

## Introduction To Statistics Chapter 1

- Systematic rules
- Describe and Predict
- Ordering Events
- Mathematical Rules

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## History of Statistics Links

Materials for the History of Statistics  
<http://www.york.ac.uk/depts/maths/histstat/>

Stephen Wolfram's History of statistics  
<http://www.wolframscience.com/reference/notes/1082d>

History of Statistics – Timeline  
<http://www.anselm.edu/homepage/jpitocch/biostatstime.html>

History of Statistics & Probability  
<http://www.mrs.umn.edu/~sungurea/introstat/history/>

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## Adolphe Quetelet

- "The average man"
- "The more progress physical sciences make, the more they tend to enter the domain of mathematics, which is a kind of centre to which they all converge. We may even judge the degree of perfection to which a science has arrived by the facility with which it may be submitted to calculation."  
Quoted in É Maily, *Eulogy on Quetelet* 1874

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### Basic Language of Statistics

- Population
- Sample
- Participant/subject
- Raw data

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### More Statistical Terms 1

- Constant
- Data
- Datum
- Parameter
- Statistic
- Sampling Error (margin of error)
- Variable

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### More Statistical Terms 2

- Correlational Method
- Experimental Method
- Independent Variable
- Dependent Variable
- Control Condition
- Experimental Condition
- Quasi-experimental Research
- Quasi-independent Variable

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### Basic Types of Statistics

- Descriptive Statistics
- Inferential Statistics

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### Discrete and Continuous Variables

- Discrete Variables
- Continuous Variables
- Real Limits

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### Scales of Measurement

- Nominal Scale
- Ordinal Scale
- Interval Scale
- Ratio Scale

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### Statistical Notation

- $\Sigma$  The Greek letter sigma.
- $\Sigma x$  "The sum of the scores."
- N : The number of scores in a population.
- n : The number of scores in a sample.

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### A Scientific Approach

- The Scientific Method
- Random sample
- Biased sample
- Stratified sample
- Subject/participant
- Replications

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### Types of Research

- Descriptive Research
- Correlational Research
- Experimental Research

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**Challenges of Research**

- Conducting Ethical Research
- Minimizing Bias

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