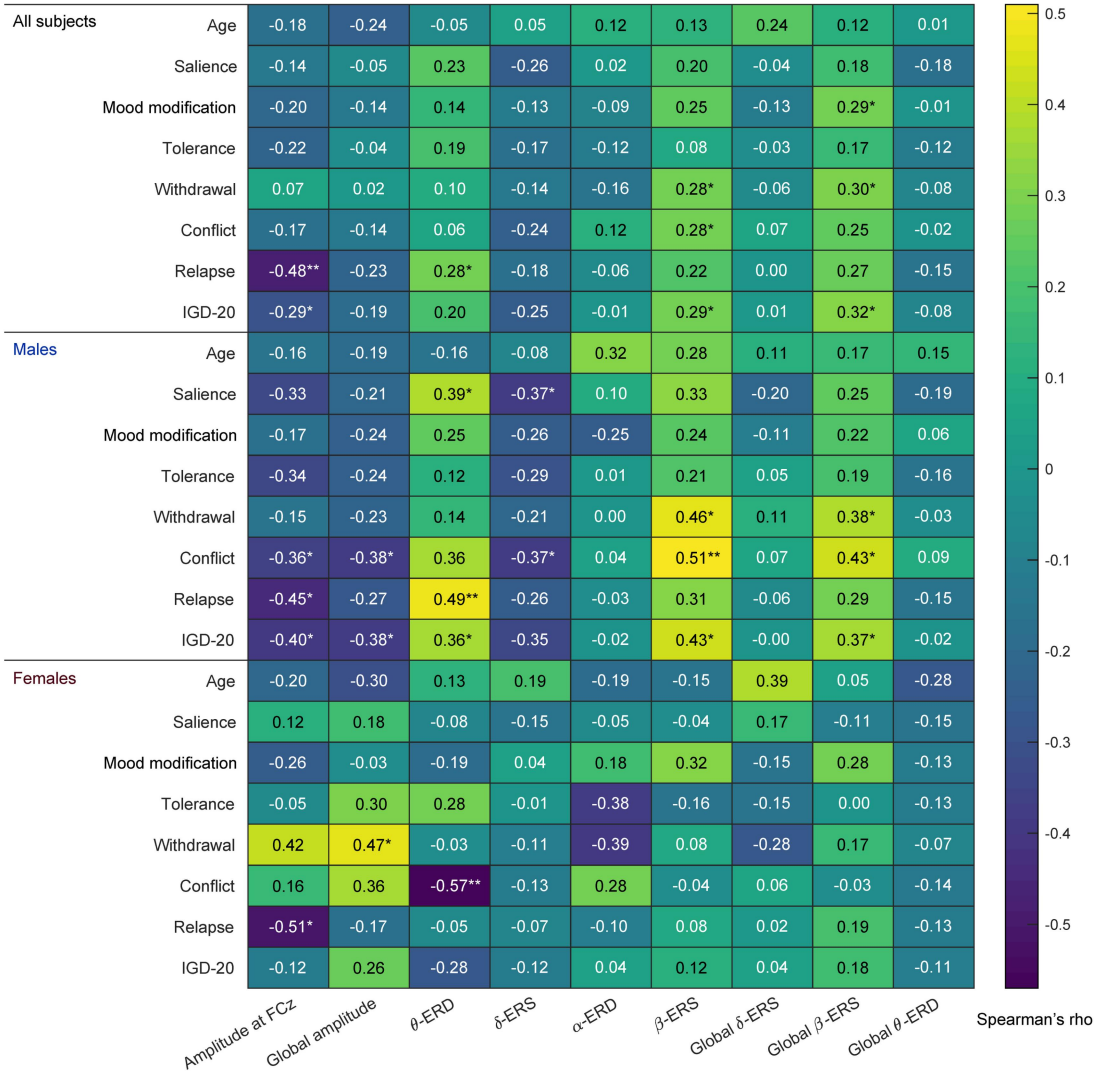

Figure S1. Correlation analysis between neural responses post-death and psychological traits related to addiction. Correlations indicated by Spearman's rho, *p<0.05, **p<0.01, ***p<0.001.

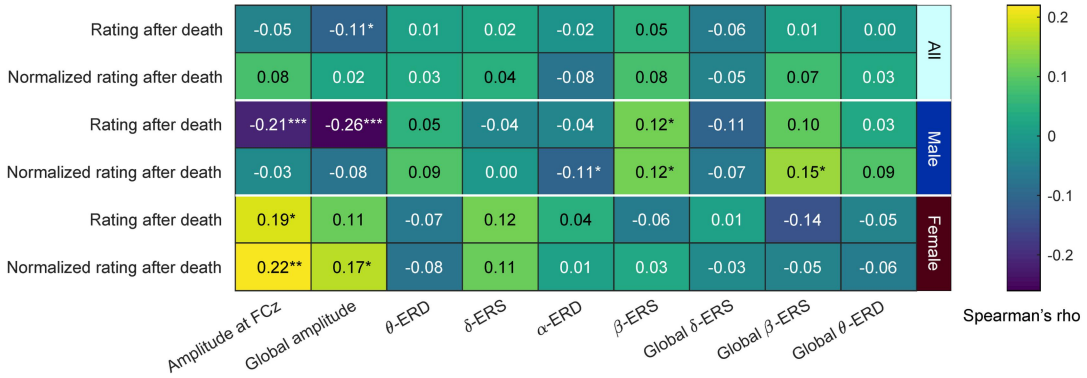

Figure S2. Single-trial analysis of neural responses post-death and subjective unpleasant experience. Correlations indicated by Spearman's rho, *p<0.05, **p<0.01, ***p<0.001.

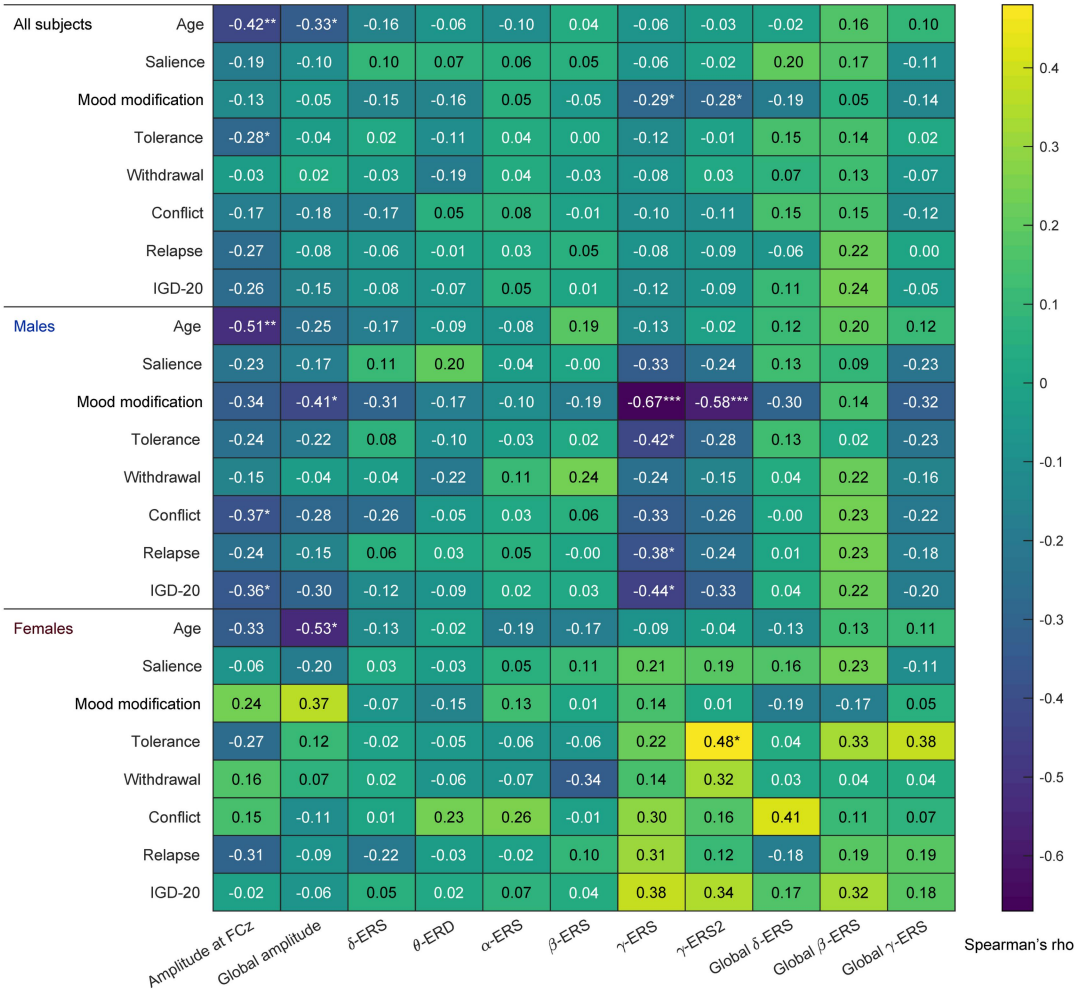

Figure S3. Correlation analysis between neural responses post-kill and psychological traits related to addiction. Correlations indicated by Spearman's rho, *p<0.05, **p<0.01, ***p<0.001.

Figure S4. Single-trial analysis of neural responses post-kill and subjective pleasant experience. Correlations indicated by Spearman's rho, *p<0.05, **p<0.01, ***p<0.001.

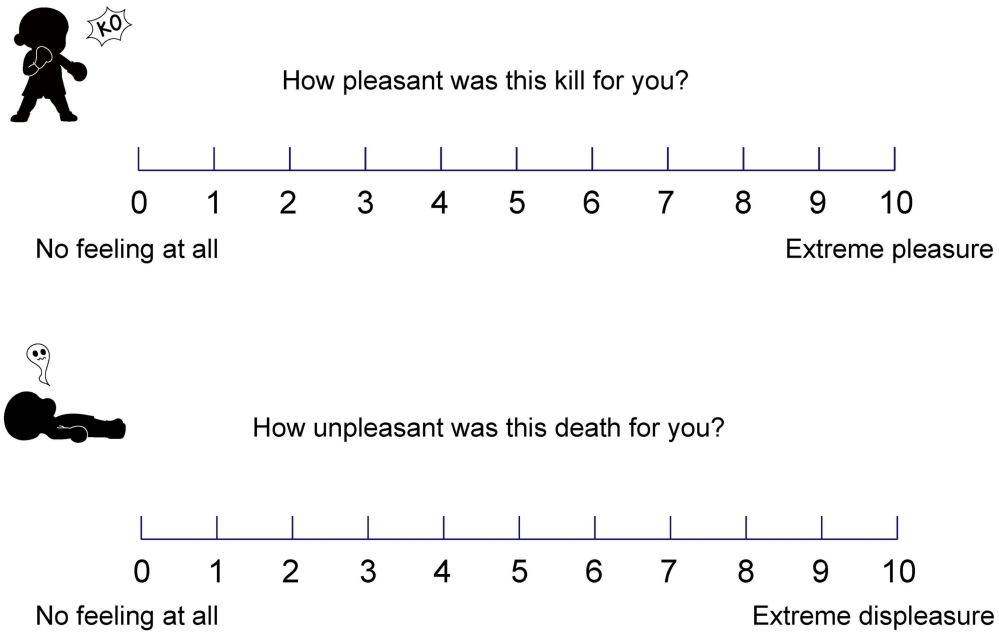

Figure S5. Subjective pleasant rating after in-game kill and subjective unpleasant rating after in-game death.

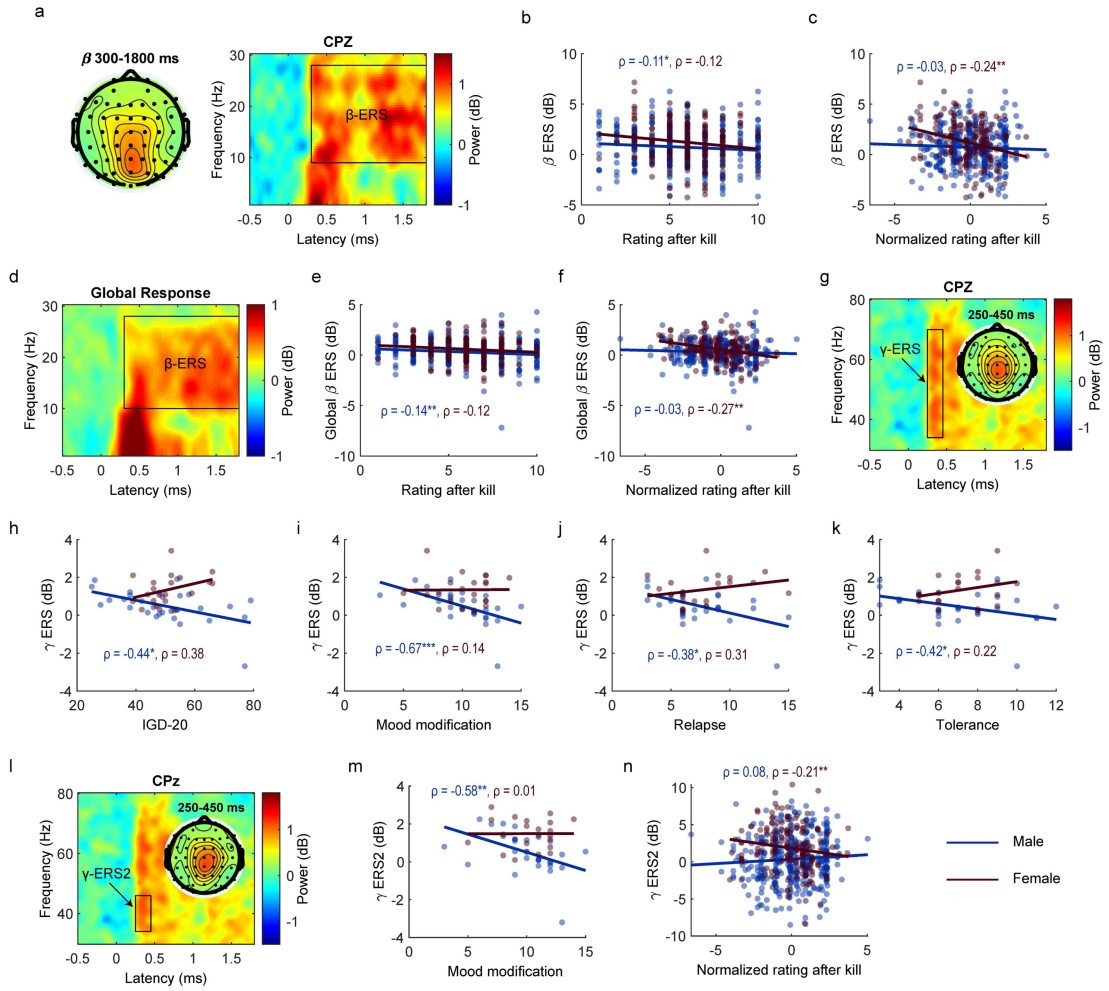

Figure S6. Neural oscillations and their correlation analysis after kills in real games. (a) Beta-ERS post-kill; (b-c) Correlations between beta-ERS and subjective reward experience post-kill; (d) Average whole-brain response of beta-ERS post-kill; (e-f) Correlations between average whole-brain beta-ERS and subjective reward experience post-kill; (g) Gamma-ERS post-kill; (h-k) Correlations between gamma-ERS and psychological traits related to game addiction post-kill; (i) Second ROI of gamma-ERS post-kill; (m-n) Correlations between the second ROI of gamma-ERS and emotion, normalized subjective reward experience post-kill. Correlations indicated by Spearman's rho, *p<0.05, **p<0.01, ***p<0.001.