Supplementary Table 1. Between-language PS in each modality

| Anatomical Region                  | H | BA | Voxels | x   | y   | z   | Z  |
|------------------------------------|---|----|--------|-----|-----|-----|----|
| **Auditory**                       |   |    |        |     |     |     |    |
| **Korean-Chinese**                 |   |    |        |     |     |     |    |
| Superior temporal gyrus            | R | 41 | 2930   | 60  | -18 | 6   | inf|
|                                    | L | 22 | 5098   | -63 | -15 | 6   | inf|
| Posterior cingulate                | L | 23 | 551    | -3  | -66 | 12  | 7.03|
| Middle frontal gyrus               | R | 9  | 120    | 45  | 12  | 30  | 6.76|
| Lingual gyrus                      | L | 19 | 36     | -18 | -60 | -9  | 6.16|
| **Korean-English**                 |   |    |        |     |     |     |    |
| Superior temporal gyrus            | L | 42 | 4818   | -66 | -27 | 12  | inf|
|                                    | R | 22 | 2163   | 57  | -18 | 0   | inf|
| Superior frontal gyrus             | L | 6  | 516    | -3  | 12  | 63  | 7.45|
| Posterior cingulate                | R | 29 | 161    | 9   | -51 | 6   | 6.55|
| Superior frontal gyrus             | L | 10 | 61     | -27 | 57  | 6   | 5.78|
|                                    | R | 10 | 23     | 27  | 60  | 0   | 5.57|
| Precuneus                          | R | 19 | 74     | 36  | -78 | 39  | 5.50|
| Precentral gyrus                   | R | 6  | 74     | 48  | -3  | 54  | 5.31|
| **Chinese-English**                |   |    |        |     |     |     |    |
| Superior temporal gyrus            | L/R| 22 | 11939  | 63  | -9  | 3   | inf|
| Superior frontal gyrus             | L  | 8  | 532    | -3  | 21  | 57  | inf|
| Inferior frontal gyrus             | R  | 9  | 257    | 54  | 9   | 38  | 6.99|
|                                    | R  | 46 | 66     | 45  | 39  | 15  | 6.37|
| Superior frontal gyrus             | L  | 8  | 70     | -27 | 39  | 48  | 6.25|
| **Visual**                         |   |    |        |     |     |     |    |
| **Korean-Chinese**                 |   |    |        |     |     |     |    |
| Middle occipital gyrus             | L/R| 19 | 8099   | -51 | -75 | 0   | inf|
| Middle frontal gyrus               | L  | 9  | 1652   | -48 | 15  | 33  | inf|
|                                    | R  | 9  | 365    | 48  | 12  | 30  | 6.40|
| Cingulate gyrus                    | R  | 31 | 46     | 3   | -39 | 33  | 6.28|
| Middle temporal gyrus              | R  | 21 | 82     | 60  | -33 | -6  | 5.89|
| **Korean-English**                 |   |    |        |     |     |     |    |
| Inferior frontal gyrus             | L  | 9  | 560    | -51 | 6   | 33  | 7.80|
| Inferior parietal lobule           | L  | 40 | 246    | -48 | -39 | 45  | 5.67|
| **Chinese-English**                |   |    |        |     |     |     |    |
| Middle/Superior frontal gyrus      | L  | 9  | 11874  | -54 | 18  | 30  | Inf|
| Inferior frontal gyrus             | R  | 9  | 1427   | 48  | 9   | 30  | inf|
| Cuneus                             | L  | 19 | 33     | -12 | -87 | 21  | 6.13|
|                                    | L  | 18 | 30     | -3  | -93 | 15  | 5.99|
Supplementary Table 2. Between-modality PS in each language

| Anatomical Region                  | H | BA  | Voxels | x   | y   | z   | Z   |
|------------------------------------|---|-----|--------|-----|-----|-----|-----|
| **Korean**                         |   |     |        |     |     |     |     |
| Inferior frontal gyrus             | L | 9   | 7516   | -51 | 6   | 33  | inf |
| Middle temporal gyrus              | R | 21  | 1454   | 51  | -57 | 3   | 5.24|
| Middle frontal gyrus               | R | 6   | 606    | 48  | 0   | 42  | 4.79|
| Middle occipital gyrus             | R | 18  | 59     | 24  | -96 | 0   | 4.40|
| Superior frontal gyrus             | R | 8   | 41     | 21  | 45  | 48  | 3.88|
| **Chinese**                        |   |     |        |     |     |     |     |
| Inferior/Middle frontal gyrus      | L | 9   | 2170   | -51 | 18  | 30  | inf |
| Inferior parietal lobule           | L | 40  | 1161   | -57 | -36 | 39  | 7.68|
|                                   | R | 40  | 440    | 42  | -66 | 39  | 6.48|
| Middle frontal gyrus               | R | 8   | 304    | 39  | 27  | 48  | 5.91|
|                                   | R | 46  | 110    | 54  | 36  | 18  | 5.86|
|                                   | R | 10  | 38     | 36  | 57  | 0   | 5.42|
| **English**                       |   |     |        |     |     |     |     |
| Inferior frontal gyrus             | L | 44/46| 2069   | -54 | 12  | 12  | 7.11|
| Middle temporal gyrus              | L | 21  | 1217   | -54 | -57 | 3   | 6.79|
|                                   | R | 21  | 36     | 60  | -48 | -6  | 6.07|
| Superior temporal gyrus            | R | 22  | 224    | 63  | -42 | 18  | 6.42|
| Cingulate gyrus                    | L | 31  | 164    | -6  | -39 | 39  | 5.89|
| Precuneus                          | L | 19  | 68     | -3  | -75 | 39  | 5.46|
| Posterior cingulate                | R | 29  | 23     | 9   | -54 | 6   | 5.25|
Supplementary Table 3. Conjunction analysis of between-language PS in the two modalities

| Anatomical Region          | H  | BA  | Voxels | x   | y   | z   | Z   |
|----------------------------|----|-----|--------|-----|-----|-----|-----|
| **Conjunction analysis between the visual and auditory modality** |    |     |        |     |     |     |     |
| **Korean-Chinese**         |    |     |        |     |     |     |     |
| Middle frontal gyrus       | L  | 9   | 1416   | -48 | 15  | 33  | inf |
| Middle occipital gyrus     | L  | 37  | 5247   | -54 | -72 | 0   | inf |
| Inferior frontal gyrus     | R  | 9   | 280    | 48  | 12  | 30  | 6.39|
| Middle temporal gyrus      | R  | 21  | 74     | 60  | -33 | -6  | 5.89|
| Cingulate gyrus            | R  | 31  | 36     | 6   | -39 | 33  | 5.84|
| **Korean-English**         |    |     |        |     |     |     |     |
| Inferior frontal gyrus     | L  | 9   | 558    | -51 | 6   | 33  | 7.69|
| Superior parietal lobule   | L  | 7   | 81     | -27 | -57 | 48  | 5.67|
| Inferior parietal lobule   | L  | 40  | 51     | -54 | -42 | 51  | 5.55|
| **Chinese-English**        |    |     |        |     |     |     |     |
| Middle frontal gyrus       | L  | 9   | 12560  | -54 | 18  | 30  | Inf |
| Superior frontal gyrus     | L  | 8   | 794    | -3  | 21  | 57  | inf |
| Inferior frontal gyrus     | R  | 9   | 845    | 54  | 9   | 36  | 6.99|
Supplementary Figure 1. Language-Similarity: (a) Auditory, (b) Visual, (c) Conjunction between the modalities
Supplementary Figure 2. Modality-similarity in each language