**Supplemental Text S1.**

**Gradients components**

The primary-to-transmodal functional gradient explained 30.5 ± 5.2% of the total connectivity variance (schizophrenia: 30.3 ± 5.3%; controls: 30.7 ± 5.2%). For the primary-to-transmodal morphological similarity gradient (MSN), 25.2 ± 2.3% of the total variance was explained (schizophrenia: 25.6 ± 3.0%; controls: 24.6 ± 1.1%). The first two gradients were selected for analysis due to their ability to capture a significant number of variances while minimizing the number of components involved.

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| 2a | 2b |

Fig S1. Fragmentation map. (A)Functional gradient of the fragmentation map. (B) Morphological similarity gradients of the fragmentation map.

**Comparison of morphological** **similarity gradients**

Significant differences were found between schizophrenic patients and controls on the morphological similarity gradient. In terms of the primary gradient of the functional gradient, the sensorimotor network (t=2.697, p<0.05) in schizophrenic patients showed lower gradient scores compared to controls. In terms of the secondary gradient of the morphological similarity gradient, the visual network (t=-4.554, p<0.05) in schizophrenics showed higher gradient scores compared to controls.

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| 图表, 雷达图  描述已自动生成 |

Fig S2. Radar-plots showing the Yeo-network profile of each group-level mean morphological similarity gradient. (A)Relative to controls, individuals with schizophrenia exhibited reduced scores on the morphological similarity principal gradient within the sensorimotor network. (B)Comparing with controls, individuals with schizophrenic demonstrated higher scores on the morphological similarity secondary gradient within the visual network.