GLOBE Leadership and Society Surveys

Ethan Allavarpu · Raymond Bai · Jaclyn Chiu
Ariel Chow · Carlie Lin · Dara Tan

Explore the GLOBE
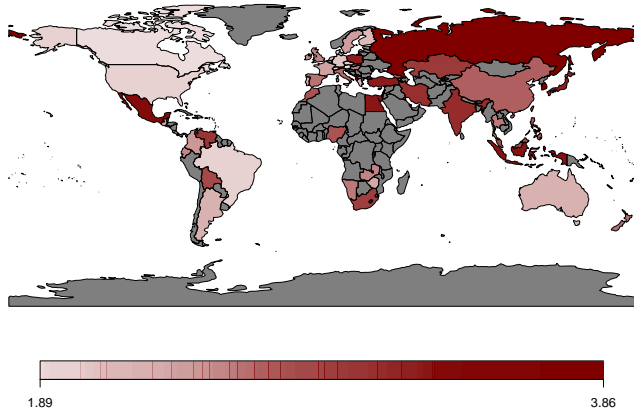
STATS 140XP · Fall 2021

GLOBE
Leadership
and Society
Surveys

**Explore the
GLOBE**

Introducing
the Data

Analysis

Conclusions

Introducing the Data

- GLOBE (Global Leadership & Organizational Behavior Effectiveness)
  - Goal: Identify the relationships between various leadership and societal characteristics
  - Over 17,000 middle managers, 62 cultures
  - Survey from 1 (negative) to 7 (positive)
- Outside source: ISO Codes from Wikipedia
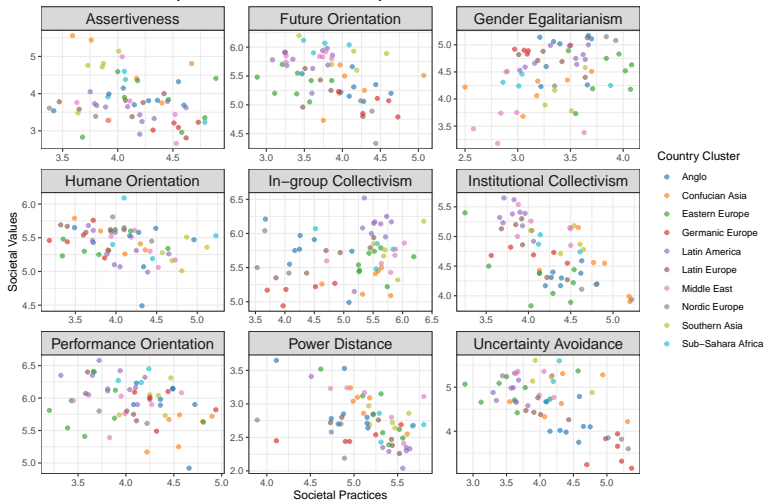 - Uniform identifiers for countries for visualization purposes

GLOBE
Leadership
and Society
Surveys

Explore the
GLOBE

Introducing
the Data

Analysis

Conclusions

Exploratory Data Analysis

Autocratic Levels by Country

1.89   3.86

GLOBE
Leadership
and Society
Surveys

**Explore the
GLOBE**

Introducing
the Data

Analysis

Conclusions

Exploratory Data Analysis

Values vs. Practices by Cultural Dimension and Country Cluster

Note: Countries with missing country clusters were excluded.

1. Which characteristics or traits do countries tend to group together when determining "good" leadership values?
   - Which countries have similar perceptions of these leadership values?
2. Do societal practices and societal values align?
   - If they do not, which practices and values deviate most significantly?

Analysis

GLOBE
Leadership
and Society
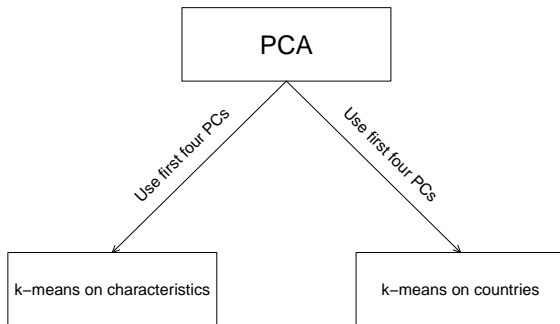Surveys

**Explore the
GLOBE**
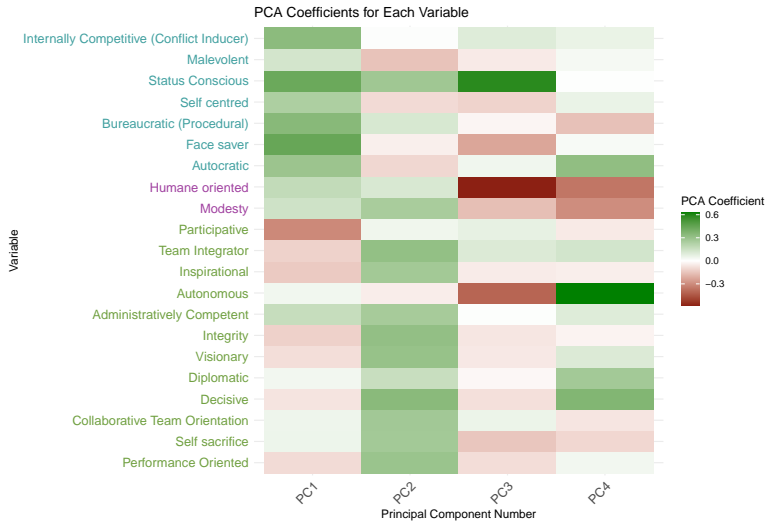
Introducing
the Data

Analysis

Conclusions

Leadership Clusters: Methodology

1. Remove second-order factor analysis variables (difficult for interpretation)
2. Perform PCA on the remaining numeric variables
3. Perform *k*-means clustering on the first four principal components for both characteristics and countries
   - Choose first four PCs because they explain around 80% of the variation

GLOBE
Leadership
and Society
Surveys

Explore the GLOBE

Introducing
the Data

Analysis

Conclusions

Leadership Clusters: Methodology

Methodology for Leadership Analysis

GLOBE
Leadership
and Society
Surveys

Explore the
GLOBE

Introducing
the Data

Analysis

Conclusions

Leadership Clusters: Characteristics

PCA Coefficients for Each Variable

Note: Variables colored by cluster

GLOBE
Leadership
and Society
Surveys

**Explore the
GLOBE**

Introducing
the Data
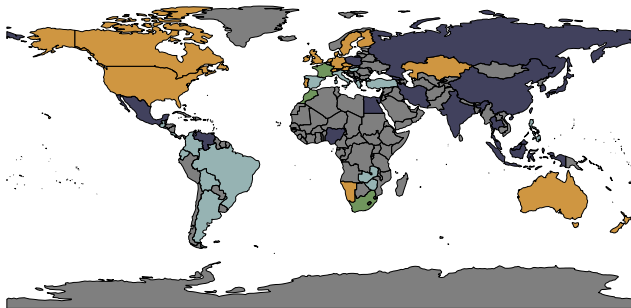
Analysis

Conclusions

Leadership Clusters: Characteristics

1 Internally competitive, malevolent, status conscious, self-centred, bureaucratic, face saver, autocratic
  - Negative characteristics

2 Humane-oriented, modesty
  - Distinctly different group of two

3 Participative, team integrator, inspirational, autonomous, administratively competent, integrity, visionary, diplomatic, decisive, collaborative team orientation, self-sacrifice, performance-oriented
  - Positive characteristics

GLOBE
Leadership
and Society
Surveys

**Explore the
GLOBE**

Introducing
the Data

Analysis

Conclusions

Leadership Clusters: Countries

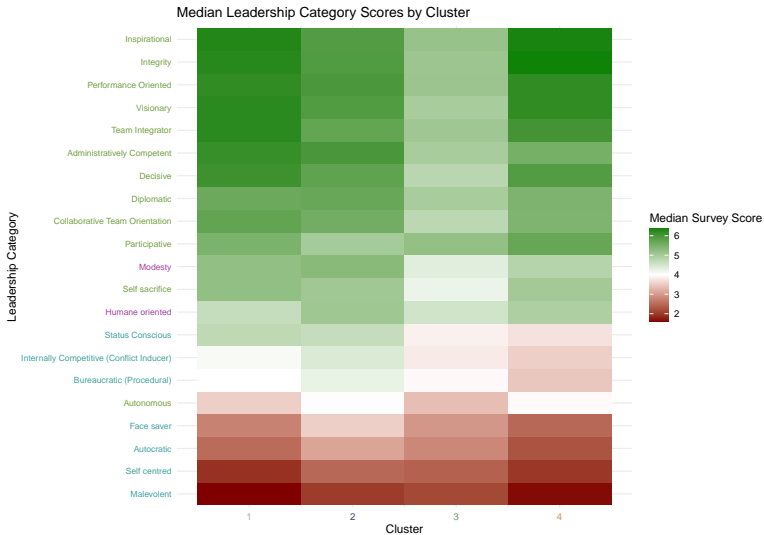**K–Means Clustering (k = 4) on the First Four Principal Components**

Note: East, West Germany in the same cluster. South Africa colored by Black sample (rather than the White sample)

GLOBE
Leadership
and Society
Surveys

**Explore the
GLOBE**

Introducing
the Data

Analysis

Conclusions

Leadership Clusters: Countries

- Light Blue: Latin America, Mediterranean
- Dark Blue: Asia
- Green: No specific regionality
- Gold: Western and Northern Europe, Anglo

Median Leadership Category Scores by Cluster

GLOBE
Leadership
and Society
Surveys

**Explore the
GLOBE**

Introducing
the Data

Analysis

Conclusions

Societal Values vs. Practices: Methodology

For each cultural dimension:

- Simple linear regression model: $y = \beta_0 + \beta_1 x$
- t-test: $H_0 : \beta_1 = 0$ versus $H_1 : \beta_1 \neq 0$
- Bonferroni Correction
  - Change significance threshold from $\alpha = 0.05$ to $\alpha = \frac{0.05}{9} \approx 0.0056$

GLOBE
Leadership
and Society
Surveys

**Explore the
GLOBE**

Introducing
the Data

Analysis

Conclusions

Societal Values vs. Practices: Findings

Table 1: Results of Simple Linear Regression by Cultural Dimension

Cultural Dimension	Coefficient Value	p-value
Uncertainty Avoidance	-0.6199	0.0000
Institutional Collectivism	-0.5251	0.0000
Power Distance	-0.4991	0.0006
Future Orientation	-0.4725	0.0009
Humane Orientation	-0.5944	0.0116
Gender Egalitarianism	0.2437	0.0124
Performance Orientation	-0.3459	0.0268
Assertiveness	-0.1507	0.0414
In-group Collectivism	0.4393	0.0991

GLOBE
Leadership
and Society
Surveys

**Explore the
GLOBE**

Introducing
the Data

Analysis

Conclusions

Conclusions

- Characteristics clustered largely on negative or positive connotations
  - Exceptions: Humane oriented, modesty
- Countries clustered heavily on geographic region
  - Exceptions: Green cluster

GLOBE
Leadership
and Society
Surveys

**Explore the
GLOBE**

Introducing
the Data

Analysis

Conclusions

- Practices do not align
  - Correlations often negative
- Consider how this might affect policy implementation

GLOBE
Leadership
and Society
Surveys

**Explore the
GLOBE**

Introducing
the Data

Analysis

Conclusions

Further Research

- Investigate how other indices (e.g., freedom index, happiness index, government approval ratings) explain groupings for leadership values
- Potential causes behind inverse relationship between societal values and practices
  - Are people valuing certain things *because* they aren't present in the society?
- Expand the survey to more countries to see if regional trends/clusters remain

GLOBE
Leadership
and Society
Surveys

**Explore the
GLOBE**

Introducing
the Data

Analysis

Conclusions

Limitations

- Only 62 cultures observed
- Some countries split
  - Germany: East vs. West (possibly related to Berlin Wall)
  - South Africa: White vs. Black (possibly related to Apartheid)
- Data appears to be from 15+ years ago
  - Potentially outdated information
  - May consider a resurvey
- Unsure of how second-order factor analysis performed
- No "official" codebook–just found the survey questions