

Supplementary Table 1. Means and standard deviations (in brackets) for demographic background variables and neuropsychological performance in monolingual and bilingual older adults

	Monolingual	Bilingual
Sample size	14	14
Age	70.6 (3.1)	70.3 (3.8)
Gender distribution	7 males, 7 females	6 males, 8 females
Years of education	16.0 (2.8)	17.7 (2.1)
Weekly hours spent using a computer	8.5 (7.4)	10.7 (8.2)
MMSE – short form (out of 17)	16.9 (0.4)	17 (0)
Dominant language in the past 10 years	English	English
Shipley (English vocabulary)	88% (8%)	84% (13%)
Verbal fluency		
Letter fluency	13.6 (4.0)	15.8 (5.8)
Category fluency	18.4 (3.3)	19.8 (3.1)
Design fluency		
Baseline	10.9 (3.0)	10.5 (4.4)
Empty dots only	11.4 (2.6)	10.9 (3.4)
Switching	7.2 (3.0)	8.1 (2.5)
Stroop response time		
Baseline	23.7 (5.6)	24.7 (4.6)
Interference	37.8 (10.2)	37.8 (9.0)
Negative Priming	38.1 (13.2)	35.7 (7.4)
Habituation	30.3 (8.3)	32.3 (6.3)
Trail-making response time		
Numbers only	29.2 (10.8)	29.0 (10.9)
Letters only	30.0 (8.2)	28.9 (12.5)
Switching	70.9 (21.8)	64.5 (21.5)

Supplementary Table 2. Language background variables for monolingual and bilingual older adults

	Monolingual	Bilingual
% born in Canada	86%	42.9%
Non-Canadian birthplace	England, Trinidad	France, Hungary, Estonia, Zimbabwe, Morocco, Romania, Germany, Poland
Language(s) spoken	English	English + French, Hungarian, Hebrew, Estonian, Shona, Yiddish, Bulgarian, Russian, Ukranian
Age started daily bilingual usage	--	ranges from birth to 11 years of age
Self-rated proficiency for English	--	97%
Self-rated proficiency for non-English language	--	96%

Supplementary Table 3. Brain regions showing correlating activity with seed voxel in left inferior frontal gyrus.

Region	BA	MNI coordinates			Ratio
		X	Y	Z	
<i>Regions associated with negative bootstrap ratios</i>					
Left inferior frontal gyrus	44	-52	16	8	-3.4
Left insula	13	-40	-20	24	-3.9
Left inferior frontal gyrus	47	-36	32	-12	-1661.3
Left claustrum	-	-32	0	-8	-4.0
Left cingulate gyrus	24	-8	0	52	-5.4
Left paracentral lobule	31	-4	-16	48	-3.5
Right thalamus	-	4	-8	16	-3.75
Right superior frontal gyrus	6	8	32	52	-4.6
Right inferior frontal gyrus	47	36	20	-12	-4.1
Right inferior temporal gyrus	20	56	-16	-32	-4.4
Right middle frontal gyrus	6	40	16	40	-3.9
Right precentral gyrus	6	52	-4	4	-3.5
<i>Regions associated with positive bootstrap ratios</i>					
Left middle temporal gyrus	39	-56	-60	16	4.0
Left supramarginal gyrus	40	-56	-48	32	3.6
Left cerebellum tonsil	-	-44	-68	-44	3.9
Left caudate	-	-16	24	4	4.5
Midline anterior cingulate gyrus	24	0	28	-4	3.8
Right precuneus	31	4	-68	28	6.5
Right superior frontal gyrus	6	12	12	60	4.9
Right superior frontal gyrus	10	24	60	-4	4.1
Right insula	13	40	-36	28	7.3
Right inferior occipital gyrus	19	52	-72	-4	3.9
Right middle temporal gyrus	21	64	-56	0	5.0
Right postcentral gyrus	2	64	-16	28	4.5
Right middle temporal gyrus	21	68	-16	-16	4.2

Supplementary Table 4. Brain regions showing correlating activity with seed voxel in right inferior frontal gyrus.

Region	BA	MNI coordinates			Ratio
		X	Y	Z	
<i>Regions associated with negative bootstrap ratios</i>					
Left inferior frontal gyrus	47	-40	28	-16	-4.4
Left putamen	-	-20	16	-4	-5.3
Left superior frontal gyrus	6	-8	32	56	-5.3
Left superior frontal gyrus	8	-8	48	40	-4.3
Midbrain	-	0	-16	-8	-3.5
Right medial frontal gyrus	9	4	48	24	-4.5
Right caudate	-	8	4	12	-5.1
Right precentral gyrus	9	36	12	36	-3.8
Right inferior frontal gyrus	47	40	32	-12	-566.2
Right middle frontal gyrus	46	40	28	20	-4.0
Right parahippocampus	36	44	-24	-24	-4.6
Right middle temporal gyrus	21	64	-20	-16	-3.6
<i>Regions associated with positive bootstrap ratios</i>					
Left cerebellum	-	-12	-72	-48	4.3
Left inferior parietal lobule	40	-60	-28	28	4.2
Left postcentral gyrus	2	-44	-24	40	4.1
Left cingulate gyrus	24	-8	4	32	3.8
Left precentral gyrus	42	-64	-8	12	3.4
Left cingulate gyrus	23	-8	-20	28	3.2
Right cuneus	18	8	-96	12	6.9
Right cingulate gyrus	23	12	-16	28	4.7
Right caudate	-	12	24	-12	4.6
Right cerebellum	-	16	-44	-52	4.3
Right postcentral gyrus	43	56	-12	12	3.8