

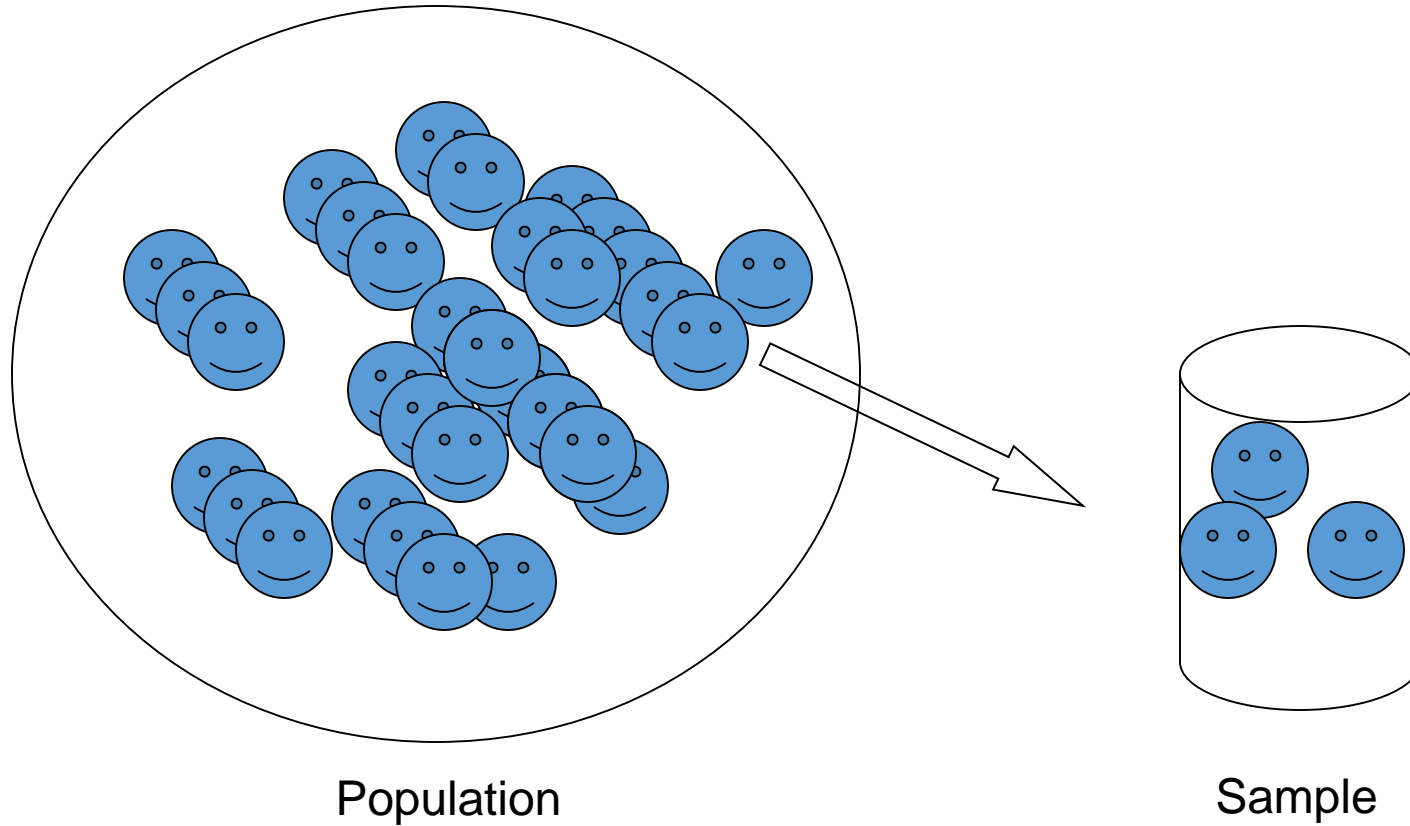
Descriptive Statistics

How to summarise information about a data set

Descriptive Statistics

- Descriptive Statistics are Used to Report on Populations and Samples
- By Summarizing Information, Descriptive Statistics Simplify Comprehension about Data Characteristics

Sample vs. Population



Descriptive Statistics

An Illustration:

Which Group is Smarter?

Class A--IQs of 13 Students

102	115
128	109
131	89
98	106
140	119
93	97
110	

Class B--IQs of 13 Students

127	162
131	103
96	111
80	109
93	87
120	105
109	

Each individual may be different. If you try to understand a group by remembering the qualities of each member, you become overwhelmed and fail to understand the group.

Descriptive Statistics

Which group is smarter now?

Class A--Average IQ

110.54

Class B--Average IQ

110.23

They're roughly the same!

With a summary descriptive statistic, it is much easier to answer our question.

Descriptive Statistics

Types of descriptive statistics:

- Organize Data
 - Tables
 - Frequency Distributions
 - Relative Frequency Distributions
 - Graphs
 - Bar Chart or Histogram
 - Stem and Leaf Plot
 - Frequency Polygon

Our Data

IQ

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	82.00	1	4.2	4.2	4.2
	87.00	1	4.2	4.2	8.3
	89.00	1	4.2	4.2	12.5
	93.00	2	8.3	8.3	20.8
	96.00	1	4.2	4.2	25.0
	97.00	1	4.2	4.2	29.2
	98.00	1	4.2	4.2	33.3
	102.00	1	4.2	4.2	37.5
	103.00	1	4.2	4.2	41.7
	105.00	1	4.2	4.2	45.8
	106.00	1	4.2	4.2	50.0
	107.00	1	4.2	4.2	54.2
	109.00	1	4.2	4.2	58.3
	111.00	1	4.2	4.2	62.5
	115.00	1	4.2	4.2	66.7
	119.00	1	4.2	4.2	70.8
	120.00	1	4.2	4.2	75.0
	127.00	1	4.2	4.2	79.2
	128.00	1	4.2	4.2	83.3
	131.00	2	8.3	8.3	91.7
	140.00	1	4.2	4.2	95.8
	162.00	1	4.2	4.2	100.0
	Total	24	100.0	100.0	

Frequency Distribution

Frequency Distribution of IQ for Two Classes

IQ	Frequency
82.00	1
87.00	1
89.00	1
93.00	2
96.00	1
97.00	1
98.00	1
102.00	1
103.00	1
105.00	1
106.00	1
107.00	1
109.00	1
111.00	1
115.00	1
119.00	1
120.00	1
127.00	1
128.00	1
131.00	2
140.00	1
162.00	1
Total	24

Relative Frequency Distribution

Relative Frequency Distribution of IQ for Two Classes

IQ	Frequency	Percent	Valid Percent	Cumulative Percent
82.00	1	4.2	4.2	4.2
87.00	1	4.2	4.2	8.3
89.00	1	4.2	4.2	12.5
93.00	2	8.3	8.3	20.8
96.00	1	4.2	4.2	25.0
97.00	1	4.2	4.2	29.2
98.00	1	4.2	4.2	33.3
102.00	1	4.2	4.2	37.5
103.00	1	4.2	4.2	41.7
105.00	1	4.2	4.2	45.8
106.00	1	4.2	4.2	50.0
107.00	1	4.2	4.2	54.2
109.00	1	4.2	4.2	58.3
111.00	1	4.2	4.2	62.5
115.00	1	4.2	4.2	66.7
119.00	1	4.2	4.2	70.8
120.00	1	4.2	4.2	75.0
127.00	1	4.2	4.2	79.2
128.00	1	4.2	4.2	83.3
131.00	2	8.3	8.3	91.7
140.00	1	4.2	4.2	95.8
162.00	1	4.2	4.2	100.0
Total	24	100.0	100.0	

Grouped Relative Frequency Distribution

Relative Frequency Distribution of IQ for Two Classes

IQ	Frequency	Percent	Cumulative Percent
80 – 89	3	12.5	12.5
90 – 99	5	20.8	33.3
100 – 109	6	25.0	58.3
110 – 119	3	12.5	70.8
120 – 129	3	12.5	83.3
130 – 139	2	8.3	91.6
140 – 149	1	4.2	95.8
150 and over	1	4.2	100.0
Total	24	100.0	100.0

Histogram

