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ESCUELA
**POLÍTICA Y
GOBIERNO**

Measuring Concepts using
Computational Social Science
Research

UNSAM

August 2018

Professor David Hachen

Workshop – Measuring Concepts using Computational Social Science Research

Objective: To review the basic ideas and methods informing social science research (hypotheses, measurement, sampling) and explore methods for using available data with a specific focus on recent advances in computational social science.

Readings: All readings will be available online. We will review research methods using:

Singleton R, Strait B. Straits. Approaches to Social Research. 2010. 5th ed., New York: Oxford University Press.

Schedule

Day 1 - Introduction

Topics:

- Getting to know you. Your research interests.
- Science and Research
- Elements of Research Design
- Hypotheses

Readings:

- Chapter 2 - The Nature of Science
- Chapter 4 - Elements of Research Design

Day 2 - Measurement

Topics:

- Variables and Operational definitions
- Levels of Measurement
- Reliability and



Validity

- Reading:
Chapter 5 - Measurement

Day 3 - Sampling

Topics:

- Populations, sampling frames and samples
- Simple random sampling, stratified sampling, cluster sampling
- Non-probability sampling

Reading:

- Chapter 6 - Sampling

Day 4 -- Using Available Data

Topics:

- Classic methods
- Computational social science
- Textual Analysis
- NetSense and

NetHealth

Readings:

- Chapter 12, pp. 393-412
- Lazer, David, Alex Sandy Pentland, Lada Adamic, Sinan Aral, Albert Laszlo Barabasi, Devon Brewer, Nicholas Christakis, Noshir Contractor, James Fowler, and Myron Gutmann. 2009. "Life in the Network: The Coming Age of Computational Social Science." *Science* 323 (5915): 721.
- Lazer, David, and Jason Radford. 2017. "Data Ex Machina: Introduction to Big Data." *Annual Review of Sociology* 43 (1): 19–39.
- DiMaggio, Paul, Manish Nag, and David Blei. 2013. "Exploiting Affinities between Topic Modeling and the Sociological Perspective on Culture: Application to Newspaper Coverage of U.S. Government Arts Funding." *Poetics* 41 (6): 570–606.

Day 5 -- Social Network Research

Topics:

- Researching social networks



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- Properties of networks
- Ego networks and measures
- Research issues
- NetSense and

NetHealth

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Readings:

- Borgatti, S. P., Mehra, A., Brass, D. J., & Labianca, G. (2009). Network analysis in the social sciences. *Science*, 323(5916), 892-895.
- Wellman, Barry. 1983. "Network Analysis: Some Basic Principles." *Sociological Theory* 1: 155–200.