台北大學 統計學系 進修學士班
類別資料分析 (Categorical Data Analysis)

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Categorical data analysis is the study of the distribution of discrete random variables, and is a loosely defined statistical term that encompasses variety of statistical technique for analyzing discrete data. Typically, the value of the discrete random variables are the number of proportion or the numbers of counts which are classified from a sample into one of several levels of a category. Examples of this discrete data arise in diverse field, especially, in medicine, sociology.

- Time: Monday, 6:30pm–9:10pm
- Classroom: 511
- Class Web Page: http://web.ntpu.edu.tw/~cflin
  → (點選)→教學→2006 Spring→(點選) 類別資料分析 (統計系進修學士班)
- 助教: 古惠瑜 gucl@alumni.nccu.edu.tw, 澎湘婷 chirr_peng@yahoo.com.tw
- Textbook: 劉應興 (2003),
  類別資料分析導論, 華泰書局. (Agresti, 1996, 中譯本)
- Textbook: A. Agresti (1996),
  An Introduction to Categorical Data Analysis, John Wiley. (華泰書局).
- Office Hours: Monday, 5:00pm–6:30pm
- Evaluation
  - Homework 40%
  - 2 Mid-term Exam 40% (each 20%)
  - Final Exam 40% (cumulative)
  - 上課缺席 9 小時, 學期成績結算總分 0 分;
  - 作業遲交, 未交作業, 該次作業 0 分.

學生責任

- 課前預習, 每週 1-2 小時
- 上課準時出席, 專心聽講與發問
- 課後複習與作業練習, 每週 6-8 小時
- 每週上課前準時交作業, 上課不准寫作業, 作業可討論, 但須獨立完成, 不可互相抄襲

Categorical Data Analysis

1. Introduction of Categorical Data and Inferences for One-sample, Two-sample Proportion
2. Classical One-way Table, Two-way Table, $R \times C$ Table
3. Muitinomial Distribution and Exponential Family
4. Introduction to Generalized Linear Model
5. Model for Binary Variables: Logistic Regression
6. Model for Binary Variables: Probit and Extreme Value Models
7. Loglinear Models
8. Model Building
9. Models for Ordinal Variables
10. Multinomial Response Models

Feel free to ask questions during class; your questions are an important part of this course. Few students are able to master the material without keeping up on a regular basis. I welcome you to the class and hope that you have an enjoyable and successful semester!

References

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[8] J. S Simonoff (2003), *Analyzing Categorical Data*, Springer.

[9] Daniel A. Powers, Yu Xie and Daniel A. Powerw (1999) *Statistical Methods for Categorical Data Analysis*, Academic Press.

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