Curve

## Introduction

To identify the relationship of mOTU and PANSS, curve figures were plotted.

## Data information

360 mOTUs profile which represents bacteria abundance was calculated by analyzing the sequencing data. As the metagenomics data, mOTUs profile contains numerous zero. Each column of this mOTUs profile is the total bacteria and it’s abundance in this sample. Each row of this mOTUs profile is the abundance of this bacteria in total samples. In other words, this profile represents 360 mOTUs’ (row) abundance in 171 samples.

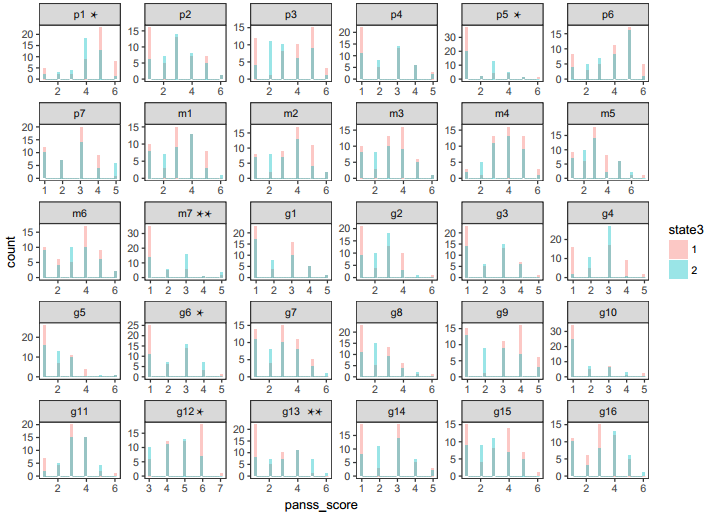
The Positive and Negative Syndrome Scale (PANSS) is a medical scale used for measuring symptom severity of patients with schizophrenia. The patient is rated from 1 to 7 on 30 different symptoms based on the interview as well as reports of primary care hospital workers. It has 3 catalogs, positive scale (p1-p7 in our research), negative scale (m1-m7 in our research) and general psychopathology scale (g1-g16 in our research). The minimum score of PANSS total is 30, and the maximum score of PANSS is 210. It should be noted that 1 rather 0 is the lowest score for each item. According to definition of PANSS, just SZs (90) did this scale.

Except the original 30 items, our cooperating parties combined some items together as new items based on their features (../../SZData/panss.txt), and this new type with 27 items is we usually used, such as positive factor 1.

## Procedure

To identify the relationship of mOTU and PANSS, it’s better to show is this way each curve represents the relationship of one mOTU abundance (Y) and matched one PANSS score (X). But X must be unique with just one mOTU abundance. For example, one of the PANSS score, positive factor 1, is 10 in both sample A and sample B. As I mentioned before, each sample has 360 mOTUs abundance, so in this situation, I mean these two sample’s mOTUs respectively. In the end, the X is unique with matching Y.

All of the figures can be find in the same directory as this method. In the below figure, it’s the hist of the original PANSS scale.



And the below is the hist of new type with 27 items.

