**SUPPLEMENTARY MATERIAL**

**Altered functional connectivity in the fear network of**

**firefighters with repeated traumatic stress**

Hyeonseok Jeong\*, Shinwon Park, Stephen R. Dager, Soo Mee Lim, Suji L. Lee, Haejin Hong, Jiyoung Ma, Eunji Ha, Young Sun Hong, Ilhyang Kang, Eun Hee Lee, Sujung Yoon, Jieun E. Kim,Jungyoon Kim, In Kyoon Lyoo\*

\*Co-corresponding authors: inkylyoo@ewha.ac.kr (IKL) and hsjeong@catholic.ac.kr (HJ)

**Supplementary Results**

The results from the multiple linear regression analysis remain unchanged even when the frequency of dispatches per week was included as an additional covariate. The model included the IES-R score as the dependent variable and the three connectivity measures (insula – bilateral amygdalae, left insula – bilateral hippocampi, and left insula – vmPFC) as independent variables, while adjusting for age, sex, and weekly number of dispatches. Functional connectivity between the bilateral insula and bilateral amygdalae (*β* = 0.34, *P* = 0.01) showed a positive association with the IES-R scores, whereas connectivity between the left insula and vmPFC (*β* = -0.28, *P* = 0.01) was negatively correlated with the IES-R scores.

 The functional connectivity value between the left insula and vmPFC was subtracted from that of the insula and amygdalae connection. This connectivity difference showed a positive correlation with the IES-R score after adjusting for age, sex, and weekly number of dispatches (*β* = 0.34, *P* = 0.002).