

# Paired comparison analysis by using SEM

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## Abstract

In this research, we proposed a method to perform paired comparison analysis by using SEM. There are several kinds of paired comparison analysis. Here, I will show you the Sheffé method by using SEM. Paired comparison method is suitable when ranking several objects. But there are few softwares that can perform paired comparison analysis. Therefore, the calculation must be done by hand. By using SEM, the computations can be dramatically facilitated. And it is easy to modify the model. As a modification, I will explain a joint method of factor analysis and perform an ANOVA on average preference.

By analyzing paired comparison data, you can obtain three different aspects of several objects. Three different aspects are parameters. The parameters are the average preference of each object, the interaction between objects and the order effect which is created by the difference in the order of presentation.

I will explain the between subjects design case. Paired comparison analysis with SEM can also be done using the within subjects design case. But due to time restrictions, I will not talk of it here. And I will show you an example of ice cream case. In the example, model modification is also shown.

## References

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