I want analysis the factors of family influencing happiness during the epidemic. I want to analyze how family connection may influence people's happiness based on data. I will use the data: CONNECTION\_social\_num\_family\_p7d\_grouped, CONNECTION\_activities\_talked\_family\_p3m, PSYCH\_zimet\_multidimensional\_social\_support\_scale\_family\_emotional, PSYCH\_zimet\_multidimensional\_social\_support\_scale\_problems\_family, PSYCH\_zimet\_multidimensional\_social\_support\_scale\_problems\_family. To find the composition of a family, frequency connects to family and how people feel when they get help from the family. I will use the confidence intervals, hypothesis testing and linear regression model to explain the relationship between these variables.

Confidence Intervals are used to predict how many people have more than 3 people in the family connection based on CONNECTION\_social\_num\_family\_p7d\_grouped. We must make sure the data are random, and I assume that less than 50% of people have more than 3 family members. If it is true, this shows that the family connection with other family members improves the happiness of the people. If it is false, it shows there are more ‘only child’. Based on this situation, know the structure of the family. We study this method in LEC 04 and TUT 04 to learn this method to offer valuable insight into the precision and reliability of the model's parameter estimates.

Hypothesis Testing will be used to predict CONNECTION\_activities\_talked\_family\_p3m. We must make sure the data is random. The null hypothesis is the people talk with family weekly and the alternative hypothesis is more than one week. If the null hypothesis is true, we can show that most people have a close connection with their families which may have a positive effect on happiness. If we reject null hypothesis, it may show that there is no close connection with the family. This is the part study in LEC 5 and TUT 5. We solve the problem of a wheel of destiny to assume that the wheel is fair or unfair. Null hypothesis is that the wheel is fair when the population result is 0.5. If you reject the hypothesis, it is unfair. By plenty of testing. We find that the wheel is fair.

I would like to use linear Regression model to explain the PSYCH\_zimet\_multidimensional\_social\_support\_scale\_family\_emotional (emotion help, x1) and PSYCH\_zimet\_multidimensional\_social\_support\_scale\_problems\_family (problem support, x2) the two factors have influence on the PSYCH\_zimet\_multidimensional\_social\_support\_family\_subscale\_score (family score, y). The higher feedback on the emotion help and problem support may get a high family score. The assumption for the linearity and every data is independent, common error variance and normality of errors.

From this condition, we can say that the model is significance and family connection can get a higher score. The better family help on emotion and problem may improve the happiness of the public health. If the feedback on emotion helps and problem support is high but get low family score. This means that the public health did not get any help from the family and the model is insignificant. I got this method from the October 25 tutorial about linear regression model to inference the association between bird flu prevalence and the price of shuttlecocks. We find straight line between the relationship with bird flu case and shuttlecocks price that the more bird flu case higher shuttlecocks price.