Social Epidemiology: Analysis and Interpretation

Epidemiology 827                                              Spring Semester, 2008

Instructor:                                     Jay S. Kaufman, Ph.D
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Usual Time and Place:                      Tuesday  2:00-3:15 pm
Thursday  2:00-3:15 pm

Room: Epidemiology Conference Room

Course objectives
1. To introduce selected methods for analyzing the influence of upstream social processes on health.
2. To recognize the flaws and limitations of social epidemiological research.
3. To gain an appreciation of the benefits of applying an inter-disciplinary perspective to social epidemiological research.
4. To apply concepts, theories and methods from the field of social epidemiology to a research problem of interest to the student.
Grading/Assignments:

For a P in the class:

1) Attend at least 16 of the 20 class sessions.

2) There are 4 journal club sessions, with 2 articles in each session, for a total of 8 articles. Select one of the journal club articles and present the article at the corresponding journal club. One or two students will present each article, but when there are two, both must be prepared and must participate in the presentation (you may coordinate with your co-presenter as necessary).

3) Write a brief (1500-2000 words) paper applying at least one of the topics covered in class to your own research (or a research topic that you are interested in) by March 28, 2008.

4) Attend one additional social epidemiology-related seminar by March 28, 2008.

For an H in the class:

1) Complete all of P requirements

2) Every week there are dozens of articles published that reach absurd conclusions because of widespread ignorance of basic social epidemiology. The vast majority of these pass without comment or critique, since we are all too busy to draft a letter to respond to every single instance of this kind of stupidity. The most common example of this folly is interpreting race differences as evidence of genetic predisposition, but there are many other equally abhorrent examples. Write and submit a letter to the editor of a journal critiquing a published article that represents this kind of error of thinking bio-medically, rather than socio-epidemiologically. You must draft the letter by March 28, 2008, although it can be submitted later. The letter does not need to be accepted for publication in order to earn a grade of Honors in the class, but it must be deemed publishable (by me, at very least). I would be happy to recommend current articles for which a response is warranted.
### Course calendar

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tues Jan 15</td>
<td>Lecture: Introduction</td>
<td>Kelly Quinn</td>
</tr>
<tr>
<td>2</td>
<td>Thur Jan 17</td>
<td>Lecture: Inequality</td>
<td>Anjum Hajat</td>
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<td>3</td>
<td>Tues Jan 22</td>
<td>Lecture: Causality</td>
<td>Jay Kaufman</td>
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<td>4</td>
<td>Thur Jan 24</td>
<td>Lecture: Qualitative analysis</td>
<td>Lizzi Torrone</td>
</tr>
<tr>
<td>5</td>
<td>Tues Jan 29</td>
<td>Lecture: Segregation</td>
<td>Susan Marshall</td>
</tr>
<tr>
<td>6</td>
<td>Thur Jan 31</td>
<td>JOURNAL CLUB: Discrimination</td>
<td>Jay Kaufman</td>
</tr>
<tr>
<td>7</td>
<td>Tues Feb 5</td>
<td>Lecture: Structural Confounding</td>
<td>Lynne Messer</td>
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<tr>
<td>8</td>
<td>Thur Feb 7</td>
<td>Lecture: Propensity Scores</td>
<td>Jay Kaufman</td>
</tr>
<tr>
<td>9</td>
<td>Tues Feb 12</td>
<td>JOURNAL CLUB: Propensity Scores</td>
<td>Jay Kaufman</td>
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<td>10</td>
<td>Thur Feb 14</td>
<td>Lecture: Marginal Structural Models</td>
<td>Jay Kaufman</td>
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<td>11</td>
<td>Tues Feb 19</td>
<td>Lecture: Study Designs</td>
<td>Jay Kaufman</td>
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<td>12</td>
<td>Thur Feb 21</td>
<td>Lecture: Instrumental Variables</td>
<td>Jay Kaufman</td>
</tr>
<tr>
<td>13</td>
<td>Tues Feb 26</td>
<td>JOURNAL CLUB: Natural Experiments</td>
<td>Jay Kaufman</td>
</tr>
<tr>
<td>14</td>
<td>Thur Feb 28</td>
<td>Lecture: Multilevel Models</td>
<td>Jay Kaufman</td>
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<tr>
<td>15</td>
<td>Tues Mar 4</td>
<td>Lecture: Directly observed data &amp; index development</td>
<td>Lynne Messer</td>
</tr>
<tr>
<td>16</td>
<td>Thur Mar 6</td>
<td>Lecture: Interpretation of Multilevel Models</td>
<td>Arjuman Siddiqi</td>
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<tr>
<td>17</td>
<td>Tues Mar 11</td>
<td>SPRING BREAK</td>
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<tr>
<td>18</td>
<td>Thur Mar 13</td>
<td>SPRING BREAK</td>
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<td>19</td>
<td>Tues Mar 18</td>
<td>Lecture: Measuring Disparities</td>
<td>Kaufman/Robinson</td>
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<td>20</td>
<td>Thur Mar 20</td>
<td>Lecture: Effect Decomposition</td>
<td>Jay Kaufman</td>
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<tr>
<td>21</td>
<td>Tues Mar 25</td>
<td>JOURNAL CLUB: Neighborhoods</td>
<td>Jay Kaufman</td>
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<tr>
<td>22</td>
<td>Thur Mar 27</td>
<td>Lecture: Final Thoughts and “So What”?</td>
<td>Jay Kaufman</td>
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January 15: Introduction

**Required Readings:**
None

**Suggested Readings**

January 17: Inequality

**Required Readings**

**Suggested Readings**

January 22: Causality

**Required Readings**

**Suggested Readings**

January 24: Qualitative analysis

**Required Readings**

**Suggested Readings**
None
January 29: Segregation

**Required Readings**


**Suggested Readings**


January 31: Journal Club: Discrimination

**Required Readings**

[http://www.nber.org/papers/w9873](http://www.nber.org/papers/w9873)  
(press release summary: [http://www.nber.org/digest/sep03/w9873.html](http://www.nber.org/digest/sep03/w9873.html))

Lauderdale, Diane S. Birth Outcomes for Arabic-Named Women in California Before and After September 11. Demography - Volume 43, Number 1, February 2006, pp. 185-201

**Suggested Readings: none**

February 5: Structural Confounding

**Required Reading**


Messer LC, Oakes JM, Mason S. Disentangling socioeconomic and racial segregation: a cautionary tale of structural confounding. [Draft Manuscript]

**Suggested Readings: none**

February 7: Propensity Scores

**Required Readings**

Chapter 15: Propensity Score Matching for Social Epidemiology

**Suggested Readings**
February 12: JOURNAL CLUB: Propensity Scores  
Jay Kaufman
http://www.sciencemag.org/cgi/content/full/308/5726/1323

see also supporting material: www.sciencemag.org/cgi/content/full/308/5726/1323/DC1
and letters: http://www.sciencemag.org/cgi/content/full/sci;309/5741/1675

http://www.journals.uchicago.edu/AJS/journal/issues/v109n3/070185/070185.text.html

February 14: Marginal Structural Models  
Jay Kaufman
Required Readings
TO BE ANNOUNCED AT A LATER DATE

Suggested Reading:
TO BE ANNOUNCED AT A LATER DATE

February 19: Study Designs  
Jay Kaufman
Required Readings

TO BE ANNOUNCED AT A LATER DATE

Suggested Reading:
TO BE ANNOUNCED AT A LATER DATE

February 21: Instrumental Variables  
Jay Kaufman
Required Readings
Chapter 16: Natural Experiments and Instrumental Variable Analyses in Social Epidemiology

Suggested Readings

February 26: JOURNAL CLUB: Natural Experiments  
Jay Kaufman
http://jama.ama-assn.org/cgi/content/full/290/15/2023

http://jama.ama-assn.org/cgi/content/full/290/15/2063

February 28:  Multilevel Models  
**Jay Kaufman**

*Required Readings*


*Suggested Readings*

March 4:  Directly observed data & index development  
**Lynne Messer**

*Required Readings*
Chapter 8: Measures of Residential Community Contexts
Chapter 9: Using Census Data to Approximate Neighborhood Effects

March 6:  Interpretation of Multilevel Models  
**Arjuman Siddiqi**

*Required Reading*
TO BE ANNOUNCED AT A LATER DATE

*Suggested Readings*
TO BE ANNOUNCED AT A LATER DATE

March 18:  Measuring Disparities  
**Kaufman/Robinson**

*Required Readings*
TO BE ANNOUNCED AT A LATER DATE

*Suggested Readings*
TO BE ANNOUNCED AT A LATER DATE

March 20:  Effect Decomposition  
**Jay Kaufman**

*Required Readings*

Petersen ML, Sinisi SE, van der Laan MJ. Estimation of direct causal effects. Epidemiology. 2006 May;17(3):276-84.

*Suggested Reading:
March 25: JOURNAL CLUB: Neighborhoods

TO BE ANNOUNCED AT A LATER DATE

March 27: Required Readings

TO BE ANNOUNCED AT A LATER DATE

Suggested Reading:

TO BE ANNOUNCED AT A LATER DATE