**CAAM Indicators Codebook**

This codebook contains descriptions of each of the 12 worksheets in the CAAM dataset workbook and the associated variables in each worksheet. The variable names, labels, and, if applicable, their source and supplementary notes are provided in the following format:

Variable Name

Variable Label

Source

Notes

**Sheet 1: Post-EFA Master (Z)**

Description: displays all variables included in the CAAM after the completed exploratory factor analysis – all variables denoted with Z are standardized to the national average

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**Zassn2014**

The standardized scores of the aggregate of all religious, civic, business, political, professional, labor, bowling, recreational, golf, and sports organizations in a county divided by population per 1,000

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**WeightedZassn**

The value of Zassn2014 multiplied by its associated factor loading (.786) as produced by the factor analysis

**Znccs2014perpop**

The standardized scores of all non-profit organizations in a county, excluding those with an international approach, divided by population per 1,000

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**WeightedZncss**

The value of Znccs2014perpop multiplied by it associated factor loading (.619) as produced by the factor analysis

**SocCap**

The social capital score

Notes: Calculated by summing WeightedZassn and WeightedZncss

**ZPropCult**

The standardized scores of the proportion of working population aged 16 and over employed in management, business, science, and arts

Source: US Census Bureau, 2015 5-year averages

Notes: These occupational groups are associated with Richard Florida’s creative class

**WeightedPropCult**

The value of ZPropCult multiplied by its associated factor loading (.859) as produced by the factor analysis

**ZEducation2015**

The standardized scores of the percentage of the population aged 25 and older with a Bachelor’s degree or higher

Source: US Census Bureau, 2015 5-year averages

**WeightedEducation**

The value of ZEducation2015 multiplied by its associated factor loading (.987) as produced by the factor analysis

**CulCap**

The cultural capital score

Notes: Calculated by summing WeightedPropCult and WeightedEducation

**ZLowBirth2017**

The standardized scores of the percentage of live births with low birth weight

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**WeightedBirth**

The value of ZLowBirth2017 multiplied by its associated factor loading (-.630) as produced by the factor analysis

**ZChildPov2017**

The standardized scores of the percentage of children living in poverty

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**WeightedChildPov**

The value of ZChildPov2017 multiplied by its associated factor loading (-.767) as produced by the factor analysis

**ZIncInequality2017**

The standardized scores of the income inequality ratio

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

Notes: Calculated as the ratio of household income at the 80th percentile to income at the 20th percentile

**WeightedInequality**

The value of ZIncInequality2017 multiplied by it associated factor loading (-.771) as produced by the factor analysis

**ZViolentCrime2017**

The standardized scores of the rate of violent crime

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

Notes: Calculated as the number of reported violent crime offenses per 100,000 population

**WeightedCrime**

The value of ZViolentCrime2017 multiplied by its associated factor loading (-.456) as produced by the factor analysis

**ZUnemployed2017**

The standardized scores of the unemployment rate

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**WeightedUnemployed**

The value of ZUnemployed2017 multiplied by its associated factor loading (-.523) as produced by the factor analysis

**HumCap**

The human capital score

Notes: Calculated by summing WeightedBirth, WeightedPoorFair, WeightedInequality, WeightedCrime, and WeightedUnemployed

**Zpvote2012**

The standardized scores of the voter turnout rate in 2012

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**WeightedVote2012**

The value of Zpvote2012 multiplied by its associated factor loading (.916) as produced by the factor analysis

**ZRegTurnout2014**

The standardized scores of the voter turnout rate in 2014

Source: [Dave Leip’s Atlas of US Presidential Elections](https://uselectionatlas.org/)

**WeightedVote2014**

The value of ZRegTurnout2014 multiplied by its associated factor loading (.785) as produced by the factor analysis

**PolCap**

The political capital score

Notes: Calculated by summing WeightedVote2012 and WeightedVote2014

**Sheet 2: Pre-EFA Master**

Description: displays all variables assumed (based on the literature) to be associated with each of the four capitals; most variables were included in the initial factor analysis but not in the final model, as the factor analysis weeded out unnecessary variables

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**Religious2014**

Number of establishments in religious organizations (NAICS 813110)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Civic2014**

Number of establishments in civic and social organizations (NAICS 813410)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Business2014**

Number of establishments in business associations (NAICS 813910)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Political2014**

Number of establishments in political organizations (NAICS 813940)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Professional2014**

Number of establishments in professional organizations (NAICS 813920)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Labor2014**

Number of establishments in labor organizations (NAICS 813930)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Bowling2014**

Number of establishments in bowling centers (NAICS 713950)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Recreational2014**

Number of establishments in fitness and recreational sports centers (NAICS 713940)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Golf2014**

Number of establishments in golf courses and country clubs (NAICS 713910)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Sports2014**

Number of establishments in sports teams and clubs (NAICS 711211)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**pop2014**

Total population in 2014

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**assn2014**

The aggregate of all religious, civic, business, political, professional, labor, bowling, recreational, golf, and sports organizations in a county divided by population per 1,000

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**pvote2014**

Voter turnout rate in 2012

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**respn2010**

Census response rate in 2010

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**nccs2014**

Number of non-profit organizations in a county, excluding those with an international approach

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**sk2014**

Social capital index as calculated by Rupasingha, Goetz, and Freshwater (2014)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**CultEmp**

The number of people employed in management, business, science, and arts

Source: US Census Bureau, 2015 5-year averages

Notes: These occupational groups are associated with Richard Florida’s creative class

**PropCult**

The proportion of working population aged 16 and over employed in management, business, science, and arts

Source: US Census Bureau, 2015 5-year averages

Notes: These occupational groups are associated with Richard Florida’s creative class

**RegTurnout2014**

Voter turnout rate in 2014

Source: [Dave Leip’s Atlas of US Presidential Elections](https://uselectionatlas.org/)

**RegTurnout2012**

Voter turnout rate in 2012

Source: [Dave Leip’s Atlas of US Presidential Elections](https://uselectionatlas.org/)

**MedInc2015**

Median income in 2015

Source: US Census Bureau, 2015 5-year averages

**Education2015**

The percentage of the population aged 25 and older with a Bachelor’s degree or higher

Source: US Census Bureau, 2015 5-year averages

**Obesity2017**

The obesity rate in 2017

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**LowBirth2017**

The percentage of live births with low birth weight

Source: County Health Rankings, 2017

**PreDeath2017**

The number of deaths of people below the age of 75

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**PotYrsLost2017**

The number of potential years lost due to premature death

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**PoorFair2017**

The percentage of adults in the population reporting poor or fair health

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**PPDMonth2017**

Average number of reported physically unhealthy days per month

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**PMDMonth2017**

Average number of reported mentally unhealthy days per month

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**Uninsured2017**

Percentage of people under age 65 without insurance

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**Unemployed2017**

Percentage of people age 16 and up unemployed and looking for work

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ChildPov**

Percentage of children living in poverty

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**Costs2017**

Health care costs

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**IncInequality2017**

The income inequality ratio

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

Notes: Calculated as the ratio of household income at the 80th percentile to income at the 20th percentile

**ViolentCrime2017**

The rate of violent crime

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

Notes: Calculated as the number of reported violent crime offenses per 100,000 population

**Sheet 3: Pre-EFA Master (Z)**

Description: displays the standardized scores of all variables assumed (based on the literature) to be associated with each of the four capitals

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**ZReligious2014**

Standardized score of the number of establishments in religious organizations (NAICS 813110)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZCivic2014**

Number of establishments in civic and social organizations (NAICS 813410)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZBusiness2014**

Standardized score of the number of establishments in business associations (NAICS 813910)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZPolitical2014**

Standardized score of the number of establishments in political organizations (NAICS 813940)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZProfessional2014**

Standardized score of the number of establishments in professional organizations (NAICS 813920)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZLabor2014**

Standardized score of the number of establishments in labor organizations (NAICS 813930)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZBowling2014**

Standardized score of the number of establishments in bowling centers (NAICS 713950)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZRecreational2014**

Standardized score of the number of establishments in fitness and recreational sports centers (NAICS 713940)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZGolf2014**

Standardized score of the number of establishments in golf courses and country clubs (NAICS 713910)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZSports2014**

Standardized score of the number of establishments in sports teams and clubs (NAICS 711211)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Zassn2014**

Standardized score of the aggregate of all religious, civic, business, political, professional, labor, bowling, recreational, golf, and sports organizations in a county divided by population per 1,000

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Zpvote2014**

Standardized score of voter turnout rate in 2012

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Zrespn2010**

Standardized score of the census response rate in 2010

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Znccs2014perpop**

Standardized score of the number of non-profit organizations in a county, excluding those with an international approach, divided by population per 1,000

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZCultEmp**

Standardized score of the number of people employed in management, business, science, and arts

Source: US Census Bureau, 2015 5-year averages

Notes: These occupational groups are associated with Richard Florida’s creative class

**ZPropCult**

Standardized score of the proportion of working population aged 16 and over employed in management, business, science, and arts

Source: US Census Bureau, 2015 5-year averages

Notes: These occupational groups are associated with Richard Florida’s creative class

**ZRegTurnout2014**

Standardized score of voter turnout rate in 2014

Source: [Dave Leip’s Atlas of US Presidential Elections](https://uselectionatlas.org/)

**ZRegTurnout2012**

Standardized score of voter turnout rate in 2012

Source: [Dave Leip’s Atlas of US Presidential Elections](https://uselectionatlas.org/)

**ZMedInc2015**

Standardized score of median income in 2015

Source: US Census Bureau, 2015 5-year averages

**ZEducation2015**

Standardized score of the percentage of the population aged 25 and older with a Bachelor’s degree or higher

Source: US Census Bureau, 2015 5-year averages

**ZObesity2017**

Standardized score of the obesity rate in 2017

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZLowBirth2017**

Standardized score of the percentage of live births with low birth weight

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZPreDeath2017**

Standardized score of the number of deaths of people below the age of 75

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZPotYrsLost2017**

Standardized score of the number of potential years lost due to premature death

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZPoorFair2017**

Standardized score of the percentage of adults in the population reporting poor or fair health

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZPPDMonth2017**

Standardized score of the average number of reported physically unhealthy days per month

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZPMDMonth2017**

Standardized score of the average number of reported mentally unhealthy days per month

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZUninsured2017**

Standardized score of the percentage of people under age 65 without insurance

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZUnemployed2017**

Standardized score of the percentage of people age 16 and up unemployed and looking for work

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZChildPov**

Standardized score of the percentage of children living in poverty

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZCosts2017**

Standardized score of health care costs

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZIncInequality2017**

Standardized score of the income inequality ratio

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

Notes: Calculated as the ratio of household income at the 80th percentile to income at the 20th percentile

**ZViolentCrime2017**

Standardized score of the rate of violent crime

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

Notes: Calculated as the number of reported violent crime offenses per 100,000 population

**Sheet 4: Social Capital**

Description: displays all variables associated with social capital

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**Religious2014**

Number of establishments in religious organizations (NAICS 813110)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Civic2014**

Number of establishments in civic and social organizations (NAICS 813410)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Business2014**

Number of establishments in business associations (NAICS 813910)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Political2014**

Number of establishments in political organizations (NAICS 813940)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Professional2014**

Number of establishments in professional organizations (NAICS 813920)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Labor2014**

Number of establishments in labor organizations (NAICS 813930)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Bowling2014**

Number of establishments in bowling centers (NAICS 713950)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Recreational2014**

Number of establishments in fitness and recreational sports centers (NAICS 713940)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Golf2014**

Number of establishments in golf courses and country clubs (NAICS 713910)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Sports2014**

Number of establishments in sports teams and clubs (NAICS 711211)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**pop2014**

Total population in 2014

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**assn2014**

The aggregate of all religious, civic, business, political, professional, labor, bowling, recreational, golf, and sports organizations in a county divided by population per 1,000

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**pvote2014**

Voter turnout rate in 2012

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**respn2010**

Census response rate in 2010

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**nccs2014**

Number of non-profit organizations in a county, excluding those with an international approach

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**nccs2014perpop**

Number of non-profit organizations in a county, excluding those with an international approach, divided by the population per 1,000

**sk2014**

Social capital index as calculated by Rupasingha, Goetz, and Freshwater (2014)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Sheet 5: Social Capital (Z)**

Description: displays the standardized values for all variables associated with social capital

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**ZReligious2014**

Standardized score of the number of establishments in religious organizations (NAICS 813110)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZCivic2014**

Number of establishments in civic and social organizations (NAICS 813410)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZBusiness2014**

Standardized score of the number of establishments in business associations (NAICS 813910)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZPolitical2014**

Standardized score of the number of establishments in political organizations (NAICS 813940)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZProfessional2014**

Standardized score of the number of establishments in professional organizations (NAICS 813920)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZLabor2014**

Standardized score of the number of establishments in labor organizations (NAICS 813930)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZBowling2014**

Standardized score of the number of establishments in bowling centers (NAICS 713950)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZRecreational2014**

Standardized score of the number of establishments in fitness and recreational sports centers (NAICS 713940)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZGolf2014**

Standardized score of the number of establishments in golf courses and country clubs (NAICS 713910)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**ZSports2014**

Standardized score of the number of establishments in sports teams and clubs (NAICS 711211)

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Zassn2014**

Standardized score of the aggregate of all religious, civic, business, political, professional, labor, bowling, recreational, golf, and sports organizations in a county divided by population per 1,000

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Zpvote2014**

Standardized score of voter turnout rate in 2012

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Zrespn2010**

Standardized score of the census response rate in 2010

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Znccs2014**

Standardized score of the number of non-profit organizations in a county, excluding those with an international approach

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Znccs2014perpop**

Standardized score of the number of non-profit organizations in a county, excluding those with an international approach, divided by population per 1,000

Source: [Rupasingha, Goetz, & Freshwater (2014)](http://aese.psu.edu/nercrd/community/social-capital-resources)

**Sheet 6: Cultural Capital**

Description: displays all variables associated with cultural capital

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**CultEmp**

The number of people employed in management, business, science, and arts

Source: US Census Bureau, 2015 5-year averages

Notes: These occupational groups are associated with Richard Florida’s creative class

**TotalEmp**

The total number of working population aged 16 and over

Source: US Census Bureau, 2015 5-year averages

**PropCult**

The proportion of working population aged 16 and over employed in management, business, science, and arts

Source: US Census Bureau, 2015 5-year averages

Notes: These occupational groups are associated with Richard Florida’s creative class

**Sheet 7: Cultural Capital (Z)**

Description: Displays the standardized values of all variables associated with cultural capital

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**ZCultEmp**

The standardized score of the number of people employed in management, business, science, and arts

Source: US Census Bureau, 2015 5-year averages

Notes: These occupational groups are associated with Richard Florida’s creative class

**ZPropCult**

The standardized score of the proportion of working population aged 16 and over employed in management, business, science, and arts

Source: US Census Bureau, 2015 5-year averages

Notes: These occupational groups are associated with Richard Florida’s creative class

**Sheet 8: Human Capital**

Description: Displays all variables associated with human capital

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**Obesity2017**

The obesity rate in 2017

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**LowBirth2017**

The percentage of live births with low birth weight

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**PreDeath2017**

The number of deaths of people below the age of 75

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**PotYrsLost2017**

The number of potential years lost due to premature death

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**PoorFair2017**

The percentage of adults in the population reporting poor or fair health

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**PPDMonth2017**

Average number of reported physically unhealthy days per month

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**PMDMonth2017**

Average number of reported mentally unhealthy days per month

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**Uninsured2017**

Percentage of people under age 65 without insurance

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**Unemployed2017**

Percentage of people age 16 and up unemployed and looking for work

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ChildPov**

Percentage of children living in poverty

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**Costs2017**

Health care costs

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**IncInequality2017**

The income inequality ratio

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

Notes: Calculated as the ratio of household income at the 80th percentile to income at the 20th percentile

**ViolentCrime2017**

The rate of violent crime

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

Notes: Calculated as the ratio of household income at the 80th percentile to income at the 20th percentile

**Sheet 9: Human Capital (Z)**

Description: Displays the standardized values of all variables associated with human capital

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**ZObesity2017**

The standardized value of the obesity rate in 2017

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZLowBirth2017**

The standardized value of the percentage of live births with low birth weight

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZPreDeath2017**

The standardized value of the number of deaths of people below the age of 75

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZPotYrsLost2017**

The standardized value of the number of potential years lost due to premature death

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZPoorFair2017**

The standardized value of the percentage of adults in the population reporting poor or fair health

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZPPDMonth2017**

The standardized value of the average number of reported physically unhealthy days per month

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZPMDMonth2017**

The standardized value of the average number of reported mentally unhealthy days per month

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZUninsured2017**

The standardized value of the percentage of people under age 65 without insurance

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZUnemployed2017**

The standardized value of the percentage of people age 16 and up unemployed and looking for work

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZChildPov**

The standardized value of the percentage of children living in poverty

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZCosts2017**

The standardized value of health care costs

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

**ZIncInequality2017**

The standardized value of the income inequality ratio

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

Notes: Calculated as the ratio of household income at the 80th percentile to income at the 20th percentile

**ZViolentCrime2017**

The standardized value of the rate of violent crime

Source: [County Health Rankings, 2017](http://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation)

Notes: Calculated as the ratio of household income at the 80th percentile to income at the 20th percentile

**Sheet 10: Political Capital**

Description: Displays all variables associated with political capital

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**RegTurnout2014**

Voter turnout rate in 2014

Source: [Dave Leip’s Atlas of US Presidential Elections](https://uselectionatlas.org/)

**RegTurnout2012**

Voter turnout rate in 2012

Source: [Dave Leip’s Atlas of US Presidential Elections](https://uselectionatlas.org/)

**MedInc2015**

Median income in 2015

Source: US Census Bureau, 2015 5-year averages

**Education2015**

The percentage of the population aged 25 and older with a Bachelor’s degree or higher

Source: US Census Bureau, 2015 5-year averages

**Sheet 11: Political Capital (Z)**

Description: Displays the standardized values of all variables associated with political capital

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**ZRegTurnout2014**

The standardized value of the voter turnout rate in 2014

Source: [Dave Leip’s Atlas of US Presidential Elections](https://uselectionatlas.org/)

**ZRegTurnout2012**

The standardized value of the voter turnout rate in 2012

Source: [Dave Leip’s Atlas of US Presidential Elections](https://uselectionatlas.org/)

**ZMedInc2015**

The standardized value of median income in 2015

Source: US Census Bureau, 2015 5-year averages

**ZEducation2015**

The standardized value of the percentage of the population aged 25 and older with a Bachelor’s degree or higher

Source: US Census Bureau, 2015 5-year averages

**Sheet 12: Diversity**

Displays variables associated with diversity indices and segregation

**FIPS**

County FIPS code

**County**

County name

**State**

State name

**StateAbb**

State name abbreviation

**CenReg**

Census region

Source: US Census Bureau

**CenDiv**

Census division

Source: US Census Bureau

**Total**

The total population of the county

Source: US Census Bureau

**White**

The total white population of the county

Source: US Census Bureau

**White %**

The proportion of the total population that is white

Source: US Census Bureau

**Black**

The total black population of the county

Source: US Census Bureau

**Black %**

The proportion of the total population that is black

Source: US Census Bureau

**American Indian and Alaska Native**

The total American Indian and Alaska Native population of the county

Source: US Census Bureau

**American Indian and Alaska Native %**

The proportion of the total population that is American Indian and Alaska Native

Source: US Census Bureau

**Asian**

The total Asian population of the county

Source: US Census Bureau

**Asian %**

The proportion of the total population that is Asian

Source: US Census Bureau

**Native Hawaiian and Other Pacific Islander**

The total Native Hawaiian and other Pacific Islander population of the county

Source: US Census Bureau

**Native Hawaiian and Other Pacific Islander %**

The proportion of the total population that is Native Hawaiian and other Pacific Islander

Source: US Census Bureau

**Other**

The total population of the county classified racially as other

Source: US Census Bureau

**Other %**

The proportion of the total population classified racially as other

Source: US Census Bureau

**Two or more races**

The total population of the county classified as two or more races

Source: US Census Bureau

**Two or more races %**

The proportion of the total population of the county classified as two or more races

Source: US Census Bureau

**Diversity Index**

The probability that two people drawn from the population would be of different races

Notes: Calculated by subtracting the sum of the squares of each racial group’s percentage from 1

**Entropy Score 2010**

A measurement of heterogeneity

Source: [Diversity and Disparities, Brown University](https://s4.ad.brown.edu/projects/diversity/Data/data.htm)

Notes: A score closer to 100 indicates that each racial group makes up an equal proportion of the entire population, while a score closer to 0 indicates a skewed distribution of racial groups and reflects homogeneity

**Segregation**

The Index of Dissimilarity, which indicates percentage of either whites or non-whites that would have to move to different geographic areas to produce a racially distributed population

Source: [Diversity and Disparities, Brown University](https://s4.ad.brown.edu/projects/diversity/Data/data.htm)

Notes: A value closer to 100 indicates high segregation and a value closer to 0 indicates high integration

**SPSS Syntax**

\* Encoding: UTF-8.

DATASET ACTIVATE DataSet1.

FACTOR

/VARIABLES Zassn2014 Zrespn2010 Znccs2014perpop ZCultEmp ZPropCult ZRegTurnout2014

ZRegTurnout2012 ZMedInc2015 ZEducation2015 ZObesity2017 ZLowBirth2017 ZPreDeath2017 ZPotYrsLost2017

ZPoorFair2017 ZPPDMonth2017 ZPMDMonth2017 ZUninsured2017 ZUnemployed2017 ZChildPov2017 ZCosts2017

ZIncInequality2017 ZViolentCrime2017

/MISSING LISTWISE

/ANALYSIS Zassn2014 Zrespn2010 Znccs2014perpop ZCultEmp ZPropCult ZRegTurnout2014 ZRegTurnout2012

ZMedInc2015 ZEducation2015 ZObesity2017 ZLowBirth2017 ZPreDeath2017 ZPotYrsLost2017 ZPoorFair2017

ZPPDMonth2017 ZPMDMonth2017 ZUninsured2017 ZUnemployed2017 ZChildPov2017 ZCosts2017

ZIncInequality2017 ZViolentCrime2017

/PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO EXTRACTION ROTATION

/FORMAT SORT BLANK(.4)

/PLOT EIGEN

/CRITERIA MINEIGEN(1) ITERATE(25)

/EXTRACTION PAF

/CRITERIA ITERATE(25) DELTA(0)

/ROTATION OBLIMIN

/METHOD=CORRELATION.

\*Determinant too low (below .00001), indicating too much collinearity; eliminated varibles ZMedInc2015, ZPotYrsLost2017, ZPoorFair2017, ZPPDMonth2017, and ZPMDMonth2017, since they all correlated strongly with

\*ZChildPov2017 - ZChildPov2017 may be umbrella variable that encompasses all of these; ran EFA again

FACTOR

/VARIABLES Zassn2014 Zrespn2010 Znccs2014perpop ZCultEmp ZPropCult ZRegTurnout2014

ZRegTurnout2012 ZEducation2015 ZObesity2017 ZLowBirth2017 ZPreDeath2017 ZUninsured2017

ZUnemployed2017 ZChildPov2017 ZCosts2017 ZIncInequality2017 ZViolentCrime2017

/MISSING LISTWISE

/ANALYSIS Zassn2014 Zrespn2010 Znccs2014perpop ZCultEmp ZPropCult ZRegTurnout2014 ZRegTurnout2012

ZEducation2015 ZObesity2017 ZLowBirth2017 ZPreDeath2017 ZUninsured2017 ZUnemployed2017

ZChildPov2017 ZCosts2017 ZIncInequality2017 ZViolentCrime2017

/PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO EXTRACTION ROTATION

/FORMAT SORT BLANK(.4)

/PLOT EIGEN

/CRITERIA MINEIGEN(1) ITERATE(25)

/EXTRACTION PAF

/CRITERIA ITERATE(25) DELTA(0)

/ROTATION OBLIMIN

/METHOD=CORRELATION.

\*Determinant still too low and factor analysis was terminated due to communality exceeding 1; elminated ZCultEmp, since ZPropCult is a better measurement of this and they are largely the same thing

FACTOR

/VARIABLES Zassn2014 Zrespn2010 Znccs2014perpop ZPropCult ZRegTurnout2014

ZRegTurnout2012 ZEducation2015 ZObesity2017 ZLowBirth2017 ZPreDeath2017 ZUninsured2017

ZUnemployed2017 ZChildPov2017 ZCosts2017 ZIncInequality2017 ZViolentCrime2017

/MISSING LISTWISE

/ANALYSIS Zassn2014 Zrespn2010 Znccs2014perpop ZPropCult ZRegTurnout2014 ZRegTurnout2012

ZEducation2015 ZObesity2017 ZLowBirth2017 ZPreDeath2017 ZUninsured2017 ZUnemployed2017

ZChildPov2017 ZCosts2017 ZIncInequality2017 ZViolentCrime2017

/PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO EXTRACTION ROTATION

/FORMAT SORT BLANK(.4)

/PLOT EIGEN

/CRITERIA MINEIGEN(1) ITERATE(25)

/EXTRACTION PAF

/CRITERIA ITERATE(25) DELTA(0)

/ROTATION OBLIMIN

/METHOD=CORRELATION.

\*four capitals starting to clarify; elminated Zrespn2010 and ZUninsured2017, since they loaded on fifth factor

FACTOR

/VARIABLES Zassn2014 Znccs2014perpop ZPropCult ZRegTurnout2014

ZRegTurnout2012 ZEducation2015 ZObesity2017 ZLowBirth2017 ZPreDeath2017

ZUnemployed2017 ZChildPov2017 ZCosts2017 ZIncInequality2017 ZViolentCrime2017

/MISSING LISTWISE

/ANALYSIS Zassn2014 Znccs2014perpop ZPropCult ZRegTurnout2014 ZRegTurnout2012

ZEducation2015 ZObesity2017 ZLowBirth2017 ZPreDeath2017 ZUnemployed2017

ZChildPov2017 ZCosts2017 ZIncInequality2017 ZViolentCrime2017

/PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO EXTRACTION ROTATION

/FORMAT SORT BLANK(.4)

/PLOT EIGEN

/CRITERIA MINEIGEN(1) ITERATE(25)

/EXTRACTION PAF

/CRITERIA ITERATE(25) DELTA(0)

/ROTATION OBLIMIN

/METHOD=CORRELATION.

\*four factor solution now clear; elminated ZCosts2017 for not loading on anything and both ZObesity2017 and ZPreDeath2017 for loading on cultural capital factor (makes no theoretical sense)

FACTOR

/VARIABLES Zassn2014 Znccs2014perpop ZPropCult ZRegTurnout2014

ZRegTurnout2012 ZEducation2015 ZLowBirth2017

ZUnemployed2017 ZChildPov2017 ZIncInequality2017 ZViolentCrime2017

/MISSING LISTWISE

/ANALYSIS Zassn2014 Znccs2014perpop ZPropCult ZRegTurnout2014 ZRegTurnout2012

ZEducation2015 ZLowBirth2017 ZUnemployed2017

ZChildPov2017 ZIncInequality2017 ZViolentCrime2017

/PRINT UNIVARIATE INITIAL CORRELATION SIG DET KMO EXTRACTION ROTATION

/FORMAT SORT BLANK(.4)

/PLOT EIGEN

/CRITERIA MINEIGEN(1) ITERATE(25)

/EXTRACTION PAF

/CRITERIA ITERATE(25) DELTA(0)

/ROTATION OBLIMIN

/METHOD=CORRELATION.

\*this yields a perfect four factor solution; must now do reliability analyses

\*Social Capital:

RELIABILITY

/VARIABLES=Zassn2014 Znccs2014perpop

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE

/SUMMARY=TOTAL.

\*Human Capital:

RELIABILITY

/VARIABLES=ZViolentCrime2017 ZIncInequality2017 ZUnemployed2017 ZChildPov2017 ZLowBirth2017

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE

/SUMMARY=TOTAL.

\*Cultural Capital:

RELIABILITY

/VARIABLES=ZPropCult ZEducation2015

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE

/SUMMARY=TOTAL.

\*Political Capital:

RELIABILITY

/VARIABLES=ZRegTurnout2014 ZRegTurnout2012

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE

/SUMMARY=TOTAL.

**R Code**

#install and load psych package

install.packages("psych")

library("psych")

#load in CAAM data, but make sure to use only the numeric variables needed for the factor analysis

#rename loaded df as CAAM

CAAM <- CAAM\_FA\_Test

#conduct principal component analysis on CAAM

#na.omit excludes missing values, which is necessary for analysis

CAAM.pca <- princomp(na.omit(CAAM))

#display results of principal component analysis

summary(CAAM.pca)

#plot the principal component analysis to create a scree plot

#components under 1 should be excluded

plot(CAAM.pca)

#notice that four components are above one, indicating four core latent factors in the data

#conduct factor analysis using four factors

#create correlation matrix object

#make sure to include use = "complete.obs" to exclude missing values

corMat <- cor(CAAM, use = "complete.obs")

#display correlation matrix

corMat

#conduct factor analysis using the four factors, NO rotation to start, principal axis factoring, and complete observations

fa1 <- fa(r=corMat, nfactors = 4, rotate = "none", fm = "pa", use = "complete.obs")

#rotate factor analysis using Kaiser normalization and oblimin rotation

fa1r <- kaiser(fa1, rotate = "oblimin")

#display factor analysis

fa1r