**For typesetting--Supplementary Figure 1-CMJ-2021-2916**

**Supplementary Figure 1:** Microbial community barplot and community difference analysis on phylum level of HC and AN groups. (A) Community barplot analysis of the two groups. Species which have <1% proportion were merged into others. (B) Difference analysis (rank-sum test) bar plot shows the top four microbiota in the two groups. Positive differences in mean relative abundance indicate overrepresented phylum in AN, while negative differences indicate overrepresented phylum in HC. AN: Anorexia nervosa; HC: Healthy controls.

**For typesetting-supplementary fig 2-CMJ-2021-2916**

**Supplementary Figure 2:** Microbial community barplot and community difference analysis on family level of HC and AN groups. (A) Community barplot analysis for the two groups. Species which have <1% proportion were merged into others. (B and C) respectively show the proportion of Lachnospiraceae and Ruminococcaceae in the two groups. AN: Anorexia nervosa; HC: Healthy controls.

**For typesetting--supplementary fig 3-CMJ-2021-2916**

**Supplementary Figure 3:** Microbial community barplot and community difference analysis on genus level of HC and AN groups. (A) Community barplot analysis of the two groups. Species which have <1% proportion were merged into others. (B) Difference analysis (rank-sum test) bar plot shows the differences of the top 15 microbiota in the two groups. Positive differences in mean relative abundance indicate overrepresented genera in AN, while negative differences indicate overrepresented genera in HC. AN: Anorexia nervosa; f: Family; HC: Healthy controls; o: Order.