Longitudinal Analysis of Historical Demography Data
2009

ICPSR Summer Program Workshop
Longitudinal Analysis of Historical Demographic Data
July 20 – August 14, 2009

We meet Monday through Friday from 9:00 am to 5:00 pm in G150B, Perry Building, 330 Packard, Ann Arbor. The room will be available for lab use in the evenings.

All readings are required unless marked “Recommended.” The texts for the course will be handed out on the first day of the workshop. Required readings not in the texts will be handed out in course packets. Many required and recommended readings can also be found on the CTools website (https://ctools.umich.edu/portal). Exercises and instructions about Projects will be posted to the website. Participants will work on Projects and share their results in the final day of the Workshop.

(This Syllabus may be revised during the course of the Workshop.)

Week 1

Monday (7/20):

*ORIENTATION*

Deane: Life Tables. The Life-Table Method; Life Tables from Grouped Data


Gutmann: Family Reconstitution: Person Years & Rates


Recommended: E.A. Wrigley. 1966, pp 96-159

Leonard: Introduction to the Lab and STATA

*OPENING RECEPTION 5:00 PM-7:00 PM
Michigan Union, Kuenzel Room, 5-7pm

Tuesday (7/21):

Gutmann: The Life Table and Its Analogs
Longitudinal Analysis of Historical Demography Data


Cleves, Gould and Gutierrez, 2008, Chapter 8, Chapter 6

Leonard: Computing Person-Years and Rates: Creating Life Tables using Brute Force

Exercise: Mortality Life Tables

**Wednesday (7/22):**

Gutmann: From Family Reconstitution to Population Registers: Various Kinds of Longitudinal Data


Deane: Event History Analysis: What is EHA/Survival Analysis?; What is Survival Data?; Why Use EHA?; Approaches to EHA; Basic Concepts of EHA; Censoring

Cleves, Gould and Gutierrez, 2008, Chapters 1 and 4

*Lunchtime Talk: Kees Mandermaker*

*Koessler Room, Michigan League*

*Lunch Provided*

Leonard: Build a Mortality Life Table

Exercise: Mortality Life Tables using STATA

**Thursday (7/23):**

Gutmann: Introduction to the Data Used in the Course: German Villages, French Parishes, Sart (a Belgian Commune), and the Utah Historical Database


Deane: Analysis of Discrete Data:

- Cleves, Gould and Gutierrez, 2008, Chapters 2, 3 and 5

Leonard: ST functions & Kaplan-Meier curves

- Exercise: Birth Interval Life Tables

Friday (7/24):

Gutmann: Censoring and Informative Censoring.


Deane: Event History Analysis

- Cleves, Gould and Gutierrez 2008, Chapter 7

Leonard: Experiments with Informative censoring

- Exercise: Simulating the effect of migration on family reconstitution data

*Saturday: SUMMER PROGRAM PICNIC AT BURNS PARK*

Week 2

Monday (7/27):

Lynch: Understanding Malthus

- Recommended: Malthus An Essay… 1st ed, 1798, Chapters 7-19

Deane: Estimating Cox Regression Models: The Proportional Hazards Model; Partial Likelihood; Tied Data; Time-Dependent Covariates

- Cleves, Gould and Gutierrez 2008, Chapter 9

Alter: A Strategy for Building Episode Files; Basics of Microsoft Access

- Exercise: Define tables, enter data, simple queries
Tuesday (7/28):

Lynch: Thinking about “Preventive Checks” in Social Context


Deane: Cox Models with Nonproportional Hazards: Interaction with Time as Time-Dependent Covariates; Nonproportionality via Stratification; Left Truncation and Late Entry into the Risk Set

Cleves, Gould and Gutierrez 2008, Chapter 10

Alter: Simple Queries

Exercise: Occupation code dictionary


Wednesday (7/29):

Lynch: Re-thinking Checks on Population: Fertility and Mortality Patterns within Marriage


Deane: Residuals and Influence Statistics

Cleves, Gould and Gutierrez 2008, Chapter 11

*Lunchtime Talk: Satomi Kurosu*

*Lunch Provided*
Longitudinal Analysis of Historical Demography Data

Alter: The Relational Model
Exercise: Reconstructing Kinship
Alexander, 2007, pp. 51-91

*KUROSU RECEPTION*
*5:00 PM-7:00 PM*
*Perry Atrium*

Thursday (7/30):

Lynch: Household Forms and Family Formation Systems

Deane: Testing Linear Hypotheses
Cleves, Gould and Gutierrez 2008, Chapter 11

Alter: Working with Data in MS-Access: Text, Dates
Exercise: Matching people on partial names and approximate dates
Alexander 2007, pp. 121-147, 159-170, See also Appendix A

Friday (7/31):

Lynch: Families and Households as Systems of Social Support

Deane: Analysis of Discrete Data: The Logit Model for Discrete Time; The Complementary Log-Log Model for Continuous-time Processes; Data with Time-Dependent Covariates

Quaranta: Poster Tutorial

**Week 3**

**Monday (8/3):**

**Campbell: Issues and Debates in Asian Historical Demography**


**Smith: Re-cap Essentials of Cox models with UPDB: Competing risks and Cox Models; Multiple potential exits per subject; Identification problem; Independence assumption; Use of covariates**


**Alter: Understanding SQL: Working with Nulls**

Exercise: Finding Children without mothers

Alexander 2007, pp. 171-194

**Tuesday (8/4):**

**Campbell: Sources in Asian Historical Demography**


Smith: Multiple events and Cox Models: Sequential events; Multiple events in a group; Marginal models; What is the right clock?

*Lunchtime Talk: Sam Clark*
*Perry 2300 A&B*
*Lunch Provided*

Alter: Moving from Events to Episodes
Exercise: Marital Status over Time

**Wednesday (8/5):**

**Campbell: Reproduction in Asian Societies**

**Smith: Parametric Models: Alternatives to the Cox Model; Common models**
Cleves, Gould and Gutierrez 2008, Chapters 12 and 13

Alter: Aggregation
Exercise: Count older siblings by sex
Alexander 2007, pp. 275-300

*CLARK RECEPTION*
*5:00 PM-7:00 PM *
Perry Atrium*

**Thursday (8/6):**

**Campbell: Health and Mortality in Asian Societies**

**Smith: Parametric Models (Continued): Alternatives to the Cox Model; Common models**

Alter: Coordinating episodes within households
Exercise: Household composition over time

**Friday (8/7):**

**Campbell: Family and Household in Asian Societies**

**Smith: Plotting fully-adjusted survival curves; Variance adjustments for clustered data; Regression Diagnostics**

- Cleves, Gould and Gutierrez 2008, Chapters 9 and 14
- Richard M Cawthon; Ken R Smith; Elizabeth O'Brien; Anna Sivatchenko; Richard A. Kerber. “Association between telomere length in blood and mortality in people aged 60 years or older.” The Lancet; Feb 1, 2003; 361, 9355, pp. 393-395.
- Cleves, Gould and Gutierrez 2008, Chapters 12 and 13

**Alter: “Time since x” variables**

ΦΦExercise: Survival of the preceding child

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*Saturday*

Afternoon: SUMMER PROGRAM PICNIC AT BURNS PARK

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**Week 4**

**Monday (8/10):**

**Hacker: Classic Demographic Transition Theory and Recent Critiques**


**Smith: Frailty: Individual; Group/shared; Correlated; Alternatives**

- Cleves, Gould and Gutierrez 2008, pp.156-161 and 302-323

**Alter: Working with the Intermediate Data Structure**


**Tuesday (8/11):**

**Hacker: The Mortality and Epidemiological Transitions**


**Smith: Discrete-time Event-history Analysis**


**Alter: Forms and Reports**

Alexander 2007, pp. 311-337

**Wednesday (8/12):**

**Hacker: Fertility Measurement and Natural Fertility**


**Smith: Discrete-time Event-history Analysis (continued)**

*Lunchtime Talk: Bertrand Desjardins*

*1300 Perry A&B*
*Lunch Provided*

Alter: Introduction to Visual Basic in Forms
○○Exercise: A simple record linkage form

Thursday (8/13):

Hacker: The Fertility Transition

Smith: Interactions: Centering; Interpretations; Complexities of Non-proportionality

Alter: Lab – Student Projects

Friday (8/14):
Student Reports
Poster Session