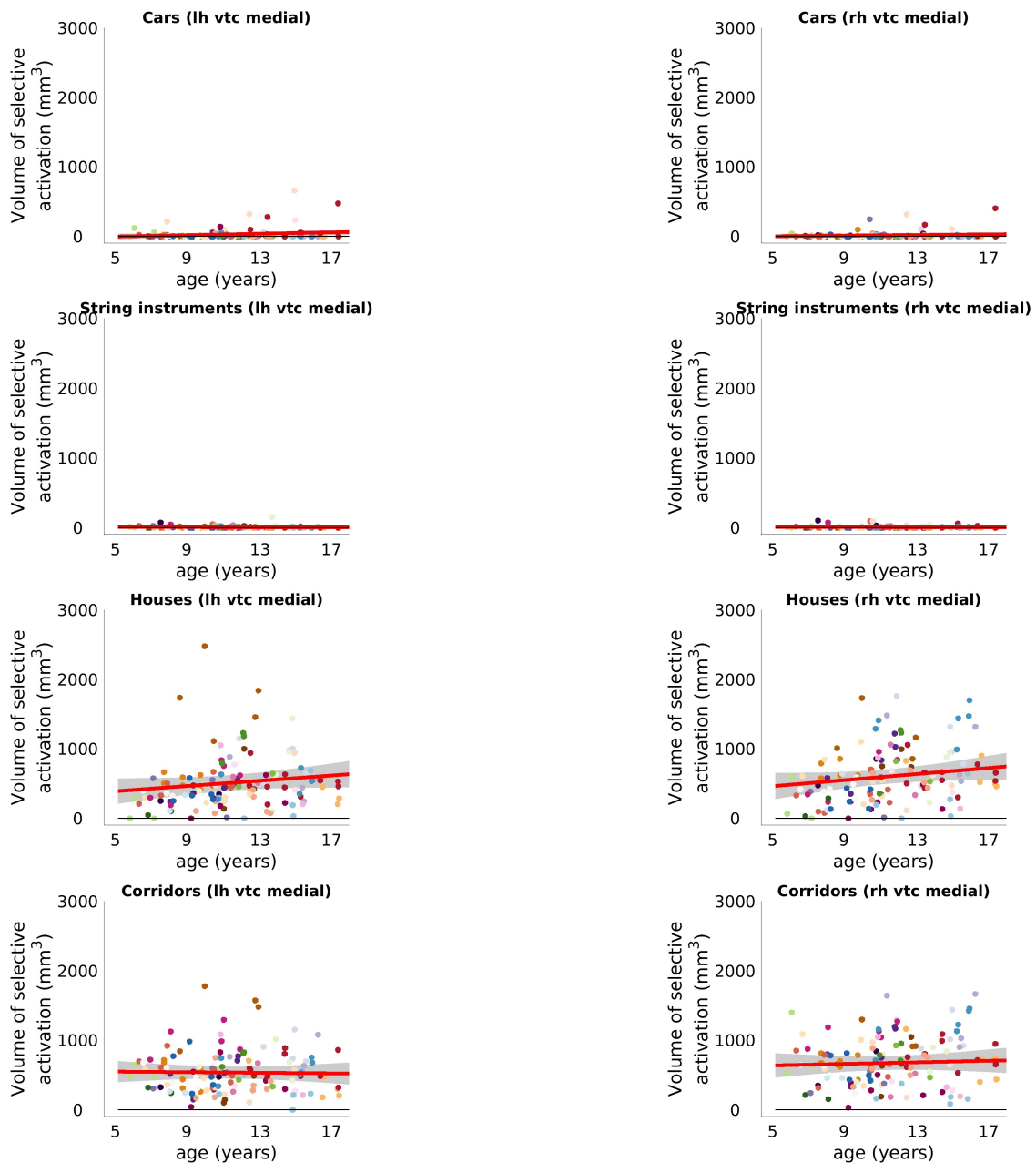
A Lateral VTC



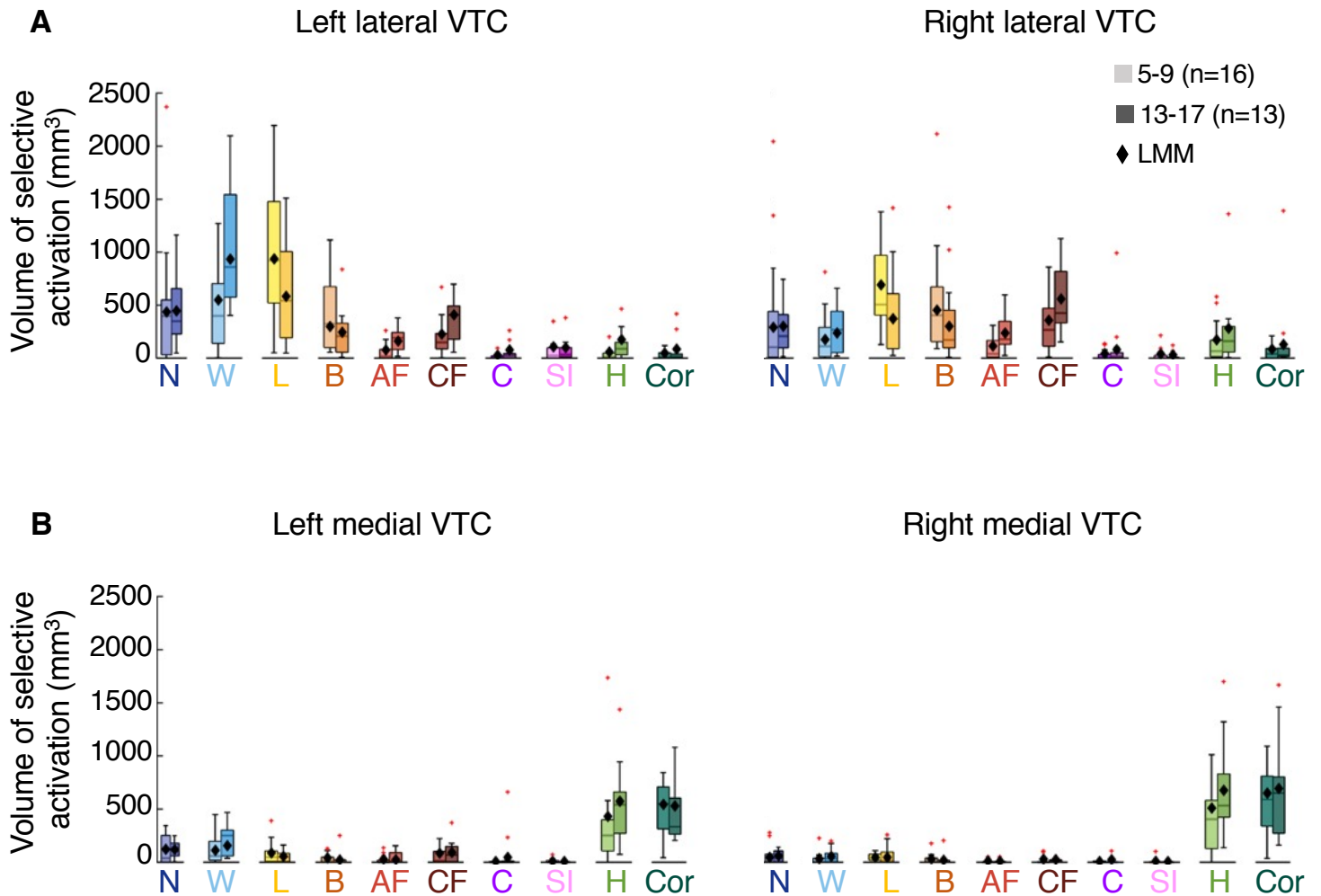


B Medial VTC



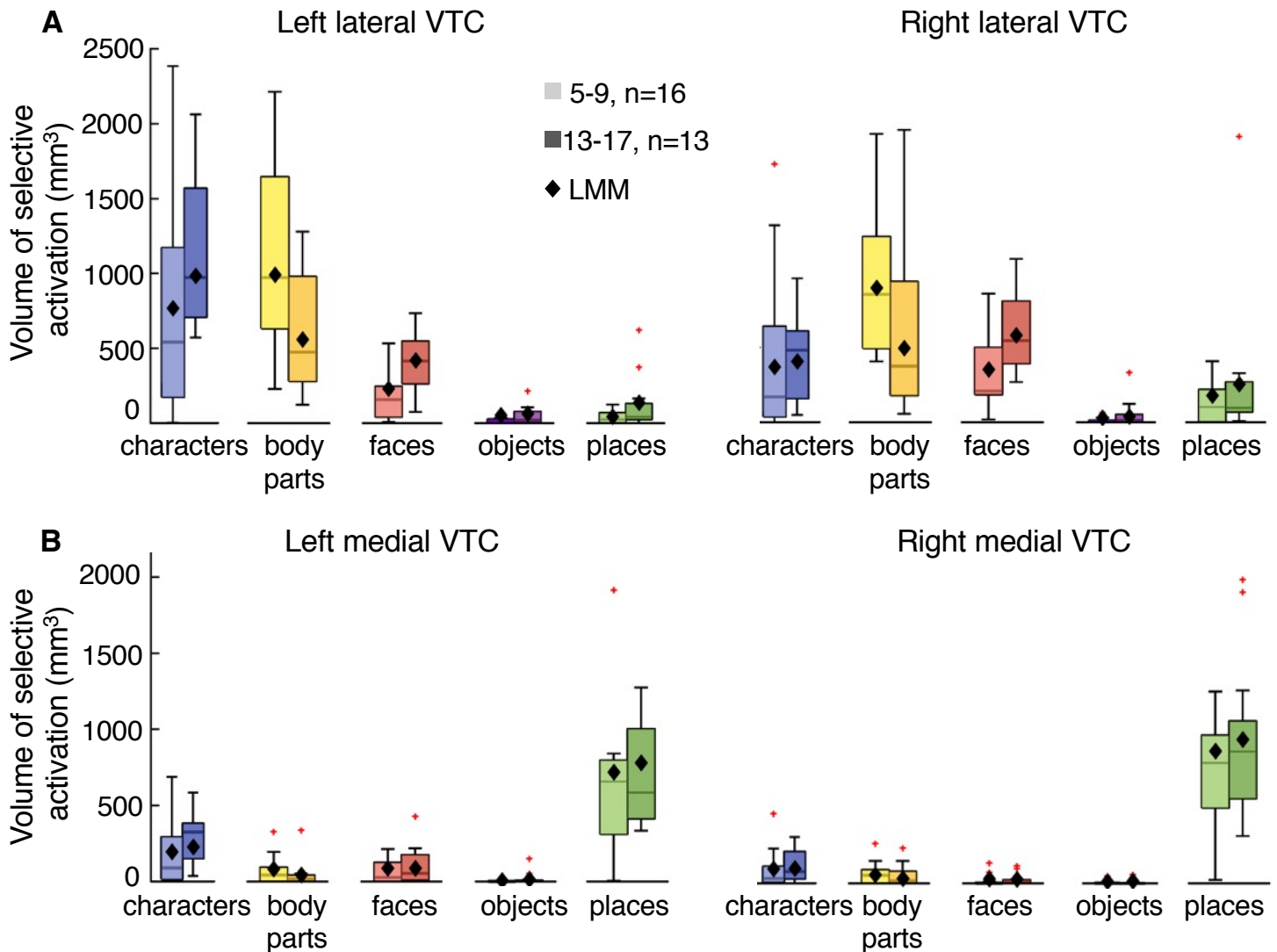


Supplementary Figure 2. Scatter plots and linear mix model fits (LMM) of the development of the volume of selective activation for each category in lateral and medial VTC. Each dot represents one session. Each participant is coded with a different color. The red line indicates the LMM predicting volume of selective activation by age ($n=128$ sessions, 29 children). The gray shaded area represents the 95% CI. **(A)** Lateral VTC. Categories showing significant development are: words (left), limbs (bilateral), adult faces (bilateral), child faces (bilateral) and houses (left). Statistics are reported in Supplementary Table 1. As examination of activations in individual subjects did not reveal consistent clusters of activation for houses in left lateral VTC in contrast to those for faces, limbs, or words – no house ROI was included in follow-up analyses. **(B)** Medial VTC. There were no significant effects in medial VTC. Statistics are reported in Supplementary Table 2. Related to Fig. 1.



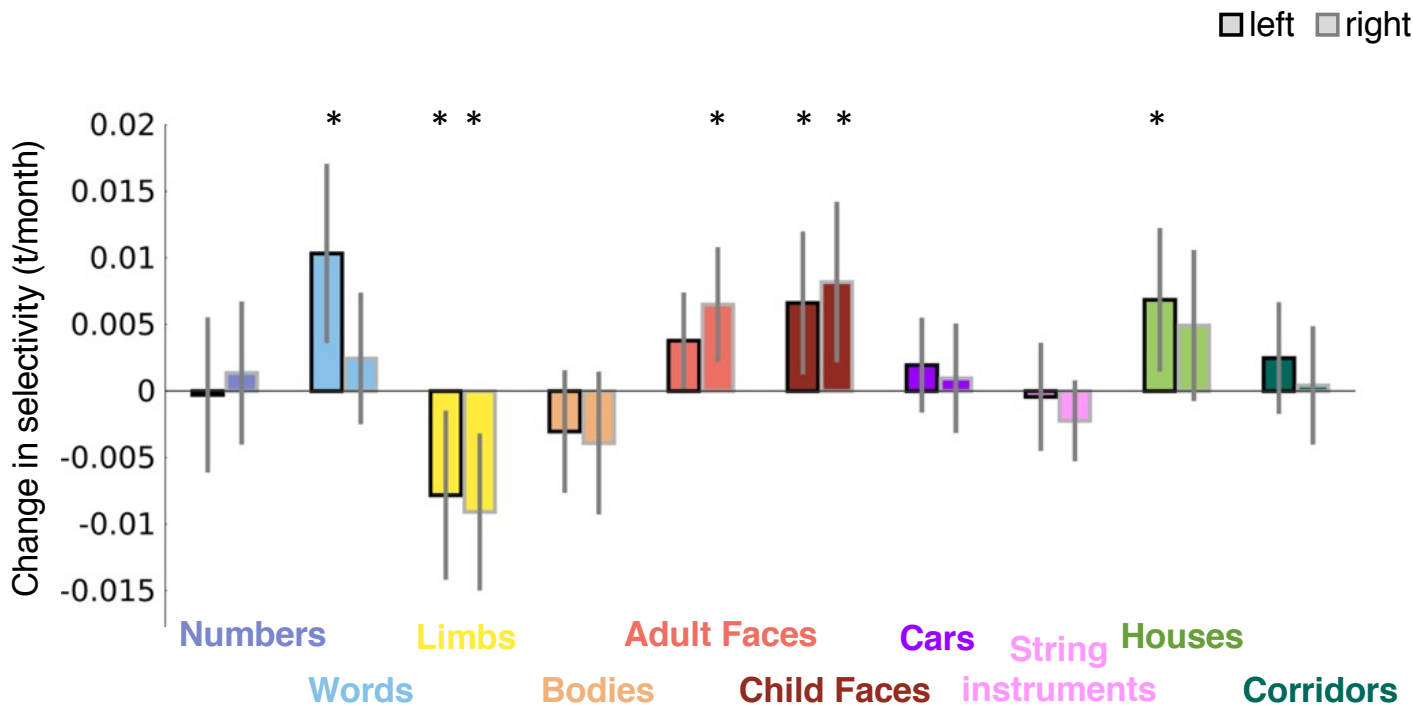
Supplementary Figure 3. Changes in category-selective activation in lateral and medial VTC.

(A) Boxplots showing the volume of selective activation for all 10 categories for 5-9-year-olds (n=16) and 13-17-year-olds (n=13) in left and right lateral VTC. One functional session per child is included per boxplot. Boxplots show the 75% and 25% percentiles (colored areas) and the median (horizontal lines). Whiskers extend to the most extreme data points not considered outliers (minimum and maximum). *Crosses*: outliers (values more than 1.5 times the interquartile range away from the bottom or top of the box). *Black diamonds*: LMM prediction for the mean age of each age group (based on n=128 sessions, 29 children). (B) Same as (A) but for medial VTC. N = numbers; W = words; L = limbs; B = bodies; AF = adult faces; CF = child faces; C = cars; SI = string instruments; H = houses; Cor = corridors. Related to Fig 1D.



Supplementary Figure 4. Changes in the volume of domain-selective activation in lateral and medial VTC.

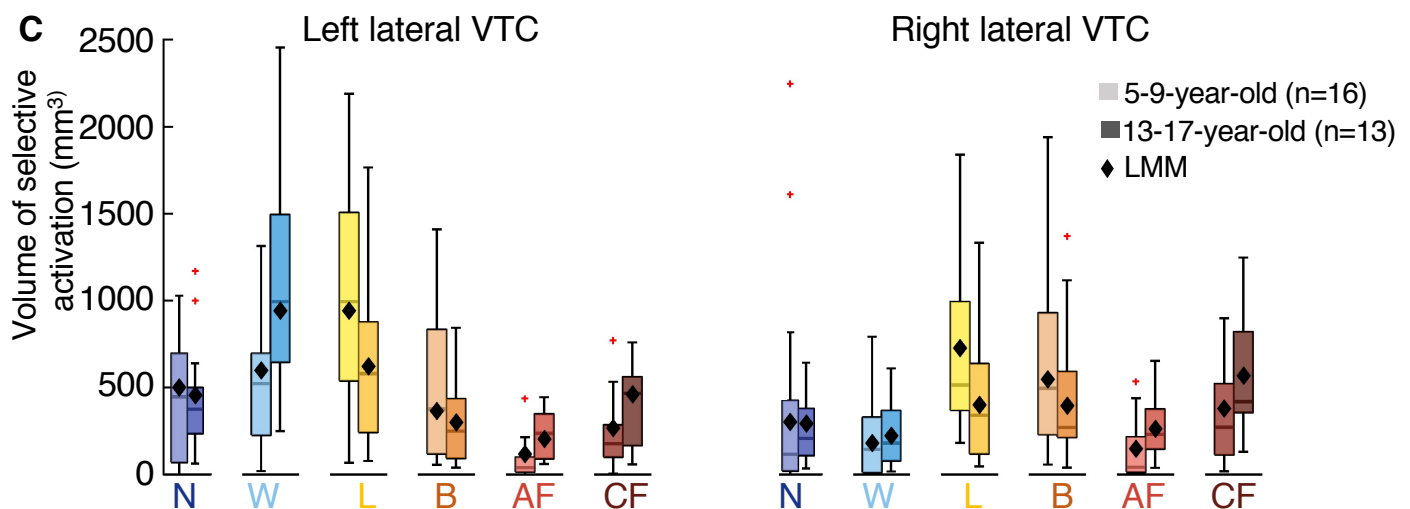
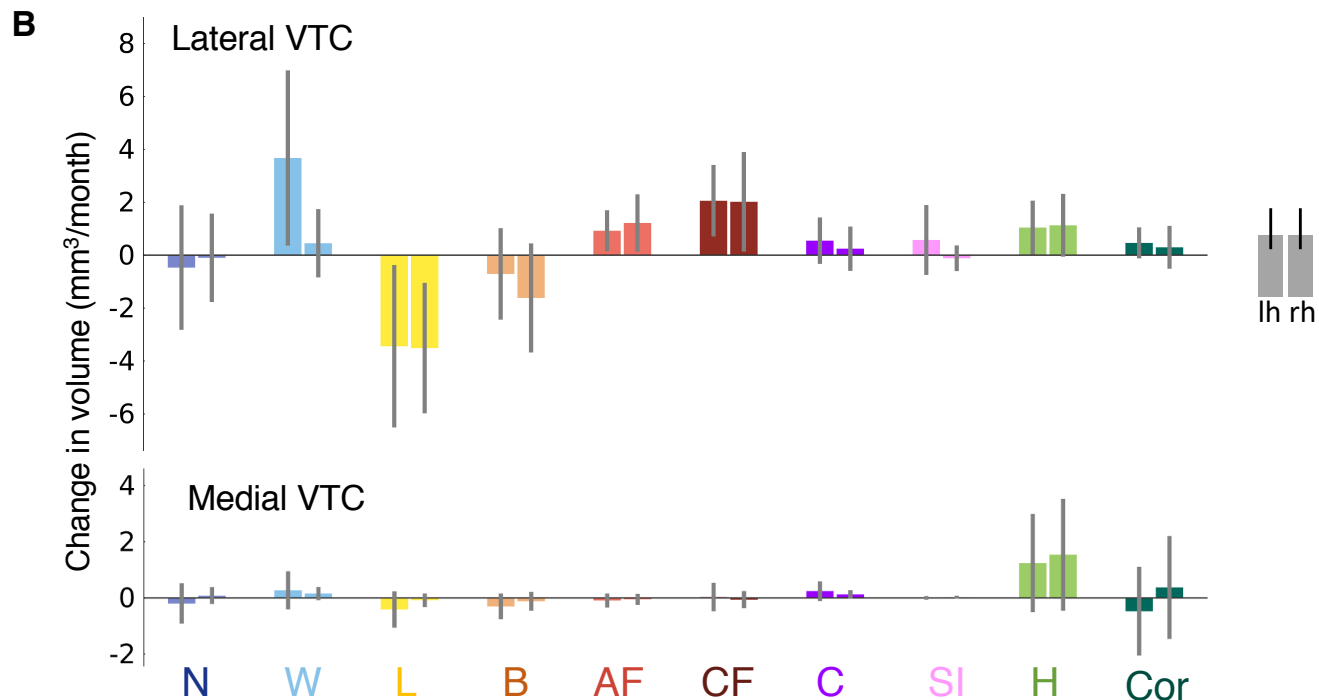
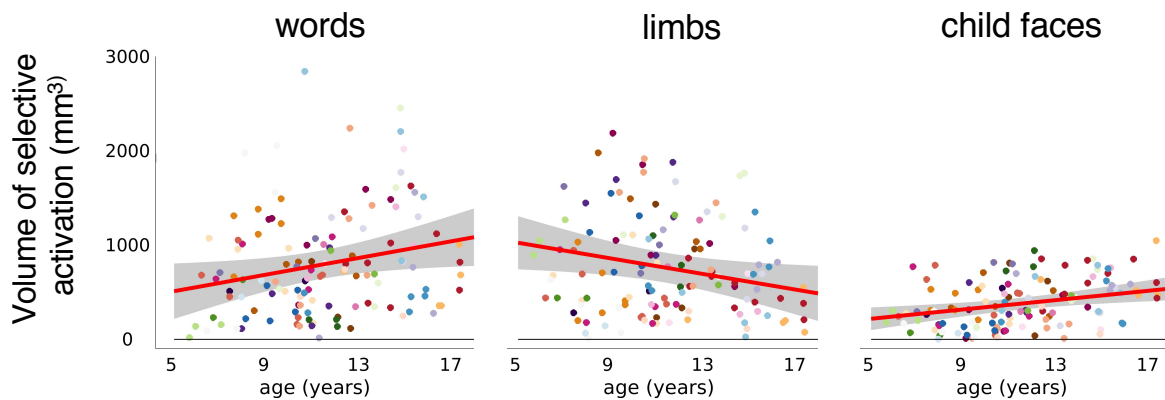
(A) Boxplots showing volume of selective activation for each of the five domains in the left and right lateral VTC of 5-9-year-old ($n=16$) and 13-17-year-old ($n=13$) children. One functional session per child is included per boxplot. Lighter colors indicate younger ages. Boxplots show the 75% and 25% percentiles (colored areas) and the median (horizontal lines). Whiskers extend to the most extreme data points not considered outliers (minimum and maximum). *Crosses*: outliers (values more than 1.5 times the interquartile range away from the bottom or top of the box). *Black diamonds*: LMM prediction for the mean age of each age group (based on $n=128$ sessions, 29 children). For domain contrasts, each domain is contrasted with all other domains (selectivity: t -value > 3 , voxel-level). LMMs ($n=128$ sessions) reveal significant bilateral development of body parts and face-selective activations. Specifically, the volume of body part-selective activation decreased in the left (slope= -4.63 (CI: $-7.6,-1.7$) [mm^3/month], $t(126)=-3.10$, $p=0.016$, FDR-corrected) and right hemisphere (slope= -4.31 (CI: $-6.9,-1.7$) [mm^3/month], $t(126)=-3.27$, $p=0.014$, FDR-corrected), as volume of face-selective activation increased bilaterally (left: slope= 2.03 (CI: $0.87,3.18$) [mm^3/month], $t(126)=3.48$, $p=0.014$; right= 2.45 (CI: $0.81,4.10$) [mm^3/month], $t(126)=2.95$, $p=0.019$, FDR-corrected). No other domain showed significant development, but there was a trend for increase in volume of place-selective activation in the left hemisphere (slope= 1.00 (CI: $0.21,1.78$) [mm^3/month], $t(126)=2.52$, $p=0.053$, FDR-corrected). **(B)** Same as (A) but for medial VTC. No domain showed significant development in medial VTC. Related to Fig 1.



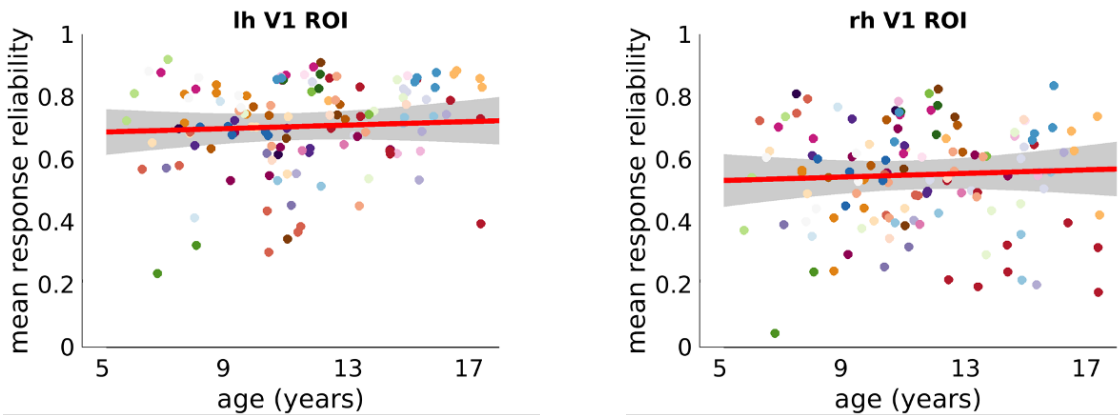
Supplementary Figure 5. Development of selectivity in the 20% most selective voxels of lateral VTC.

Bars depict the slopes of LMMs, that is, the change in selectivity (t-value/month) in the 20% most selective voxels for each category contrast in left and right lateral VTC (n=128 sessions, 29 children). Note that the number of included voxels (corresponding to the 20% most selective) per participant does not change across sessions, as all functional sessions of the same participant are aligned to the same brain anatomy (individual subject template). This analysis reveals significant developmental increases in selectivity for words in the left lateral VTC (left: slope= 0.010 (CI:0.004,0.017) (t/month), $t(126)=3.04$, $p_{FDR}=0.023$), a significant decrease for limbs in both hemispheres (left: slope=-0.008 (CI:-0.014,-0.002) (t/month), $t(126)=-2.44$, $p_{FDR}=0.047$; right=-0.009 (CI:-0.015,-0.003) (t/month), $t(126)=-3.05$, $p_{FDR}=0.023$), significant increases for adult faces in the right hemisphere (right: slope=0.007 (CI:0.002,0.011) (t/month), $t(126)=2.98$, $p_{FDR}=0.023$), child faces in both hemispheres (left: slope=0.007 (CI:0.0012,0.012) (t/month), $t(126)=2.43$, $p_{FDR}=0.047$; right: slope=0.008 (CI:0.002,0.014) (t/month), $t(126)=2.68$, $p_{FDR}=0.041$), and houses in the left lateral VTC (left: slope=0.007 (CI:0.0014,0.012) (t/month), $t(126)=2.51$, $p_{FDR}=0.047$). Error bars: 95% CI of the slope. If the CI does not cross the y=0 line, this indicates that the slope is significantly different than 0 before FDR-correction. Asterisks: effects surviving FDR correction ($p_{FDR}<0.05$). Related to Fig. 1C.

A Left Lateral VTC

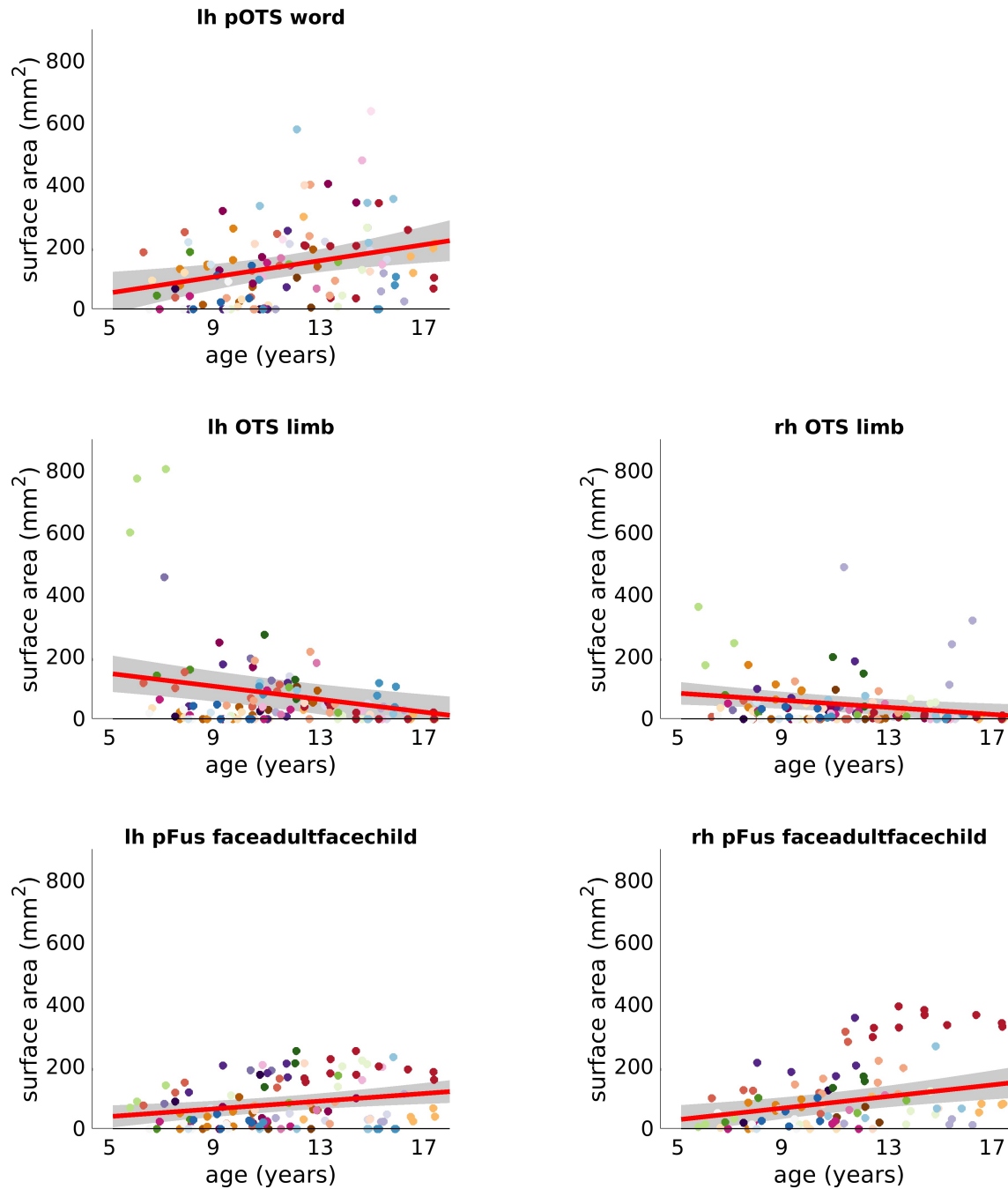


Supplementary Figure 6. Developmental increases and decreases in category-selective activation in lateral VTC when using contrasts that exclude words, adult faces, child faces and limbs as control categories. (A) Volume of word-, limb- and child-face-selective activation by age. Each dot is a session and is colored by participant. *Red line*: Linear mixed model (LMM) prediction of category-selective activation by age. *Shaded gray*: 95% confidence interval (CI). (B) LMM slopes indicating change in category-selective activation ($n=128$ sessions, 29 children) volume per month ($n=128$ sessions, 29 children). Error bars: 95% CI. If the CI does not cross the $y=0$ line, this indicates that the slope is significantly different than 0 before FDR-correction. (C) Category-selective activation by age group. One session per child is included per boxplot. Boxplots show the 75% and 25% percentiles (colored areas) and the median (horizontal lines). Whiskers extend to the most extreme data points not considered outliers (minimum and maximum). *Crosses*: outliers (values more than 1.5 times the interquartile range away from the bottom or top of the box); *Diamonds*: mean volume predicted by LMM. Related to Fig. 1.



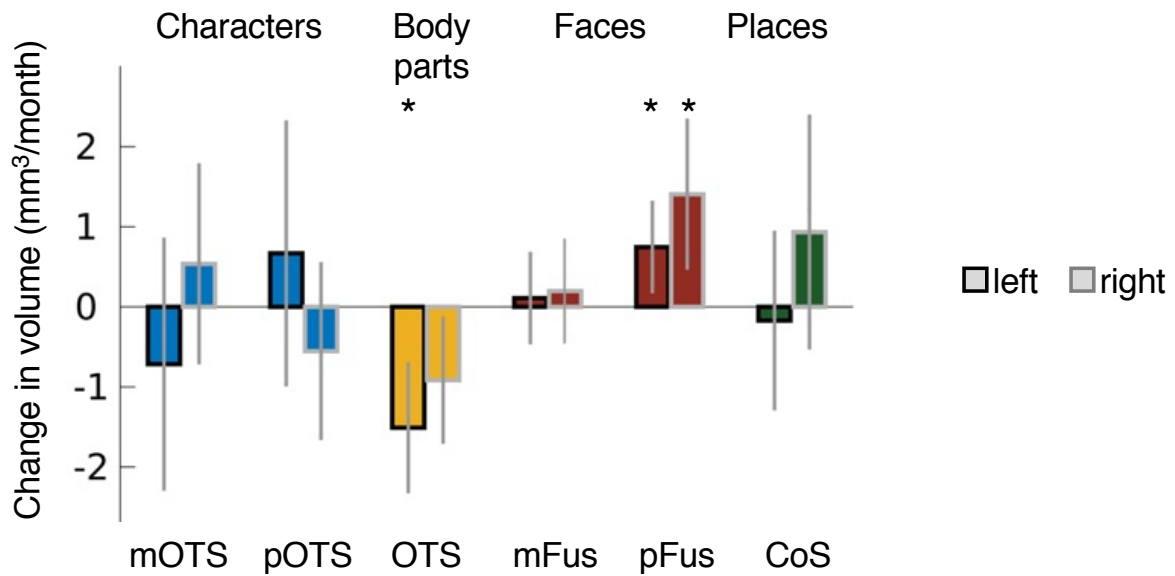
Supplementary Figure 7. Response reliability in V1 does not significantly vary with age.

We measured the reliability of distributed responses for items of the same category across two runs in each session. We then calculated the mean response reliability across all 10 categories. I.e., this is the mean of the on-diagonal of the representational similarity matrix for the 10 categories based on multivoxel patterns for the two runs included in each session. Each dot is a session and dots are colored by participant. Scatter plots show the response reliability in V1 as a function of age. *Red line*: Linear mixed model (LMM) prediction of response reliability by age using a random intercept model with the grouping variable subject (response reliability \sim age + (1|subject)). *Shaded gray*: 95% confidence interval (CI). Analyses (n=128 sessions, 29 children) reveal no statistically significant effect of age on response reliability in V1 (left: $\beta_{\text{age}} = 0.0002$ (CI: -0.0005, 0.001), $t(126) = 0.59$, $p = 0.56$; right: $\beta_{\text{age}} = 0.0002$ (CI: -0.0007, 0.001), $t(126) = 0.51$, $p = 0.61$).



Supplementary Figure 8. Differential development of ROI surface area.

Surface area of word-, limb- and face-selective regions by age. Each dot is a session and dots are colored by participant. *Red line*: LMM prediction of surface area of ROIs by age. Shaded *gray*: 95% confidence interval (CI). This analysis replicates the results presented in Fig. 2. We find a significant increase in the surface area of left pOTS-words ($\beta_{\text{age}}=1.07$ (CI:0.35,1.79), $t(117)=2.94$, $p=0.004$, $n=119$ sessions, $n=26$ children) and left and right pFus-faces (left: $\beta_{\text{age}}=0.51$ (CI:0.17,0.85), $t(118)=2.94$, $p=0.004$, $n=120$ sessions, $n=27$ children; right: $\beta_{\text{age}}=0.77$ (CI:0.32,1.22), $t(96)=3.38$, $p=0.001$, $n=98$ sessions, $n=22$ children), as well as a significant decrease in surface area of left and right OTS-limbs (left: $\beta_{\text{age}}=-0.86$ (CI:-1.32,-0.39), $t(124)=-3.65$, $p=0.0004$, $n=126$ sessions, $n=28$ children; right: $\beta_{\text{age}}=-0.47$ (CI:-0.81, -0.13), $t(124)=-2.72$, $p=0.0075$, $n=126$ sessions, $n=28$ children).

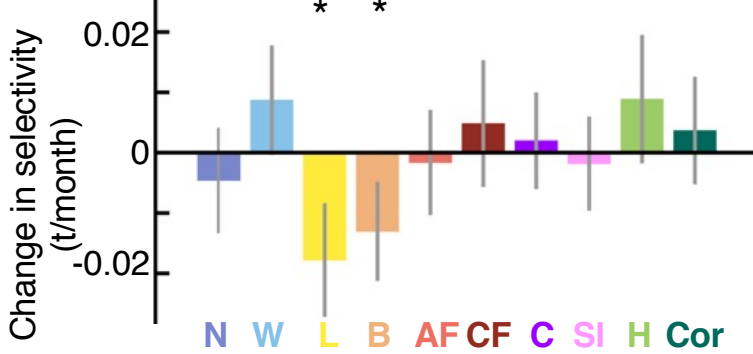
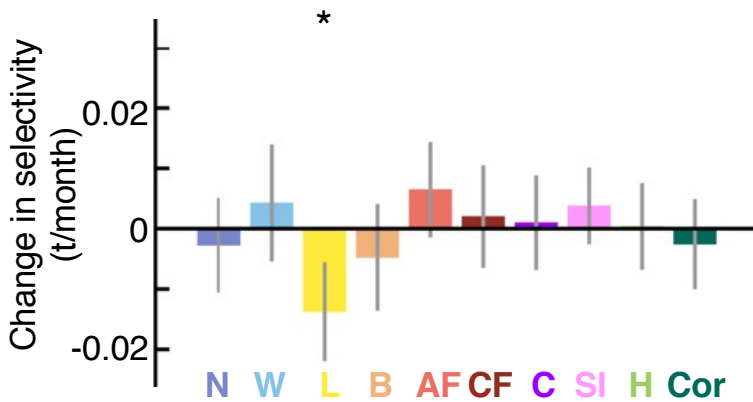
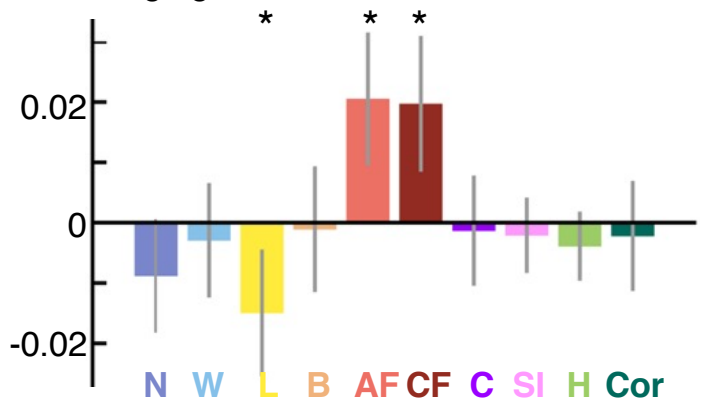
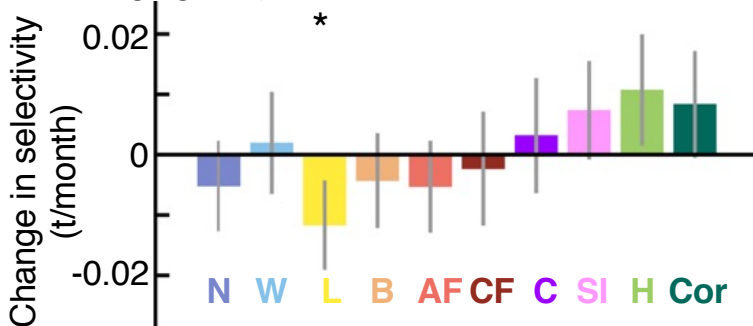
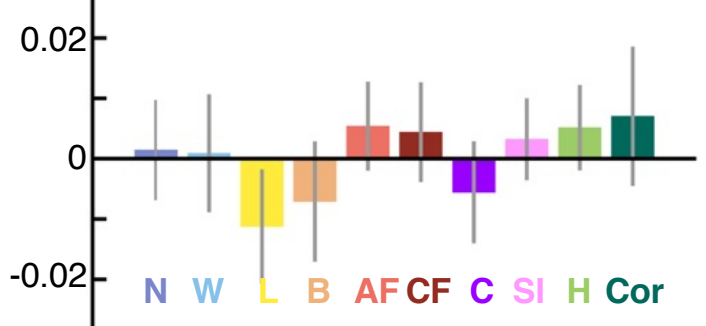


Supplementary Figure 9. Differential development of domain-selective ROIs.

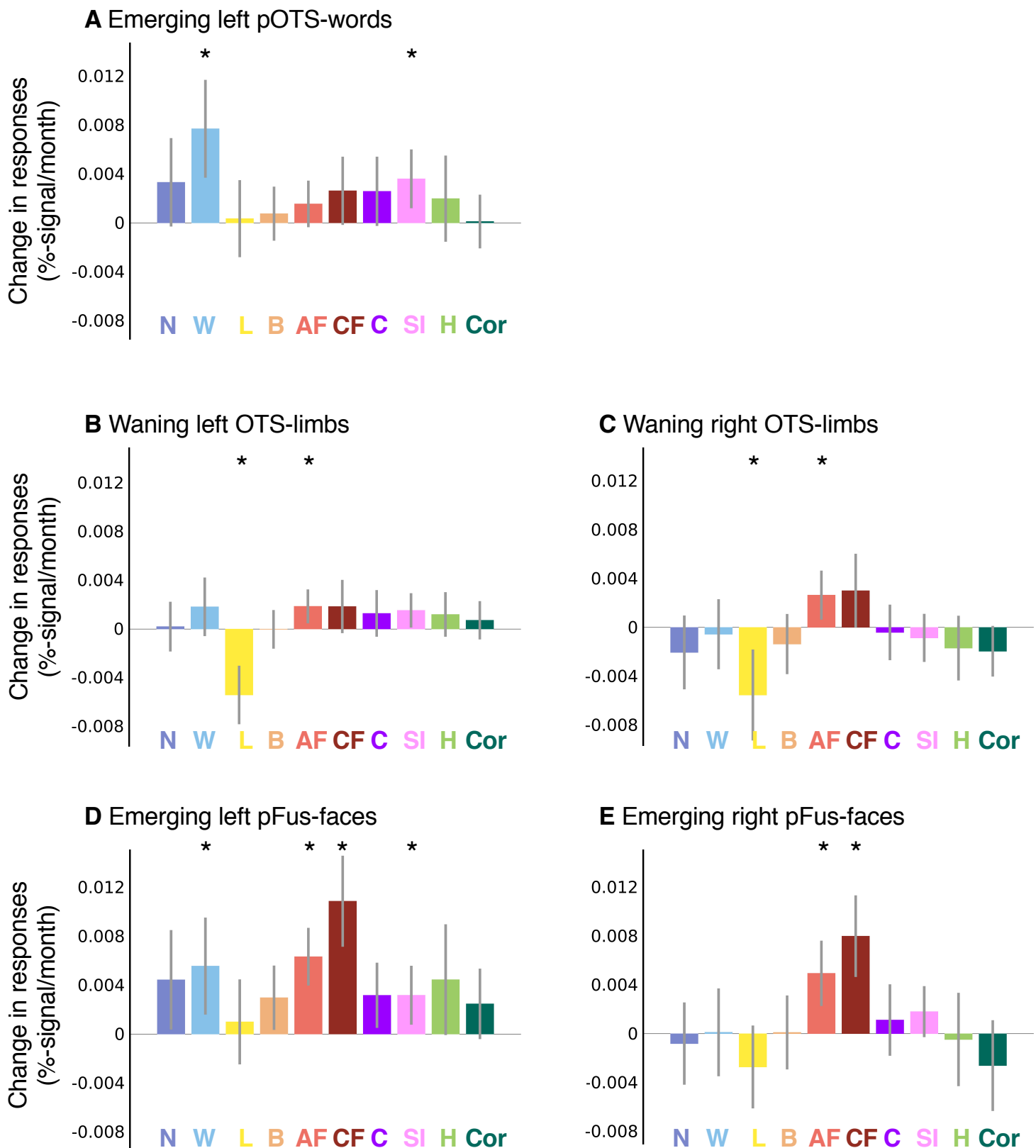
Slopes of LMMs indicating the change in ROI volume for character-, body part-, and face- and place-selective regions when using domain-contrasts to define ROIs. Results of this analysis extend findings related to Fig. 2.

- (i) Analyses reveal no statistically significant effect of age for the anterior (words + numbers > others, left: slope=-0.71 (CI:-2.3,0.87), $t(65)=-0.90$, $p_{FDR}=0.57$, $n=67$ sessions, $n=24$ children, right: slope=0.54 (CI:-0.72,1.79), $t(33)=0.87$, $p_{FDR}=0.57$, $n=35$ sessions, $n=13$ children) or posterior character-selective ROI (left: slope=0.67 (CI:-0.99,2.33), $t(96)=0.80$, $p_{FDR}=0.57$, $n=98$ sessions, $n=26$ children, right: slope=-0.55 (CI:-1.66,0.56), $t(68)=-0.99$, $p_{FDR}=0.57$, $n=70$ sessions, $n=23$ children).
- (ii) There is a significant decrease in the volume of body parts selective activation (limbs + headless bodies > others) in the left hemisphere (slope=-1.51 (CI:-2.33,-0.69) (mm^3/month), $t(124)=-3.65$, $p_{FDR}=0.0046$, $n=126$ sessions, $n=28$ children) and a similar but not significant trend after FDR correction in the right hemisphere (slope=-0.91 (CI:-1.71,-0.12) (mm^3/month), $t(123)=-2.27$, $p_{FDR}=0.07$, $n=125$ sessions, $n=28$ children).
- (iii) While analyses show no statistically significant effect of age on the volume of mFus-faces, the posterior pFus-faces develops significantly in both hemispheres (note that for face-selective regions the same contrast was used in Fig. 2D, see Supplementary Table 8 for statistics).
- (iv) Analyses reveal no statistically significant effect of age on the volume of place-selective CoS-places (left: slope=-0.17 (CI:-1.29,0.95), $t(126)=-0.3$, $p_{FDR}=0.77$, $n=128$ sessions, $n=29$ children, right: slope=0.933 (CI: -0.53, 2.40), $t(126)=1.26$, $p_{FDR}=0.51$, $n=128$ sessions, $n=29$ children).

Error bars: 95% CI of the slope. If the CI does not cross the $y=0$ line, this indicates that the slope is significantly different than 0 before FDR-correction. *Asterisks:* effects surviving FDR correction ($p_{FDR}<0.05$). Related to Fig. 2.

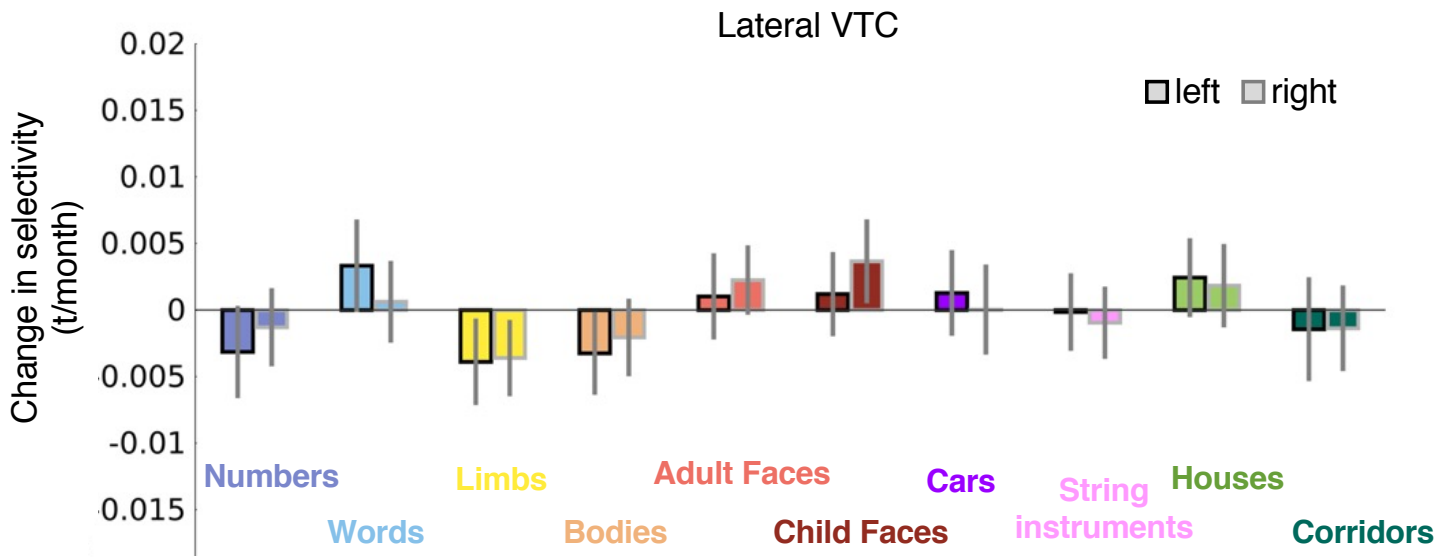
A Emerging left pOTS-words**B Waning left OTS-limbs****C Waning right OTS-limbs****D Emerging left pFus-faces****E Emerging right pFus-faces****Supplementary Figure 10. Development of selectivity in independent ring-shaped ROIs.**

Bar plots show slopes of LMMs for changes in selectivity by age in independent ring-shaped ROIs. **(A)** In the left pOTS-words-ring ROI there was a significant decrease for both limb- (slope=-0.018 (CI:-0.027,-0.008) [t/month], $t(95)=-3.75$, $p_{FDR}=0.010$, $n=97$ sessions) and body-selectivity (slope=-0.013 (CI:-0.02,-0.005) [t/month], $t(95)=-3.16$, $p_{FDR}=0.019$, $n=97$ sessions). **(B)** In the left OTS-limbs-ring ROI limb-selectivity decreased significantly (slope=-0.014 (CI:-0.02,-0.006) [t/month], $t(118)=-3.32$, $p_{FDR}=0.015$, $n=120$ sessions). **(C)** In the right OTS-limbs-ring ROI limb-selectivity decreased (slope=-0.015 (CI:-0.026,-0.004) [t/month], $t(87)=-2.83$, $p_{FDR}=0.042$, $n=98$ sessions) while face-selectivity increased (adult faces: slope=0.021 (CI:0.009,0.032) [t/month], $t(87)=3.68$, $p_{FDR}=0.010$; child faces: slope=0.02 (CI:0.008,0.031) [t/month], $t(87)=3.48$, $p_{FDR}=0.013$, $n=98$ sessions). **(D)** In the left pFus-faces-ring ROI selectivity to limbs decreased significantly (slope=-0.012 (CI:-0.019,-0.004) [t/month], $t=-3.13$, $p_{FDR}=0.019$, $n=105$ sessions). **(E)** In the right pFus-faces-ring ROI no effect survived FDR-correction. Error bars: 95% CI of the slopes. If the CI does not cross the $y=0$ line, this indicates that the slope is significantly different than 0 (before FDR-correction). Asterisks: significant after FDR-correction ($p_{FDR}<0.05$). N = numbers; W = words; L = limbs; B = bodies; AF = adult faces; CF = child faces; C = cars; SI = string instruments; H = houses; Cor = corridors. Related to Fig. 3.

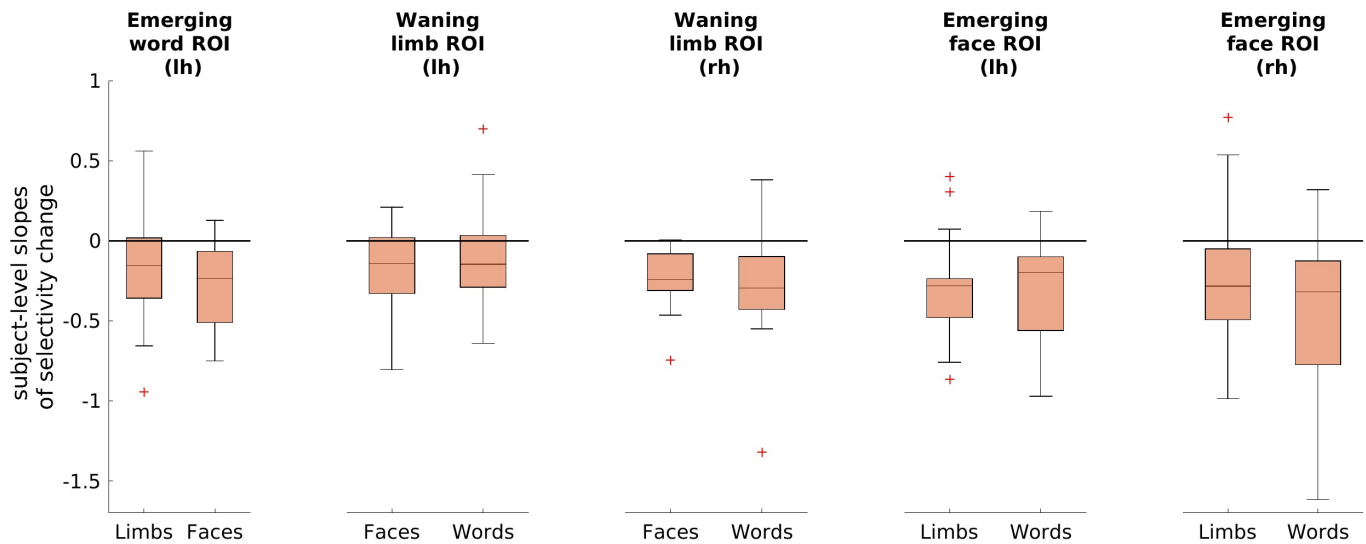


Supplementary Figure 11. Development of response amplitudes in the waning and emerging parts of category-selective ROIs.

Bar plots show slopes of LMMs for changes in response amplitude (%-signal) by age. *Error bars*: 95% CI of the slopes. If the CI does not cross the $y=0$ line, this indicates that the slope is significantly different than 0 before FDR-correction. *Asterisks*: significant after FDR-correction ($p_{FDR}<0.05$). All statistics are reported in Supplementary Table 11. N = numbers; W = words; L = limbs; B = bodies; AF = adult faces; CF = child faces; C = cars; SI = string instruments; H = houses; Cor = corridors. Related to Fig. 3.



Supplementary Figure 12. No significant development of limb-selectivity in the remaining lateral VTC after excluding the voxels that were selective to categories showing significant development. Slopes of LMMs (n=128 sessions) indicating the change in selectivity (t/month) in the remainder of lateral VTC voxels after excluding the voxels that were selective in the first session to the categories showing development (adult faces, child faces, limbs, words, houses). If the CI does not cross the $y=0$ line, this indicates that the slope is significantly different than 0 before FDR-correction. No effects survive FDR-correction. *Error bars: 95% CI of the slope.* Related to Fig. 3.



Supplementary Figure 13. Developmental changes in word-, face-, and limb-selectivity are linked also at the voxel-level.

An interesting question is whether the observed developmental effects occur at a finer spatial scale than an ROI. Thus, we tested if the link between development of face-, word-, and limb-selectivity is also evident at the voxel-level. We ran LMMs relating selectivity to one category as a function of the two other categories in each participant's waning and emerging category-selective ROIs. LMMs were conducted separately for each participant and ROI and each point in the LMM is a voxel. Boxplots show the individual subject LMM estimates based on voxel data in emerging and waning ROIs. Negative values indicate that increases in voxel selectivity to the category defining the ROI is related to decreases in voxel-selectivity to the other categories (and vice versa). Boxplots show the 75% and 25% percentiles (colored areas) and the median (horizontal lines). Whiskers extend to the most extreme data points not considered outliers (minimum and maximum). *Red crosses*: outliers (values more than 1.5 times the interquartile range away from the bottom or top of the box). Left emerging word ROI: n=24; left waning limb ROI: n=26; right waning limb ROI: n=21; left emerging face ROI: n=22; right emerging face ROI: n=21. Results suggest that cortical recycling also occurs at the voxel level. We find an overall negative relationship between selectivity to the preferred category and the other two categories across voxels of the emerging and waning ROIs within individual subjects as the median of the individual subject LMM slopes is negative in all developing ROIs. While these effects are not significant in all individual participants, they suggest that the negative relationship between selectivity to the preferred category and the other two categories can also be measured at the voxel level. Related to Fig. 4.

Supplementary Tables

Supplementary Table 1.

Parameters and statistics of LMMs predicting volume of category-selective activation in lateral VTC ROIs. Related to Fig 1.

ROI	Contrast	parameter	β	CI	df	t	p	p_{FDR}
Left lateral VTC (n=29 subjects, n=128 sessions)	Numbers	intercept	426.58	104,749	126	2.62	0.01	
		age	0.11	-2.15,2.38	126	0.10	0.92	0.92
	Words	intercept	200.41	-280, 681	126	0.82	0.41	
		age	4.14	0.81,7.48	126	2.46	0.015	0.044
	Limbs	intercept	1254.60	806,1702	126	5.54	1.7×10^{-7}	
		age	-3.79	-6.84,-0.74	126	-2.46	0.015	0.044
	Headless bodies	intercept	348.69	151,546	126	3.50	6.53×10^{-4}	
		age	-0.589	-1.98,0.80	126	-0.84	0.40	0.50
	Adult faces	intercept	2.5	-89,94	126	0.05	0.96	
		age	0.89	0.26,1.52	126	2.79	0.006	0.040
	Child faces	intercept	62.89	-112,237	126	0.71	0.48	
		age	1.95	0.74,3.17	126	3.18	0.002	0.036
	Cars	intercept	-15.05	-120,89.9	126	-0.28	0.78	
		age	0.52	-0.22,1.25	126	1.39	0.17	0.31
	String instruments	intercept	112.65	0.10,225	126	1.98	0.05	
		age	-0.07	-0.86,0.72	126	-0.17	0.86	0.92
	Houses	intercept	-48.32	-193,96	126	-0.66	0.51	
		age	1.26	0.27,2.25	126	2.51	0.01	0.044
	Corridors	intercept	16.27	-71,104	126	0.37	0.71	
		age	0.38	-0.23,0.998	126	1.23	0.22	0.37
Right lateral VTC (n=29 subjects, n=128 sessions)	Numbers	intercept	281.78	26,537	126	2.18	0.03	
		age	0.11	-1.69,1.90	126	0.12	0.91	0.92
	Words	intercept	119.95	-69,309	126	1.25	0.21	
		age	0.66	-0.66,1.99	126	0.99	0.32	0.46
	Limbs	intercept	978.09	632,1325	126	5.59	1.37×10^{-7}	
		age	-3.42	-5.79,-1.04	126	-2.85	0.005	0.04
	Headless bodies	intercept	588.93	299,879	126	4.02	1.0×10^{-4}	
		age	-1.625	-3.63,0.38	126	-1.61	0.11	0.22
	Adult faces	intercept	3.73	-140,147	126	0.05	0.96	
		age	1.32	0.34,2.29	126	2.68	0.008	0.042
	Child faces	intercept	174.96	-86,436	126	1.33	0.187	
		age	2.16	0.35,3.97	126	2.37	0.02	0.049
	Cars	intercept	9.67	-120,139	126	0.15	0.88	
		age	0.40	-0.51,1.31	126	0.87	0.39	0.50
	String instruments	intercept	51.87	0.16,104	126	1.99	0.05	
		age	-0.13	-0.49,0.24	126	-0.69	0.49	0.58
	Houses	intercept	75.57	-114,265	126	0.79	0.43	
		age	1.16	-0.123,2.45	126	1.79	0.08	0.17
	Corridors	intercept	42.67	-88,173	126	0.65	0.52	
		age	0.49	-0.43,1.4	126	1.	0.29	0.45

Supplementary Table 2.

Parameters and statistics of LMMs predicting volume of category-selective activation in medial VTC ROIs.
Related to Fig. 1.

ROI	Contrast	parameter	β	CI	df	t	p	p_{FDR}
Left medial VTC (n=29 subjects, n=128 sessions)	Numbers	intercept	121.4	6.07,237	126	2.08	0.04	
		age	-0.009	-0.82,0.80	126	-0.02	0.98	0.98
	words	intercept	75.21	-29,180	126	1.43	0.16	
		age	0.45	-0.28,1.18	126	1.21	0.23	0.73
	limbs	intercept	118.10	20.6,216	126	2.40	0.02	
		age	-0.36	-1.04,0.32	126	-1.05	0.29	0.73
	bodies	intercept	57.91	5.46,110	126	2.19	0.03	
		age	-0.21	-0.58,0.15	126	-1.15	0.25	0.73
	Adult faces	intercept	32.33	3.15,61.5	126	2.19	0.03	
		age	-0.05	-0.24,0.14	126	-0.50	0.62	0.88
	Child faces	intercept	76.70	2.20,151	126	2.04	0.04	
		age	0.09	-0.39,0.57	126	0.38	0.71	0.88
	Cars	intercept	-27.86	-98,42.26	126	-0.79	0.43	
		age	0.41	-0.08,0.90	126	1.67	0.10	0.73
	String instruments	intercept	11.47	-1.69,24.6	126	1.73	0.09	
		age	-0.04	-0.13,0.06	126	-0.76	0.45	0.82
	Houses	intercept	299.84	15.2,584	126	2.08	0.04	
		age	1.55	-0.38,3.47	126	1.59	0.11	0.73
	Corridors	intercept	558.91	315,803	126	4.54	1.3×10^{-5}	
		age	-0.17	-1.85,1.51	126	-0.20	0.84	0.93
Right medial VTC (n=29 subjects, n=128 sessions)	Numbers	intercept	32.53	-32.5,97.5	126	0.99	0.32	
		age	0.15	-0.31,0.61	126	0.66	0.51	0.85
	words	intercept	15.92	-44,76	126	0.53	0.60	
		age	0.22	-0.20,0.63	126	1.03	0.31	0.73
	limbs	intercept	42.23	-12,97	126	1.53	0.13	
		age	0.02	-0.36,0.41	126	0.13	0.90	0.95
	bodies	intercept	42.03	-0.10,84.16	126	1.97	0.05	
		age	-0.14	-0.43,0.16	126	-0.91	0.37	0.73
	Adult faces	intercept	14.55	-13.36,42.45	126	1.03	0.30	
		age	-0.03	-0.22,0.16	126	-0.31	0.75	0.89
	Child faces	intercept	33.50	-11.7,78.72	126	1.47	0.15	
		age	-0.06	-0.37,0.25	126	-0.40	0.69	0.88
	Cars	intercept	-10.02	-49.47,29.43	126	-0.50	0.62	
		age	0.19	-0.09,0.47	126	1.34	0.18	0.73
	String instruments	intercept	13.64	-0.68,28	126	1.89	0.06	
		age	-0.05	-0.15,0.05	126	-0.96	0.34	0.73
	Houses	intercept	357.67	57.6,657.7	126	2.36	0.02	
		age	1.80	-0.27,3.87	126	1.72	0.09	0.73
	Corridors	intercept	610.52	334,887	126	4.37	2.55×10^{-5}	
		age	0.46	-1.43,2.36	126	0.48	0.63	0.88

Supplementary Table 3.

Parameters and statistics of LMMs predicting volume of category-selective activation in lateral VTC ROIs when adult faces, child faces, limbs and words are excluded as control categories from the contrast.

Related to Fig 1 and Extended Data Figure 1.

ROI	Contrast	parameter	β	CI	df	t	p	p_{FDR}
Left lateral VTC (n=29 subjects, n=128 sessions)	Numbers	intercept	538.99	204,874	126	3.19	0.002	
		age	-0.47	-2.82,1.88	126	-0.39	0.69	0.73
	Words	intercept	291.07	-185,767	126	1.21	0.23	
		age	3.67	0.36,6.98	126	2.19	0.03	0.10
	Limbs	intercept	1.23x10 ⁺³	786,1.7x10 ⁺³	126	5.46	2.39x10 ⁻⁷	
		age	-3.44	-6.5,-0.37	126	-2.22	0.028	0.10
	Headless bodies	intercept	425	179,672	126	3.42	8.6x10 ⁻⁴	
		age	-0.71	-2.44,1.02	126	-0.81	0.42	0.60
	Adult faces	intercept	40.26	-72.7,153.2	126	0.71	0.48	
		age	0.92	0.15,1.7	126	2.35	0.02	0.10
	Child faces	intercept	95.42	-98.9,289.7	126	0.97	0.33	
		age	2.06	0.71,3.41	126	3.01	0.003	0.056
	Cars	intercept	2.32	-122,127	126	0.04	0.97	
		age	0.55	-0.33,1.43	126	1.24	0.22	0.36
	String instruments	intercept	83.7	-104,271	126	0.88	0.38	
		age	0.57	-0.75,1.89	126	0.86	0.39	0.60
	Houses	intercept	-19.59	-167,127	126	-0.26	0.79	
		age	1.04	0.029,2.06	126	2.03	0.044	0.11
	Corridors	intercept	-5.83	-89,78	126	-0.14	0.89	
		age	0.46	-0.12,1.05	126	1.57	0.12	0.22
Right lateral VTC (n=29 subjects, n=128 sessions)	Numbers	intercept	310	72.3,547.7	126	2.58	0.011	
		age	-0.10	-1.77,1.57	126	-0.12	0.91	0.91
	Words	intercept	143.45	-41,327.9	126	1.54	0.13	
		age	0.45	-0.84,1.74	126	0.69	0.49	0.61
	Limbs	intercept	1.02x10 ⁺³	663,1.38x10 ⁺³	126	5.63	1.09x10 ⁻⁷	
		age	-3.51	-5.98,-1.04	126	-2.82	0.0056	0.056
	Headless bodies	intercept	683	382,983	126	4.5	1.54x10 ⁻⁵	
		age	-1.62	-3.68,0.45	126	-1.55	0.12	0.22
	Adult faces	intercept	47.12	-112,206	126	0.59	0.56	
		age	1.22	0.13,2.30	126	2.22	0.029	0.10
	Child faces	intercept	210	-60.6,481	126	1.54	0.13	
		age	2.02	0.14,3.90	126	2.12	0.036	0.10
	Cars	intercept	41.21	-77.8,160.2	126	0.69	0.49	
		age	0.24	-0.59,1.08	126	0.58	0.56	0.66
	String instruments	intercept	68.02	-0.94,137	126	1.95	0.053	
		age	-0.12	-0.60,0.37	126	-0.48	0.63	0.70
	Houses	intercept	61.84	-110,234	126	0.71	0.48	
		age	1.13	-0.06,2.31	126	1.89	0.06	0.14
	Corridors	intercept	55.26	-59.7,170.23	126	0.95	0.34	
		age	0.30	-0.51,1.10	126	0.72	0.47	0.61

Supplementary Table 4.

Parameters and statistics of LMMs predicting volume of category-selective activation in medial VTC ROIs when adult faces, child faces, limbs and words are excluded as control categories from the contrast.

Related to Fig 1 and Extended Data Figure 1.

ROI	Contrast	parameter	β	CI	df	t	p	p_{FDR}
Left medial VTC (n=29 subjects, n=128 sessions)	Numbers	intercept	119	15.77,222.92	126	2.28	0.024	
		age	-0.20	-0.92,0.52	126	-0.55	0.58	0.75
	words	intercept	77.36	-19.86,174.59	126	1.57	0.12	
		age	0.27	-0.41,0.95	126	0.79	0.43	0.75
	limbs	intercept	117.82	23.60,212.03	126	2.47	0.015	
		age	-0.41	-1.06,0.23	126	-1.27	0.21	0.59
	bodies	intercept	82.69	16.3,149.1	126	2.46	0.015	
		age	-0.30	-0.76,0.15	126	-1.32	0.19	0.59
	Adult faces	intercept	47.41	9.96,84.87	126	2.51	0.014	
		age	-0.09	-0.34,0.15	126	-0.75	0.46	0.75
	Child faces	intercept	91.55	12.5,170.6	126	2.29	0.02	
		age	0.034	-0.47,0.54	126	0.13	0.89	0.94
	Cars	intercept	-13.1	-63.49,37.29	126	-0.51	0.61	
		age	0.24	-0.11,0.59	126	1.36	0.18	0.59
	String instruments	intercept	5.42	-3.45,14.3	126	1.21	0.23	
		age	9.35×10^{-4}	-0.06,0.06	126	0.03	0.98	0.98
	Houses	intercept	277.7	17.53,537.9	126	2.11	0.037	
		age	1.24	-0.51,2.99	126	1.40	0.16	0.59
	Corridors	intercept	531.26	302.7,759.8	126	4.6	1.02×10^{-5}	
		age	-0.47	-2.05,1.11	126	-0.59	0.56	0.75
Right medial VTC (n=29 subjects, n=128 sessions)	Numbers	intercept	15.6	-26.9,58.16	126	0.73	0.47	
		age	0.08	-0.22,0.38	126	0.53	0.59	0.75
	words	intercept	0.21	-33.39,33.8	126	0.013	0.99	
		age	0.15	-0.08,0.39	126	1.27	0.21	0.59
	limbs	intercept	36.33	1.49,71.18	126	2.06	0.04	
		age	-0.08	-0.33,0.16	126	-0.69	0.49	0.75
	bodies	intercept	41.38	-6.89,89.65	126	1.7	0.09	
		age	-0.12	-0.46,0.22	126	-0.71	0.48	0.75
	Adult faces	intercept	18.18	-10.28,46.64	126	1.26	0.21	
		age	-0.05	-0.25,0.14	126	-0.53	0.60	0.75
	Child faces	intercept	34.03	-10.64,78.69	126	1.51	0.13	
		age	-0.06	-0.37,0.24	126	-0.41	0.68	0.77
	Cars	intercept	-9.74	-30.26,10.77	126	-0.94	0.35	
		age	0.13	-0.02,0.27	126	1.76	0.08	0.59
	String instruments	intercept	0.37	-7.26,8.01	126	0.097	0.92	
		age	0.028	-0.026,0.08	126	1.01	0.31	0.75
	Houses	intercept	326.7	37.69,615.63	126	2.24	0.027	
		age	1.54	-0.46,3.53	126	1.53	0.13	0.59
	Corridors	intercept	555.76	288.8,822.7	126	4.12	6.8×10^{-5}	
		age	0.37	-1.46,2.20	126	0.40	0.69	0.77

Supplementary Table 5.

Likelihood ratio tests determining if the number of selective voxels in VTC is better predicted if motion during scanning is included in the model. Related to Fig. 1.

ROI	contrast	No.	Model	df	LRStat	<i>p</i>	<i>pFDR</i>
Left lateral VTC	numbers	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age + motion + (1 subj)	5	1.17	0.28	0.66
	words	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age + motion + (1 subj)	5	0.39	0.53	0.79
	limbs	1	Nr of Sel. voxels ~ age+ (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion+ (1 subj)	5	0.83	0.36	0.66
	bodies	1	Nr of Sel. voxels ~ age+ (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion+ (1 subj)	5	0.009	0.93	0.93
	adult faces	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion + (1 subj)	5	0.12	0.73	0.89
	child faces	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age + motion + (1 subj)	5	0.21	0.64	0.86
	cars	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age + motion + (1 subj)	5	3.02	0.08	0.66
	string instr.	1	Nr of Sel. voxels ~ age+ (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion+ (1 subj)	5	3.43	0.06	0.66
	houses	1	Nr of Sel. voxels ~ age+ (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion+ (1 subj)	5	0.007	0.93	0.93
	corridors	1	Nr of Sel. voxels ~ age+ (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion+ (1 subj)	5	2.13	0.14	0.66
Right lateral VTC	numbers	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age + motion + (1 subj)	5	0.01	0.92	0.93
	words	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age + motion + (1 subj)	5	1.23	0.27	0.66
	limbs	1	Nr of Sel. voxels ~ age+ (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion+ (1 subj)	5	0.10	0.75	0.89
	bodies	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion + (1 subj)	5	0.61	0.43	0.72
	adult faces	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age + motion + (1 subj)	5	0.82	0.36	0.66
	child faces	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age + motion + (1 subj)	5	0.86	0.35	0.66
	cars	1	Nr of Sel. voxels ~ age+ (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion+ (1 subj)	5	1.28	0.26	0.66
	string instr.	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion + (1 subj)	5	1.60	0.21	0.66
	houses	1	Nr of Sel. voxels ~ age+ (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion+ (1 subj)	5	0.97	0.33	0.66
	corridors	1	Nr of Sel. voxels ~ age + (1 subj)	4			
		2	Nr of Sel. voxels ~ age+ motion + (1 subj)	5	0.35	0.55	0.79

Supplementary Table 6.

Parameters and statistics of LMMs predicting volume of category-selective activation in lateral VTC ROIs with the additional factor of tSNR. Related to Fig. 1 and Extended Data Figure 1.

ROI	contrast	pValue of LR-Test	parameter	β	CI	df	t	p	P FDR
		Model _{age} vs.		model _{Age_and_tSNR}					
Lateral VTC lh (n=29 subjects, n=128 sessions)	numbers	0.10	Intercept	30.89	-531,593	125	0.11	0.91	
			age	0.2	-2.11,2.51	125	0.17	0.86	0.86
			tSNR	5.08	-0.78,10.94	125	1.72	0.089	
	words	0.02	Intercept	-579	-1.4x10 ⁺³ ,219	125	-1.44	0.153	
			age	4.48	1.20,7.76	125	2.7	0.008	0.03
			tSNR	9.76	1.69,17.82	125	2.39	0.018	
	limbs	8.98x10 ⁻⁰⁴	Intercept	278	-440,995	125	0.77	0.45	
			age	-3.33	-6.3,-0.4	125	-2.24	0.027	0.068
			tSNR	12.13	5.08,19.19	125	3.4	8.95x10 ⁻⁴	
	bodies	0.02	Intercept	30.98	-308,370	125	0.18	0.86	
			age	-0.64	-2.03,0.76	125	-0.9	0.37	0.49
			tSNR	4.28	0.72,7.85	125	2.38	0.02	
	Adult faces	0.15	Intercept	-87	-240,65.3	125	-1.13	0.26	
			age	0.93	0.30,1.56	125	2.94	0.0039	0.02
			tSNR	1.12	-0.41,2.65	125	1.45	0.15	
	Child faces	0.03	Intercept	-190.99	-482,100	125	-1.3	0.2	
			age	2.05	0.85,3.25	125	3.39	9.48x10 ⁻⁴	0.006
			tSNR	3.2	0.2,6.2	125	2.14	0.03	
	Cars	0.18	Intercept	-110	-286,65	125	-1.25	0.22	
			age	0.51	-0.23,1.24	125	1.37	0.17	0.35
			tSNR	1.27	-0.61,3.15	125	1.34	0.18	
	String instr.	0.03	Intercept	-51.15	-237,135	125	-0.54	0.59	
			age	-0.09	-0.86,0.69	125	-0.22	0.83	0.86
			tSNR	2.18	0.19,4.17	125	2.17	0.03	
Houses	0.37	Intercept	40.42	-201,282	125	0.33	0.74		
		age	1.21	0.22,2.2	125	2.41	0.017	0.049	
		tSNR	-1.09	-3.49,1.3	125	-0.9	0.37		
Corridors	0.54	Intercept	53.78	-95.7,203.2	125	0.71	0.48		
		age	0.38	-0.24,0.99	125	1.22	0.23	0.38	
		tSNR	-0.49	-2.06,1.09	125	-0.61	0.54		
Lateral VTC rh (n=29 subjects, n=128 sessions)	numbers	0.16	Intercept	26.25	-409.9,462.4	125	0.12	0.91	
			age	0.2	-1.64,2.04	125	0.22	0.83	0.86
			tSNR	3.46	-1.17,8.09	125	1.48	0.14	
	words	0.41	Intercept	9.35	-309,327	125	0.06	0.95	
			age	0.72	-0.62,2.06	125	1.06	0.29	0.45
			tSNR	1.47	-1.85,4.79	125	0.88	0.38	
	limbs	0.02	Intercept	432.91	-120,986	125	1.55	0.12	
			age	-2.99	-5.33,-0.66	125	-2.54	0.012	0.04
			tSNR	6.96	1.3,12.6	125	2.43	0.016	
	bodies	0.01	Intercept	122	-345,590	125	0.52	0.61	

		age	-1.3	-3.28,0.67	125	-1.3	0.19	0.35
		tSNR	6.04	1.24,10.84	125	2.49	0.01	
Adult faces	3.84×10^{-5}	Intercept	-372	-589,-154	125	-3.39	9.32×10^{-4}	
		age	1.6	0.69,2.52	125	3.46	7.39×10^{-4}	0.006
		tSNR	4.82	2.61,7.04	125	4.31	3.29×10^{-5}	
Child faces	4.72×10^{-8}	Intercept	-723.36	$-1.1 \times 10^{+3}$, -346	125	-3.79	2.30×10^{-4}	
		age	2.78	1.19,4.38	125	3.46	7.44×10^{-4}	0.006
		tSNR	11.63	7.7,15.6	125	5.86	3.83×10^{-8}	
Cars	0.40	Intercept	83.84	-132.2,299.9	125	0.77	0.44	
		age	0.36	-0.55,1.27	125	0.78	0.44	0.55
		tSNR	-0.97	-3.25,1.30	125	-0.85	0.40	
String instr.	0.23	Intercept	9.87	-75.9,95.6	125	0.23	0.82	
		age	-0.11	-0.48,0.25	125	-0.62	0.54	0.63
		tSNR	0.57	-0.4,1.5	125	1.21	0.23	
Houses	0.51	Intercept	-4.43	-312,304	125	-0.03	0.98	
		age	1.22	-0.08,2.52	125	1.86	0.06	0.14
		tSNR	1.02	-2.09,4.14	125	0.65	0.52	
Corridors	0.73	Intercept	74.14	-143,291	125	0.68	0.50	
		age	0.47	-0.45,1.38	125	1.01	0.32	0.45
		tSNR	-0.41	-2.69,1.88	125	-0.35	0.73	

Note, LR-Test: Likelihood Ratio test.

Supplementary Table 7.

Parameters and statistics of LMMs predicting volume of category-selective activation in medial VTC ROIs with the additional factor of tSNR. Related to Fig. 1 and Extended Data Figure 1.

ROI	contrast	pVal of LR-Test	parameter	β	CI	df	t	p	P FDR
		Model _{age} vs							
		model _{age_and_tSNR}							
medial VTC lh (n=29 subjects, n=128 sessions)	numbers	1.81x10 ⁻⁴	Intercept	-232	-443,-21	125	-2.18	0.03	
			age	0.29	-0.49,1.06	125	0.73	0.47	0.67
			tSNR	4.84	2.35, 7.33	125	3.85	1.87x10 ⁻⁴	
	words	0.24	Intercept	-29.63	-232,173	125	-0.29	0.77	
			age	0.54	-0.21,1.29	125	1.43	0.15	0.56
			tSNR	1.43	-0.95,3.81	125	1.19	0.24	
	limbs	0.15	Intercept	2.74	-180,186	125	0.03	0.98	
			age	-0.26	-0.94,0.43	125	-0.74	0.46	0.67
			tSNR	1.57	-0.55,3.68	125	1.46	0.15	
	bodies	0.46	Intercept	89.26	-9.56,188.08	125	1.79	0.08	
			age	-0.24	-0.61,0.13	125	-1.28	0.20	0.56
			tSNR	-0.42	-1.56,0.71	125	-0.74	0.46	
	Adult faces	0.06	Intercept	-6.98	-57.8,43.8	125	-0.27	0.79	
			age	-0.01	-0.21,0.18	125	-0.12	0.91	0.91
			tSNR	0.53	-0.03,1.09	125	1.88	0.06	
	Child faces	0.047	Intercept	-28.87	-156,98.7	125	-0.45	0.65	
			age	0.2	-0.29,0.69	125	0.81	0.42	0.67
			tSNR	1.4	0.01,2.8	125	2.0	0.048	
	Cars	0.56	Intercept	-61.36	-195,73	125	-0.91	0.37	
			age	0.44	-0.06,0.94	125	1.76	0.08	0.54
			tSNR	0.46	-1.1,2.02	125	0.58	0.56	
	String instr.	0.18	Intercept	26.45	2.15,50.74	125	2.15	0.03	
			age	-0.04	-0.13,0.05	125	-0.85	0.40	0.67
			tSNR	-0.23	-0.52,0.07	125	-1.52	0.13	
Houses	2.62x10 ⁻⁴	Intercept	-478	-968,11.7	125	-1.93	0.06		
		age	2.31	0.44,4.18	125	2.45	0.02	0.18	
		tSNR	10.44	4.9,15.9	125	3.75	2.68x10 ⁻⁴		
Corridors	1.13x10 ⁻⁴	Intercept	-167	-595,261	125	-0.77	0.44		
		age	0.49	-1.12,2.11	125	0.60	0.55	0.73	
		tSNR	9.83	4.9,14.7	125	3.98	1.18x10 ⁻⁴		
medial VTC rh (n=29 subjects, n=128 sessions)	numbers	0.26	Intercept	-30.15	-169,109	125	-0.43	0.67	
			age	0.11	-0.37,0.6	125	0.46	0.65	0.76
			tSNR	1.17	-0.68,3.03	125	1.25	0.21	
	words	0.57	Intercept	-13.23	-133, 106	125	-0.22	0.83	
			age	0.24	-0.19,0.67	125	1.11	0.27	0.56
			tSNR	0.45	-1.12,2.02	125	0.57	0.57	
	limbs	0.24	Intercept	-15.51	-126,95	125	-0.28	0.78	
			age	0.07	-0.32,0.46	125	0.35	0.73	0.81
			tSNR	0.89	-0.58,2.36	125	1.19	0.24	
	bodies	0.39	Intercept	74.48	-9.6,158.57	125	1.75	0.08	

		age	-0.16	-0.46,0.14	125	-1.08	0.28	0.56
		tSNR	-0.49	-1.60,0.62	125	-0.88	0.38	
Adult faces	0.68	Intercept	4.66	-50.09,59.40	125	0.17	0.87	
		age	-0.022	-0.22,0.18	125	-0.22	0.83	0.87
		tSNR	0.15	-0.56,0.86	125	0.41	0.68	
Child faces	0.68	Intercept	49.05	-37.7,135.8	125	1.12	0.27	
		age	-0.08	-0.39,0.24	125	-0.48	0.64	0.76
		tSNR	-0.23	-1.35,0.88	125	-0.42	0.68	
Cars	0.87	Intercept	-3.5	-85.76,78.75	125	-0.08	0.93	
		age	0.18	-0.10,0.47	125	1.27	0.21	0.56
		tSNR	-0.1	-1.21,1.01	125	-0.18	0.86	
String instr.	0.13	Intercept	34.28	4.74,63.83	125	2.30	0.02	
		age	-0.07	-0.17,0.04	125	-1.29	0.2	0.56
		tSNR	-0.31	-0.70,0.08	125	-1.56	0.12	
Houses	4.65×10^{-4}	Intercept	-504	$-1.1 \times 10^{+3}, 57$	125	-1.78	0.08	
		age	2.45	0.42,4.48	125	2.39	0.02	0.18
		tSNR	13.26	6.0,20.5	125	3.6	4.37×10^{-4}	
Corridors	2.11×10^{-4}	Intercept	-219	-727,288	125	-0.86	0.39	
		age	1.14	-0.70,2.98	125	1.22	0.22	0.56
		tSNR	12.66	6.12,19.2	125	3.83	1.99×10^{-4}	

Supplementary Table 8.

Parameters and statistics of LMMs predicting ROI volume. Related to Fig. 2.

ROI	parameter	β	CI	df	t	p	p_{FDR}
Left mOTS-words (n=23 subjects, n=103 sessions)	intercept	130.61	-39.93,301	101	1.52	0.13	
	age	-0.07	-1.22,1.08	101	-0.12	0.90	0.90
Right mOTS-words (n=7 subjects, n= 35 sessions)	intercept	8.93	-95.1,113	33	0.17	0.86	
	age	0.25	-0.43,0.92	33	0.74	0.46	0.66
Left pOTS-words (n=26 subjects, n= 119 sessions)	intercept	-19.96	-205,165	117	-0.21	0.83	
	age	1.71	0.45,2.98	117	2.68	0.009	0.02
Right pOTS-words (n=16 subjects, n=73 sessions)	intercept	21.33	-73.9,116.6	71	0.45	0.66	
	age	0.37	-0.32,1.06	71	1.07	0.29	0.48
Left OTS-limbs (n=28 subjects, n=126 sessions)	intercept	369.43	217,522	124	4.80	4.40×10^{-6}	
	age	-1.70	-2.59,-0.81	124	-3.78	2.40×10^{-4}	0.002
Right OTS-limbs (n=28 subjects, n=126 sessions)	intercept	204.46	105,304	124	4.07	8.41×10^{-5}	
	age	-0.89	-1.53,-0.24	124	-2.73	0.007	0.02
Left mFus-faces (n=23 subjects, n=107 sessions)	intercept	99.77	7.39,192	105	2.14	0.03	
	age	0.11	-0.47,0.69	105	0.38	0.71	0.79
Right mFus-faces (n=23 subjects, n=102 sessions)	intercept	90.54	-6.41,187.48	100	1.85	0.07	
	age	0.20	-0.46,0.85	100	0.60	0.55	0.69
Left pFus-faces (n=27 subjects, n=120 sessions)	intercept	23.36	-64.37,111.1	118	0.53	0.60	
	age	0.75	0.17,1.33	118	2.55	0.01	0.02
Right pFus-Faces (n=22 subjects, n=98 sessions)	intercept	-23.39	-163,116	96	-0.33	0.74	
	age	1.41	0.46,2.35	96	2.96	0.004	0.019

Supplementary Table 9.

Parameters and statistics of LMMs predicting changes in selectivity by age in the developing parts of category-selective ROIs. Listed by figure order. Related to Fig. 3 and Extended Data Fig. 2.

ROI	Contrast	parameter	β	CI	df	t	p	p FDR
Emerging lh pOTS-word (n=24 subjects, n=112 sessions)	numbers	intercept	1.19	-0.04,2.41	110	1.92	0.06	
		age	0.010	0.001,0.018	110	2.29	0.02	0.07
	words	intercept	-0.09	-1.27,1.094	110	-0.14	0.89	
		age	0.025	0.017,0.033	110	6.17	1.15x10 ⁻⁸	1.92x10 ⁻⁷
	limbs	intercept	3.84	2.59,5.09	110	6.09	1.67x10 ⁻⁸	
		age	-0.020	-0.028,-0.012	110	-4.74	6.42x10 ⁻⁶	8.03x10 ⁻⁵
	bodies	intercept	1.44	0.28,2.60	110	2.46	0.02	
		age	-0.015	-0.022,-0.007	110	-3.68	3.66x10 ⁻⁴	0.002
	Adult faces	intercept	-1.25	-2.51, 0.02	110	-1.96	0.05	
		age	-0.007	-0.016,0.001	110	-1.68	0.10	0.23
	Child faces	intercept	-1.13	-2.69,0.43	110	-1.44	0.15	
		age	-0.002	-0.012,0.009	110	-0.30	0.76	0.83
	Cars	intercept	-0.73	-1.90,0.44	110	-1.23	0.22	
		age	-0.002	-0.010,0.006	110	-0.50	0.62	0.77
	String instr.	intercept	-0.27	-1.30,0.77	110	-0.51	0.61	
		age	0.001	-0.006,0.008	110	0.36	0.72	0.81
	Houses	intercept	-0.48	-1.72,0.75	110	-0.78	0.44	
		age	-0.002	-0.010,0.007	110	-0.46	0.65	0.77
	Corridors	intercept	-0.91	-2.28,0.45	110	-1.33	0.19	
		age	-0.008	-0.017,0.002	110	-1.66	0.10	0.23
Waning lh OTS-limbs (n=26 subjects, n=122 sessions)	numbers	intercept	0.58	-0.47,1.63	120	1.09	0.28	
		age	-0.002	-0.009,0.006	120	-0.47	0.64	0.77
	words	intercept	0.30	-0.97,1.57	120	0.47	0.64	
		age	0.005	-0.004,0.014	120	1.14	0.26	0.44
	limbs	intercept	7.39	6.09,8.68	120	11.30	1.31x10 ⁻²⁰	
		age	-0.030	-0.039,-0.021	120	-6.83	3.77x10 ⁻¹⁰	1.88x10 ⁻⁸
	bodies	intercept	3.21	1.97,4.46	120	5.12	1.18x10 ⁻⁶	
		age	-0.010	-0.018,-9.2x10 ⁻⁴	120	-2.19	0.03	0.09
	Adult faces	intercept	-2.26	-3.35,-1.16	120	-4.09	7.85x10 ⁻⁵	
		age	0.010	0.002,0.017	120	2.59	0.01	0.04
	Child faces	intercept	-1.08	-2.31,0.15	120	-1.74	0.08	
		age	0.007	-0.002,0.015	120	1.62	0.11	0.24
	Cars	intercept	-1.19	-2.16,-0.23	120	-2.44	0.02	
		age	-2.71x10 ⁻⁴	-0.007,0.007	120	-0.08	0.94	0.97
	String instr.	intercept	-1.05	-1.91, -0.19	120	-2.41	0.02	
		age	0.004	-0.002,0.010	120	1.45	0.15	0.31
	Houses	intercept	-1.76	-2.72,-0.79	120	-3.61	4.47x10 ⁻⁴	
		age	0.002	-0.005,0.008	120	0.48	0.63	0.77
	Corridors	intercept	-2.90	-3.98, -1.82	120	-5.32	4.80x10 ⁻⁷	
		age	0.002	-0.005,0.01	120	0.57	0.57	0.77
Emerging lh pFus-faces (n=22 subjects, n=105)	numbers	intercept	0.98	-0.23,2.19	103	1.61	0.11	
		age	-0.004	-0.013,0.004	103	-1.00	0.32	0.51

sessions)	words	intercept	0.43	-0.75, 1.61	103	0.72	0.47	
		age	0.003	-0.005, 0.011	103	0.79	0.43	0.66
	limbs	intercept	3.30	2.28, 4.32	103	6.41	4.55x10 ⁻⁹	
		age	-0.022	-0.028, -0.015	103	-6.24	9.79x10 ⁻⁹	1.92x10 ⁻⁷
	bodies	intercept	1.71	0.60, 2.82	103	3.04	0.003	
		age	-0.014	-0.021, -0.006	103	-3.57	5.48x10 ⁻⁴	0.002
	Adult faces	intercept	-0.47	-1.55, 0.62	103	-0.85	0.39	
		age	0.016	0.008, 0.023	103	4.09	8.51x10 ⁻⁵	4.06x10 ⁻⁴
	Child faces	intercept	0.68	-0.73, 2.09	103	0.96	0.34	
		age	0.020	0.010, 0.030	103	4.11	8.06x10 ⁻⁵	4.06x10 ⁻⁴
	Cars	intercept	-0.86	-2.19, 0.47	103	-1.29	0.20	
		age	-2.70x10 ⁻⁴	-0.010, 0.009	103	-0.06	0.95	0.97
	String instr.	intercept	-0.82	-1.87, 0.23	103	-1.55	0.13	
		age	-0.004	-0.011, 0.003	103	-1.18	0.24	0.43
	Houses	intercept	-1.48	-2.50, -0.45	103	-2.86	0.005	
		age	2.59x10 ⁻⁴	-0.007, 0.007	103	0.07	0.94	0.97
	Corridors	intercept	-3.05	-4.45, -1.66	103	-4.34	3.38x10 ⁻⁵	
		age	-0.002	-0.011, 0.008	103	-0.35	0.73	0.81
Waning rh OTS-limbs (n=21 subjects, n=100 sessions)	numbers	intercept	0.69	-0.58, 1.96	98	1.08	0.28	
		age	-0.005	-0.014, 0.003	98	-1.24	0.22	0.40
	words	intercept	-0.74	-2.04, 0.56	98	-1.13	0.26	
		age	0.002	-0.007, 0.011	98	0.43	0.67	0.78
	limbs	intercept	5.80	4.41, 7.18	98	8.31	5.51x10 ⁻¹³	
		age	-0.020	-0.029, -0.010	98	-4.10	8.57x10 ⁻⁵	4.06x10 ⁻⁴
	bodies	intercept	3.22	1.81, 4.63	98	4.53	1.65x10 ⁻⁵	
		age	-0.006	-0.016, 0.004	98	-1.24	0.22	0.40
	Adult faces	intercept	-2.88	-4.45, -1.31	98	-3.64	4.43x10 ⁻⁴	
		age	0.022	0.011, 0.032	98	4.09	8.93x10 ⁻⁵	4.06x10 ⁻⁴
	Child faces	intercept	-1.28	-2.98, 0.41	98	-1.50	0.14	
		age	0.018	0.007, 0.029	98	3.19	0.002	0.007
	Cars	intercept	-0.58	-1.67, 0.52	98	-1.04	0.30	
		age	-0.005	-0.013, 0.003	98	-1.31	0.19	0.39
	String instr.	intercept	-0.79	-1.71, 0.12	98	-1.72	0.09	
		age	-0.002	-0.008, 0.005	98	-0.55	0.59	0.77
	Houses	intercept	-1.14	-1.89, -0.39	98	-3.02	0.003	
		age	-0.002	-0.008, 0.003	98	-0.91	0.366	0.57
	Corridors	intercept	-2.69	-3.94, -1.43	98	-4.26	4.77x10 ⁻⁵	
		age	-1.45x10 ⁻⁴	-0.009, 0.009	98	-0.03	0.97	0.97
Emerging rh pFus-faces (n=21 subjects, n=96 sessions)	numbers	intercept	0.66	-0.53, 1.85	94	1.10	0.28	
		age	-0.007	-0.016, 0.001	94	-1.73	0.09	0.23
	words	intercept	-0.20	-1.60, 1.20	94	-0.30	0.77	
		age	-0.003	-0.013, 0.007	94	-0.63	0.53	0.73
	limbs	intercept	2.75	1.74, 3.76	94	5.40	4.94x10 ⁻⁷	
		age	-0.016	-0.023, -0.008	94	-4.31	4.02x10 ⁻⁵	2.87x10 ⁻⁴
	bodies	intercept	1.65	0.30, 2.99	94	2.43	0.02	
		age	-0.008	-0.017, 0.002	94	-1.67	0.098	0.23

Adult faces	intercept	-0.81	-2.08,0.45	94	-1.29	0.20	
	<i>age</i>	0.020	0.011,0.029	94	4.43	2.55×10^{-5}	2.12×10^{-4}
Child faces	intercept	0.71	-0.63,2.05	94	1.06	0.30	
	<i>age</i>	0.021	0.012,0.031	94	4.44	2.47×10^{-5}	2.12×10^{-4}
Cars	intercept	-0.40	-1.54,0.74	94	-0.69	0.49	
	<i>age</i>	-0.003	-0.011,0.005	94	-0.72	0.47	0.68
String instr.	intercept	-1.68	-2.59,-0.76	94	-3.63	4.69×10^{-4}	
	<i>age</i>	0.002	-0.004,0.009	94	0.72	0.47	0.68
Houses	Intercept	-0.52	-1.60,0.57	94	-0.94	0.35	
	<i>age</i>	-0.004	-0.012,0.003	94	-1.12	0.27	0.44
Corridors	intercept	-1.51	-2.87,-0.16	94	-2.22	0.03	
	<i>age</i>	-0.010	-0.020,- 3.53×10^{-4}	94	-2.06	0.04	0.12

Supplementary Table 10.

Parameters and statistics of LMMs predicting changes in selectivity by age in the developing parts of category-selective ROIs excluding adult faces, child faces, limbs and words from contrasts. Listed by figure order. Related to Fig. 3 and Extended Data Fig. 2

ROI	Contrast	parameter	β	CI	df	t	p	p_{FDR}
Emerging lh pOTS-word (n=24 subjects, n=112 sessions)	numbers	intercept	1.703	0.71,2.70	110	3.398	9.47×10^{-4}	
		age	0.006	-7.2×10^{-4} ,0.013	110	1.77	0.079	0.22
	words	intercept	0.33	-0.73,1.39	110	0.61	0.54	
		age	0.0215	0.014,0.029	110	5.89	4.18×10^{-8}	1.05×10^{-6}
	limbs	intercept	3.42	2.19,4.65	110	5.53	2.22×10^{-7}	
		age	-0.016	-0.024,-0.008	110	-3.97	1.29×10^{-4}	0.001
	bodies	intercept	1.14	-0.07,2.35	110	1.87	0.06	
		age	-0.011	-0.02,-0.003	110	-2.76	0.007	0.03
	Adult faces	intercept	-0.90	-2.11,0.31	110	-1.47	0.14	
		age	-0.005	-0.013,0.003	110	-1.16	0.25	0.53
	Child faces	intercept	-0.83	-2.32,0.65	110	-1.11	0.27	
		age	3.73×10^{-4}	-0.0095,0.01	110	0.075	0.94	0.96
	Cars	intercept	-0.54	-1.73,0.652	110	-0.898	0.37	
		age	-8.2×10^{-4}	-0.009,0.007	110	-0.199	0.84	0.96
	String instr.	intercept	-0.25	-1.38,0.88	110	-0.43	0.67	
		age	0.003	-0.004,0.011	110	0.87	0.39	0.64
	Houses	intercept	-0.42	-1.55,0.71	110	-0.74	0.46	
		age	-0.001	-0.009,0.006	110	-0.35	0.73	0.93
Corridors	intercept	-1.14	-2.41,0.12	110	-1.79	0.08		
	age	-0.005	-0.013,0.004	110	-1.10	0.27	0.544	
Waning lh OTS-limbs (n=26 subjects, n=122 sessions)	numbers	intercept	1.43	0.44,2.43	120	2.85	0.005	
		age	-0.004	-0.01,0.003	120	-1.18	0.24	0.53
	words	intercept	1.13	-0.10,2.36	120	1.81	0.07	
		age	0.002	-0.006,0.011	120	0.53	0.60	0.87
	limbs	intercept	7.28	5.98,8.58	120	11.1	4.06×10^{-20}	
		age	-0.028	-0.037,-0.019	120	-6.30	5.03×10^{-9}	2.51×10^{-7}
	bodies	intercept	3.57	2.31,4.84	120	5.60	1.41×10^{-7}	
		age	-0.01	-0.018,-0.001	120	-2.22	0.029	0.095
	Adult faces	intercept	-1.08	-2.11,-0.05	120	-2.08	0.04	
		age	0.007	-4.4×10^{-4} ,0.014	120	1.86	0.066	0.19
	Child faces	intercept	-0.089	-1.27,1.09	120	-0.15	0.88	
		age	0.004	-0.004,0.012	120	0.92	0.36	0.62
	Cars	intercept	-0.38	-1.24,0.48	120	-0.88	0.38	
		age	-0.001	-0.007,0.005	120	-0.35	0.72	0.93
	String instr.	intercept	-0.27	-1.08,0.54	120	-0.66	0.51	
		age	0.004	-0.002,0.01	120	1.39	0.17	0.41
	Houses	intercept	-1.13	-1.98,-0.28	120	-2.64	0.01	
		age	1.56×10^{-4}	-0.006,0.006	120	0.05	0.96	0.96
Corridors	intercept	-2.23	-3.17,-1.30	120	-4.73	6.25×10^{-6}		
	age	7.51×10^{-4}	-0.006,0.007	120	0.23	0.82	0.96	
Emerging lh pFus-faces	numbers	intercept	1.71	0.54,2.88	103	2.89	0.005	

(n=22 subjects, n=105 sessions)	words	age	-0.003	-0.01,0.005	103	-0.66	0.51	0.83
		intercept	1.12	-0.06,2.29	103	1.89	0.06	
	limbs	age	0.004	-0.004,0.012	103	1.06	0.29	0.54
		intercept	3.44	2.37,4.51	103	6.38	5.2x10 ⁻⁹	
	bodies	age	-0.016	-0.023,-0.009	103	-4.44	2.29x10 ⁻⁵	3.82x10 ⁻⁴
		intercept	2.02	0.89,3.15	103	3.54	5.97x10 ⁻⁴	
	Adult faces	age	-0.007	-0.015,3.23x10 ⁻⁴	103	-1.90	0.06	0.19
		intercept	0.16	-0.89,1.21	103	0.31	0.76	
	Child faces	age	0.014	0.007,0.021	103	3.78	2.67x10 ⁻⁴	0.0017
		intercept	1.1	-0.31,2.5	103	1.55	0.12	
	Cars	age	0.019	0.009,0.028	103	3.8	2.45x10 ⁻⁴	0.0017
		intercept	0.002	-1.22,1.22	103	0.003	0.997	
	String instr.	age	0.0019	-0.007,0.01	103	0.44	0.66	0.92
		intercept	-0.12	-1.25,1.01	103	-0.20	0.84	
	Houses	age	4.13x10 ⁻⁴	-0.007,0.008	103	0.11	0.92	0.96
		intercept	-1.196	-2.26,-0.14	103	-2.24	0.027	
	Corridors	age	0.004	-0.003,0.011	103	1.09	0.28	0.54
		intercept	-2.53	-3.74,-1.32	103	-4.14	7.15x10 ⁻⁵	
	Waning rh OTS-limbs (n=21 subjects, n=100 sessions)	age	0.0015	-0.007,0.0099	103	0.35	0.73	0.93
		intercept	1.31	0.16,2.46	98	2.26	0.026	
	words	age	-0.004	-0.012,0.003	98	-1.14	0.26	0.53
		intercept	-0.11	-1.295,1.08	98	-0.18	0.85	
limbs	age	0.0025	-0.006,0.01	98	0.61	0.54	0.85	
	intercept	5.19	3.87,6.51	98	7.79	7.27x10 ⁻¹²		
bodies	age	-0.013	-0.022,-0.004	98	-2.85	0.005	0.026	
	intercept	3.21	1.76,4.67	98	4.38	3.03x10 ⁻⁵		
Adult faces	age	-0.0026	-0.013,0.007	98	-0.51	0.61	0.87	
	intercept	-1.95	-3.45,-0.45	98	-2.58	0.011		
Child faces	age	0.019	0.009,0.029	98	3.68	3.9x10 ⁻⁴	0.002	
	intercept	-0.52	-2.16,1.12	98	-0.63	0.53		
Cars	age	0.015	0.004,0.026	98	2.74	0.007	0.03	
	intercept	0.20	-0.79,1.19	98	0.40	0.69		
String instr.	age	-0.005	-0.012,0.002	98	-1.53	0.13	0.34	
	intercept	-0.24	-1.03,0.55	98	-0.61	0.54		
Houses	age	1.65x10 ⁻⁴	-0.005,0.006	98	0.06	0.95	0.96	
	intercept	-0.95	-1.70,-0.20	98	-2.52	0.01		
Corridors	age	-2.7x10 ⁻⁴	-0.006,0.005	98	-0.10	0.92	0.96	
	intercept	-2.44	-3.58,-1.30	98	-4.26	4.70x10 ⁻⁵		
Emerging rh pFus-faces (n=21 subjects, n=96 sessions)	age	0.002	-0.006,0.01	98	0.53	0.60	0.87	
	intercept	1.11	0.05,2.17	94	2.09	0.04		
words	age	-0.0038	-0.011,0.004	94	-1	0.32	0.57	
	intercept	0.19	-1.07,1.45	94	0.299	0.77		
limbs	age	7.6x10 ⁻⁴	-0.008,0.01	94	0.17	0.87	0.96	
	intercept	2.7	1.62,3.78	94	4.95	3.22x10 ⁻⁶		
bodies	age	-0.0095	-0.017,-0.0018	94	-2.47	0.016	0.055	
	intercept	1.54	0.13,2.95	94	2.17	0.032		

	<i>age</i>	3.02x10 ⁻⁴	-0.009,0.01	94	0.06	0.95	0.96
Adult faces	intercept	-0.50	-1.79,0.78	94	-0.78	0.44	
	<i>age</i>	0.0195	0.01,0.029	94	4.21	5.75x10 ⁻⁵	5.75x10 ⁻⁴
Child faces	intercept	0.90	-0.44,2.23	94	1.33	0.19	
	<i>age</i>	0.02	0.011,0.03	94	4.24	5.29x10 ⁻⁵	5.75x10 ⁻⁴
Cars	intercept	0.012	-1.08,1.11	94	0.02	0.98	
	<i>age</i>	8.91x10 ⁻⁴	-0.007,0.009	94	0.23	0.82	0.96
String instr.	intercept	-1.27	-2.13,-0.4	94	-2.90	0.005	
	<i>age</i>	0.008	0.0015,0.0139	94	2.48	0.015	0.055
Houses	Intercept	-0.32	-1.36,0.72	94	-0.61	0.55	
	<i>age</i>	-6.3x10 ⁻⁴	-0.008,0.007	94	-0.17	0.87	0.96
Corridors	intercept	-1.28	-2.53,-0.03	94	-2.03	0.045	
	<i>age</i>	-0.006	-0.014,0.004	94	-1.21	0.23	0.53

Supplementary Table 11.

Parameters and statistics of LMMs predicting changes in response values by age in the developing parts of category-selective ROIs. Listed by figure order. Related to Fig. 3 and Extended Data Fig. 2.

ROI	Contrast	parameter	β	CI	df	t	p	p FDR
Emerging lh pOTS-word (n=24 subjects, n=112 sessions)	numbers	intercept	0.58	0.04,1.12	110	2.13	0.04	
		age	0.003	-2.9x10 ⁻⁴ ,0.007	110	1.82	0.07	0.17
	words	intercept	0.17	-0.42,0.76	110	0.57	0.57	
		age	0.008	0.004,0.012	110	3.82	2.24x10 ⁻⁴	0.002
	limbs	intercept	0.78	0.30,1.27	110	3.19	0.002	
		age	3.54x10 ⁻⁴	-0.003,0.004	110	0.22	0.82	0.92
	bodies	intercept	0.40	0.06,0.74	110	2.35	0.02	
		age	7.62x10 ⁻⁴	-0.001,0.003	110	0.683	0.50	0.64
	Adult faces	intercept	0.08	-0.21,0.37	110	0.55	0.58	
		age	0.002	-3.4x10 ⁻⁴ , 0.004	110	1.62	0.11	0.21
	Child faces	intercept	0.03	-0.40,0.45	110	0.13	0.90	
		age	0.003	-1.6x10 ⁻⁴ , 0.005	110	1.87	0.06	0.16
	Cars	intercept	0.08	-0.34,0.51	110	0.39	0.70	
		age	0.003	-2.4x10 ⁻⁴ , 0.005	110	1.81	0.07	0.17
	String instr.	intercept	0.11	-0.25,0.48	110	0.61	0.54	
		age	0.004	0.001,0.006	110	2.98	0.004	0.025
	Houses	intercept	0.26	-0.26,0.79	110	1.00	0.32	
		age	0.002	-0.002,0.006	110	1.12	0.27	0.39
Corridors	intercept	0.27	-0.06,0.59	110	1.62	0.11		
	age	1.18x10 ⁻⁴	-0.002,0.002	110	0.11	0.92	0.97	
Waning lh OTS-limbs (n=26 subjects, n=122 sessions)	numbers	intercept	0.40	0.10,0.70	120	2.61	0.01	
		age	1.93x10 ⁻⁴	-0.002,0.002	120	0.19	0.85	0.93
	words	intercept	0.34	-0.02,0.69	120	1.86	0.06	
		age	0.002	-5.9x10 ⁻⁴ , 0.004	120	1.50	0.14	0.25
	limbs	intercept	1.76	1.40,2.11	120	9.74	7.04x10 ⁻¹⁷	
		age	-0.005	-0.008,-0.003	120	-4.47	1.81x10 ⁻⁵	2.26x10 ⁻⁴
	bodies	intercept	0.62	0.39,0.85	120	5.34	4.49x10 ⁻⁷	
		age	-2.99x10 ⁻⁵	-0.002,0.002	120	-0.04	0.97	0.97
	Adult faces	intercept	-0.02	-0.22,0.18	120	-0.17	0.86	
		age	0.002	4.6x10 ⁻⁴ , 0.003	120	2.64	0.01	0.043
	Child faces	intercept	0.12	-0.19,0.44	120	0.77	0.45	
		age	0.002	-3.4x10 ⁻⁴ , 0.004	120	1.67	0.10	0.20
	Cars	intercept	-0.01	-0.29,0.26	120	-0.09	0.93	
		age	0.001	-6.4x10 ⁻⁴ ,0.003	120	1.32	0.19	0.30
	String instr.	intercept	0.11	-0.09,0.31	120	1.06	0.29	
		age	0.002	1.2x10 ⁻⁴ , 0.003	120	2.15	0.03	0.11
	Houses	intercept	-0.049	-0.31,0.21	120	-0.37	0.71	
		age	0.001	-6.4x10 ⁻⁴ ,0.003	120	1.29	0.20	0.31
Corridors	intercept	-0.18	-0.41,0.04	120	-1.61	0.11		
	age	7.14x10 ⁻⁴	-8.6x10 ⁻⁴ , 0.002	120	0.90	0.37	0.51	
Emerging lh pFus-faces	numbers	intercept	-0.02	-0.61,0.57	103	-0.07	0.95	
		age	0.004	3.8x10 ⁻⁴ , 0.009	103	2.2	0.03	0.11

(n=22 subjects, n=105 sessions)	words	intercept	-0.06	-0.63,0.51	103	-0.21	0.83		
		age	0.006	0.002,0.01	103	2.78	0.006	0.04	
	limbs	intercept	0.49	-0.02,0.99	103	1.91	0.06		
		age	0.001	-0.003,0.005	103	0.57	0.57	0.71	
	bodies	intercept	0.13	-0.25,0.51	103	0.66	0.51		
		age	0.003	3.5x10 ⁻⁴ , 0.006	103	2.25	0.03	0.1	
	Adult faces	intercept	-0.12	-0.46,0.22	103	-0.69	0.49		
		age	0.006	0.004,0.009	103	5.33	5.92x10 ⁻⁷	1.48x10 ⁻⁵	
	Child faces	intercept	-0.30	-0.84,0.25	103	-1.08	0.28		
		age	0.011	0.007,0.015	103	5.79	7.74x10 ⁻⁸	3.87x10 ⁻⁶	
	Cars	intercept	0.02	-0.36,0.40	103	0.11	0.91		
		age	0.003	5.1x10 ⁻⁴ , 0.006	103	2.36	0.02	0.08	
	String instr.	intercept	-0.07	-0.42,0.28	103	-0.41	0.69		
		age	0.003	7.7x10 ⁻⁴ , 0.006	103	2.62	0.01	0.04	
	Houses	Intercept	-0.29	-0.94,0.36	103	-0.88	0.38		
		age	0.005	-7.3x10 ⁻⁵ , 0.009	103	1.95	0.05	0.15	
	Corridors	intercept	-0.30	-0.72,0.11	103	-1.46	0.15		
		age	0.003	-4.0x10 ⁻⁴ , 0.005	103	1.71	0.09	0.19	
	Waning rh OTS-limbs (n=21 subjects, n=100 sessions)	numbers	intercept	0.78	0.33,1.23	98	3.41	9.51x10 ⁻⁴	
			age	-0.002	-0.005,9.8x10 ⁻⁴	98	-1.34	0.18	0.30
words		intercept	0.47	0.04,0.90	98	2.17	0.03		
		age	-5.53x10 ⁻⁴	-0.003,0.002	98	-0.38	0.70	0.84	
limbs		intercept	1.88	1.34,2.42	98	6.90	5.13x10 ⁻¹⁰		
		age	-0.006	-0.009,-0.002	98	-2.95	0.004	0.025	
bodies		intercept	1.01	0.65,1.38	98	5.51	2.91x10 ⁻⁷		
		age	-0.001	-0.004,0.001	98	-1.09	0.28	0.39	
Adult faces		intercept	0.11	-0.19,0.41	98	0.72	0.47		
		age	0.003	6.4x10 ⁻⁴ ,0.005	98	2.62	0.01	0.04	
Child faces		intercept	0.34	-0.12,0.80	98	1.47	0.14		
		age	0.003	-2.3x10 ⁻⁵ ,0.006	98	1.97	0.05	0.15	
Cars		intercept	0.32	-0.01, 0.65	98	1.90	0.06		
		age	-4.05x10 ⁻⁴	-0.003,0.002	98	-0.35	0.72	0.84	
String instr.		intercept	0.43	0.14,0.72	98	2.94	0.004		
		age	-8.54x10 ⁻⁴	-0.003,0.001	98	-0.86	0.39	0.53	
Houses		Intercept	0.46	0.08,0.85	98	2.40	0.02		
		age	-0.002	-0.004,9.6x10 ⁻⁴	98	-1.26	0.21	0.32	
Corridors		intercept	0.24	-0.05,0.54	98	1.63	0.11		
		age	-0.002	-0.004,1.3x10 ⁻⁴	98	-1.86	0.07	0.16	
Emerging rh pFus-faces (n=21 subjects, n=96 sessions)	numbers	intercept	0.74	0.26,1.22	94	3.08	0.003		
		age	-8.03x10 ⁻⁴	-0.004,0.003	94	-0.47	0.64	0.78	
	words	intercept	0.52	0.016,1.03	94	2.05	0.04		
		age	1.18x10 ⁻⁴	-0.004,0.004	94	0.07	0.95	0.97	
	limbs	intercept	1.18	0.70,1.66	94	4.91	3.85x10 ⁻⁶		
		age	-0.003	-0.006,6.8x10 ⁻⁴	94	-1.59	0.12	0.21	
	bodies	intercept	0.77	0.34,1.20	94	3.52	6.61x10 ⁻⁴		
		age	1.07x10 ⁻⁴	-0.003,0.003	94	0.07	0.94	0.97	

Adult faces	intercept	0.28	-0.09,0.65	94	1.48	0.14	
	<i>age</i>	0.005	0.002,0.008	94	3.68	3.92×10^{-4}	0.003
Child faces	intercept	0.45	-0.03,0.92	94	1.87	0.06	
	<i>age</i>	0.008	0.005,0.011	94	4.75	7.42×10^{-6}	1.24×10^{-4}
Cars	intercept	0.39	-0.02,0.80	94	1.87	0.06	
	<i>age</i>	0.001	-0.002,0.004	94	0.76	0.45	0.59
String instr.	intercept	0.19	-0.10,0.48	94	1.27	0.21	
	<i>age</i>	0.002	-2.8×10^{-4} ,0.004	94	1.72	0.09	0.19
Houses	Intercept	0.56	0.03,1.10	94	2.09	0.04	
	<i>age</i>	-4.67×10^{-4}	-0.004,0.003	94	-0.24	0.81	0.92
Corridors	intercept	0.45	-0.08,1.0	94	1.70	0.09	
	<i>age</i>	-0.003	-0.006,0.001	94	-1.39	0.17	0.29

Supplementary Table 12.

Likelihood ratio tests determining if the selectivity of the dependent variable is better predicted by one or two predictors. Listed by figure order. Related to Fig. 4 and Extended Data Fig. 3.

ROI	No.	Model	df	LRStat	<i>p</i>
Emerging left pOTS-words	1	Words ~ limbs + (1 subj)	4		
	2	Words ~ limbs + faces + (1 subj)	5	26.3	2.92x10 ⁻⁷
Waning left OTS-limbs	1	Limbs ~ faces + (1 subj)	4		
	2	Limbs ~ faces + words (1 subj)	5	4.76	0.029
Emerging left pFus-faces	1	Faces ~ limbs + (1 subj)	4		
	2	Faces ~ limbs + words + (1 subj)	5	6.23	0.013
Waning right OTS-limbs	1	Limbs ~ faces + (1 subj)	4		
	2	Limbs ~ faces + words (1 subj)	5	5.03	0.025
Emerging right pFus-faces	1	Faces ~ limbs + (1 subj)	4		
	2	Faces ~ limbs + words + (1 subj)	5	17.45	2.95x10 ⁻⁵

Supplementary Table 13.

Parameters and statistics of LMMs testing if selectivity to faces, words and limbs is linked in the developing parts of category-selective ROIs. Listed by figure order. Related to Fig. 4 and Extended Data Fig. 3.

ROI	parameter	β	CI	df	t	p
Emerging left pOTS-words (n=24 subjects, n=112 sessions)	Intercept	3.18	2.80,3.56	109	16.64	1.081×10^{-31}
	limbs	-0.48	-0.64,-0.31	109	-5.78	7.267×10^{-8}
	faces	-0.36	-0.49,-0.23	109	-5.44	3.236×10^{-7}
Waning left OTS-limbs (n=26 subjects, n=122 sessions)	Intercept	3.28	2.89,3.68	119	16.43	2.23×10^{-32}
	words	-0.21	-0.40,-0.02	119	-2.20	0.030
	faces	-0.32	-0.49,-0.15	119	-3.67	0.0004
Emerging left pFus-faces (n=22 subjects, n=105 sessions)	Intercept	4.05	3.57,4.54	102	16.57	1.066×10^{-30}
	words	-0.33	-0.58,-0.07	102	-2.54	0.013
	limbs	-0.47	-0.73,-0.21	102	-3.61	0.0005
Waning right OTS-limbs (n=21 subjects, n=100 sessions)	Intercept	3.24	2.90,3.59	97	18.77	4.59×10^{-34}
	words	-0.24	-0.46,-0.03	97	-2.28	0.025
	faces	-0.32	-0.45,-0.19	97	-4.80	5.74×10^{-6}
Emerging right pFus-faces (n= 21 subjects, n=96 sessions)	Intercept	3.81	3.27,4.36	93	13.90	1.97×10^{-24}
	words	-0.58	-0.84,-0.32	93	-4.38	3.16×10^{-5}
	limbs	-0.46	-0.81,-0.12	93	-2.68	0.009

Supplementary Table 14.

Mean t-values of predictor values and predicted values of dependent variables in the developing parts of category-selective ROIs. Listed by figure order. Related to Fig. 4 and Extended Data Fig. 3.

ROI and n per group	Predictor variables (PV)	Mean selectivity (t) of PV in 5-9yo, (SD)	Mean selectivity (t) of PV in 13-17yo, (SD)	Dependent variable (DV)	Predicted selectivity (t) of DV for 5-9yo	Predicted selectivity (t) of DV for 13-17yo
Emerging left pOTS-words (5-9yo: n=12; 13-17yo: n=13)	limbs	2.20 (1.28)	0.26 (0.95)	words	2.77	4.01
	faces	-1.76 (1.35)	-2.65 (2.11)			
Waning left OTS-limbs (5-9yo: n=15; 13-17yo: n=12)	faces	-1.23 (1.52)	-0.62 (1.85)	limbs	3.54	3.21
	words	0.63 (1.40)	1.27 (1.22)			
Emerging left pFus-faces (5-9yo: n=13; 13-17yo: n=11)	limbs	1.78 (0.89)	-0.82 (0.86)	faces	2.91	4.15
	words	0.95 (1.17)	0.88 (1.29)			
Waning right OTS-limbs (5-9yo: n=12; 13-17yo: n=10)	faces	0.23 (2.43)	1.18 (3.35)	limbs	3.31	2.98
	words	-0.56 (1.20)	-0.47 (1.25)			
Emerging right pFus-faces (5-9yo: n=12; 13-17yo: n=8)	limbs	1.50 (0.97)	-0.14 (1.13)	faces	3.34	4.13
	words	-0.39 (1.54)	-0.45 (1.57)			

Supplementary Table 15.

Parameters and statistics of LMMs predicting changes in selectivity by age for different contrasts in developing parts of ROIs. Listed by figure order.

ROI	Contrast	parameter	β	CI	df	t	ρ	ρ FDR
Emerging lh pOTS-word (n=24 subjects, n=112 sessions)	Words vs Faces	Intercept	0.07	-1.52,1.65	110	0.08	0.93	0.98
		age	0.026	0.016,0.037	110	4.86	3.9×10^{-6}	6.4×10^{-6}
	Words vs Limbs	Intercept	-3.44	-4.79,-2.1	110	-5.06	1.7×10^{-6}	3.02×10^{-6}
		age	0.03	0.025,0.04	110	7.5	1.8×10^{-11}	1.2×10^{-10}
Waning lh OTS-limbs (n=26 subjects, n=122 sessions)	Limbs vs Faces	Intercept	6.47	5.15,7.79	120	9.68	9.8×10^{-17}	1.95×10^{-15}
		age	-0.027	-0.036,-0.018	120	-5.92	3.13×10^{-8}	8.9×10^{-8}
	Limbs vs Words	Intercept	4.81	3.53,6.09	120	7.45	1.56×10^{-11}	1.19×10^{-10}
		age	-0.02	-0.03,-0.015	120	-5.5	2.16×10^{-7}	4.3×10^{-7}
Emerging lh pFus-faces (n=22 subjects, n=105 sessions)	Faces vs Limbs	Intercept	-2.56	-3.74,-1.39	103	-4.33	3.5×10^{-5}	5.4×10^{-5}
		age	0.029	0.021,0.037	103	7.19	1.08×10^{-10}	4.34×10^{-10}
	Faces vs Words	Intercept	-0.01	-1.35,1.33	103	-0.02	0.99	0.99
		age	0.008	-0.001,0.017	103	1.74	0.08	0.099
Waning rh OTS-limbs (n=21 subjects, n=100 sessions)	Limbs vs Faces	Intercept	6.3	4.63,7.98	98	7.46	3.6×10^{-11}	1.8×10^{-10}
		age	-0.03	-0.04,-0.02	98	-5.7	1.17×10^{-7}	2.59×10^{-7}
	Limbs vs Words	Intercept	4.5	3.23,5.76	98	7.06	2.4×10^{-10}	7.9×10^{-10}
		age	-0.016	-0.025,-0.007	98	-3.61	0.0005	6.9×10^{-4}
Emerging rh pFus-faces (n= 21 subjects, n=96 sessions)	Faces vs Limbs	Intercept	-1.65	-2.68,-0.62	94	-3.19	0.002	0.0026
		age	0.022	0.015,0.029	94	5.94	4.8×10^{-8}	1.19×10^{-7}
	Faces vs Words	Intercept	0.18	-1.52,1.88	94	0.21	0.83	0.92
		age	0.017	0.005,0.029	94	2.75	0.007	0.009