Advanced Topics on Data Analysis

课程编号 02814770　　　　　　授课对象：研究生
学　　分：2　　　　　　　　任课教师：韩亦
课程类型：专业选修　　　　　开课学期： 2014 春
先修课程：Basic Statistics and Algebra

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辅导、答疑时间：**By appointment.**

一、 项目培养目标

学习目标 1 系统掌握从事学术研究所需要的专业知识及理论。
　　具体目标 1、系统掌握本学科基础知识及基本理论
　　具体目标 2、掌握本学科前沿知识和理论、具有足够的相关领域的知识
　　具体目标 3、熟练掌握本学科的研究方法

学习目标 2 具有从事创新性研究的能力；能够撰写并发表高质量的毕业论文和学术论文
　　具体目标 1、撰写高质量的毕业论文和学术论文
　　具体目标 2、具有高水平的分析能力和批判思维能力，能够创造性地解决问题

学习目标 3 具有宽阔的国际视野，能够与国际学者进行交流、合作的能力。
　　具体目标 1、具有优秀的口头交流和文字交流能力
　　具体目标 2、能够熟练地运用至少一门外语进行学术交流与沟通

学习目标 4 了解学术伦理，具有强烈的社会责任感、关注社会问题
　　具体目标 1、了解社会责任感的重要性
　　具体目标 2、了解学术生涯中的学术道德问题
　　具体目标 3、关注现实社会问题

二、课程概述

In this course, you will learn Statistical Multilevel Analysis in organizational studies and management research: Fixed and Random Effects, Hierarchical Linear Modeling (HLM), and Hierarchical Generalized Linear Modeling (HGLM). These techniques have been developed to handle common data structures and research questions in organization and management studies. You will learn differences between OLS and HLM regressions, procedures conducting multilevel analyses, and how to deal with various situations of the measurements of dependent variables. You will read research papers applying

HLM and HGLM methods, and analyze data using STATA software. I will lead you from the very basics to specific advanced topics. Your attentiveness and commitment are the most important prerequisites for the course.

三、课程目标（包括学生所提高的技能要求）

This class is for graduate students and it is on advanced topics. The goal of this class is straightforward: Using the data analysis methods to do your own research. To achieve this goal, I would encourage you to read all the required reading materials and to participate in classes actively.

四、内容提要及学时分配

Tentative class schedule:

Week 1: Classical assumptions of OLS regression
    Review of basic assumptions of OLS Regression,
    How to fix models when assumptions are violated.

Week2. Introducing HLM
    Raudenbush, A. & Bryk, S.. 2002. *Hierarchical Linear Models: Applications and Data Analysis Methods* (2nd Ed.). Sage Publications. Chap.1: pp.3-10; Chap.2.
    Hofmann, D. 1997. An overview of the logic and Rationale of hierarchical linear models. *Journal of Management*. 23: 723-44.
    LAB work (in class).

Week 3. HLM using STATA: Models and Procedures
    R&B, Chap. 4: pp.68-84; Chap.5.
    LAB work (in class).

Week 4. Centering decisions
    Hofmann, D. A. and Gavin, M. B. 1998. Centering decisions in hierarchical linear models: Implications for research in organizations. *Journal of Management*. 24: 623-41.
    LAB work (in class).

Week 5. Empirical applications and extensions of HLM.

Three level models. R&B, Chap.8.

Klein, K. et al. 2004. How do they get there: An examination of the antecedents of centrality in team networks. *Academy of Management Journal.* 47: 952-63.

Week 6. Growth models.

R&B, Chap.8.

Galaskiewicz, J. et al. 2006. Networks and organizational growth. *Administrative Science Quarterly.* 51:337-380.

Week 7. Hierarchical Generalized Linear Modeling

R&B, Chap. 10.

(Ordered logistic, Poisson, and other measurement of dependent variables)

Martin, K. et al. 2007. Deciding to bribe: A cross-level analysis of firm and home country influences on bribery activity. *Academy of Management Journal.* 50: 1401-1422. (Strategy graduates presents)

Week 8. More applications in management studies

Liao, H. and Chuang, A. 2004. A multilevel investigation of factors influencing employee service performance and customer outcomes. *Academy of Management Journal.* 47: 41-58.

Arregle, J. et al..2006. Mode of international entry: The advantage of multilevel methods. *Management International Review.* 46: 597-618.

Byung, H. L. 2003. Using hierarchical linear modeling to illustrate industry and group effects on organizational commitment in a sales context. *Journal of Management Issues.* XV: 353-368.

Week 9. Post estimations and Robustness check.

R&B, Chap. 9.

Lab work (in class): LR tests, pseudo R square, diagnose missing values, data structures, dependent variables, building models, and compare the models etc..

Liu, D. et al., 2012. When employees are out of step with coworkers: How job satisfaction trajectory and dispersion influence individual- and unit-level voluntary turnover. *Academy of Management Journal.* 55: 1360-1380.

Week 10. Student presentations—the final paper ideas.

五、教学方式

I will give lectures on the topics and you are required to participate in discussion and to present reading materials. I will also demonstrate the procedures of analyses through the computer lab work. You are required to write a paper on a selected topic of your own and present it to the class.

六、教学过程中 **IT** 工具等技术手段的应用

Got data? Search the Internet. There are a lot of free and reliable datasets online (in an ocean of expensive and invalid information). Connected and leave out the structural holes.

七、教材

Raudenbush, A. & Bryk, S.. 2002. *Hierarchical Linear Models: Applications and data analysis methods.* Sage.

Other reading materials will be provided in the first week of the semester.

八、参考书目

Rabe-Hesketh, S. & Skrondal, A.. 2008. *Multilevel and Longitudinal Modeling Using Stata.* Stata Press.

Snijders, T. & Makino, S.. 1999. *Multilevel Analysis.* Thousand Oaks: Sage.

九、教学辅助材料，如 **CD**、录影等

STATA software (11 or above)

十、课程学习要求及课堂纪律规范

As a graduate student, you are expected to contribute to the class with verbal discussion and written material, in a good manner defined by various academic and school codes.

十一、学生成绩评定办法（需详细说明评估学生学习效果的方法）

You will be graded on: participations (20%), two or more presentations (30%), and a term paper (50%).