



Stanford University

Predicting a Happier Place

- An Exploration of Well-Being Throughout America -
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Motivation

How do the communities we live in affect our happiness? Does access to certain amenities, such as parks or restaurants, benefit us more than others? In an effort to improve understanding of what leads to vibrant communities and fulfilling lifestyles, our project explored community-level factors and how important they are for determining well-being in America's largest metropolitan areas.

Members of high well-being communities, compared to low well-being ones, are:

- 12% more likely to learn new and interesting things
- 16% less likely to worry about money
- 25% less likely to have depression over their lifetime

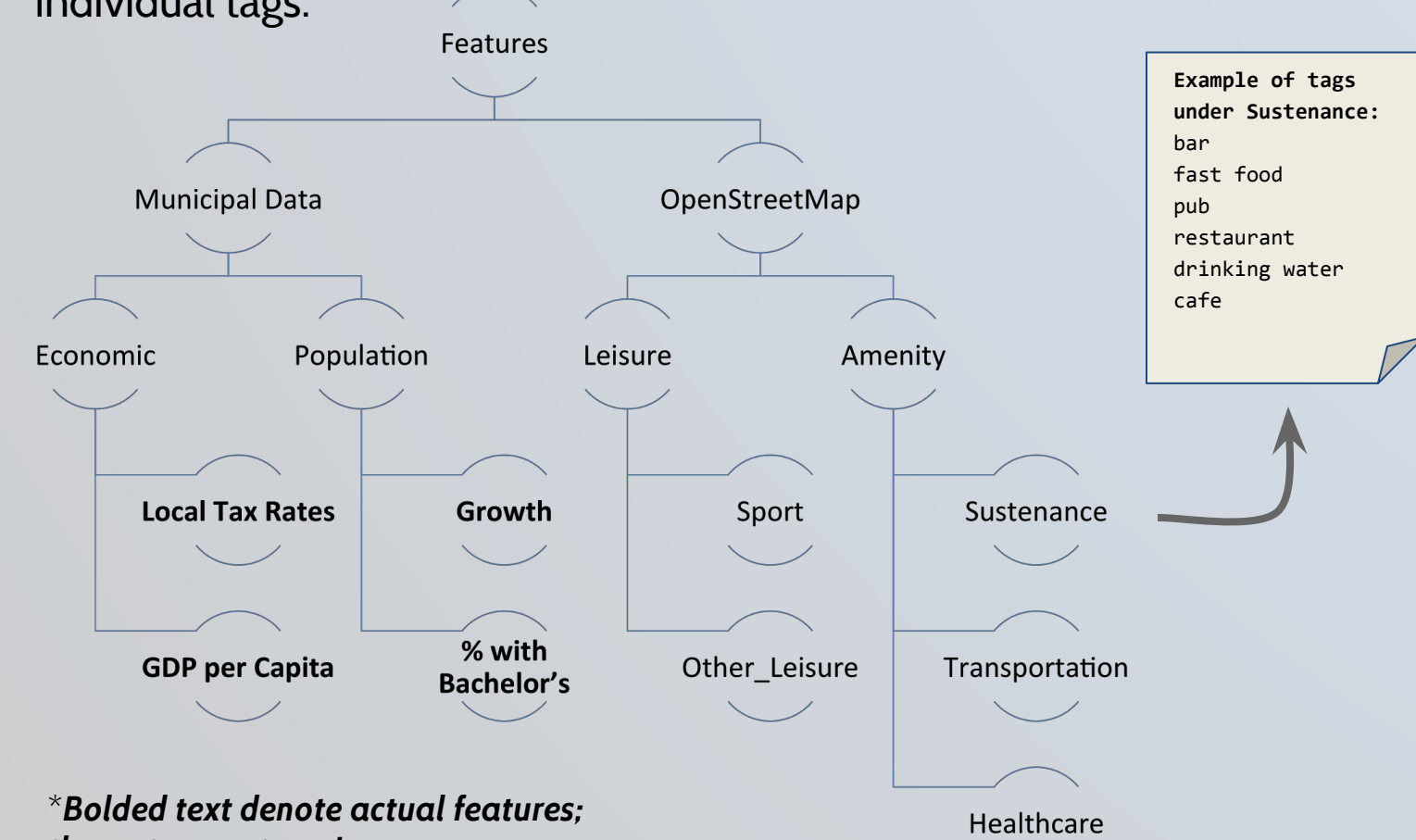
Components of Happiness

Gallup-Healthways publishes an annual report that provides data on the overall city satisfaction as well as social, financial, physical, and psychological well-being of the largest US metropolitan communities by population. For our project, we defined the term "happiness" as having a high score in one or more combinations of these six different indices.



Data Hierarchy

Using OpenStreetMap and a variety of municipal data sources, we extracted the most prevalent infrastructural features of the largest US metropolitan areas, as well as their economic statistics, population dynamics, and education levels. OpenStreetMaps features were divided into two categories, Leisure and Amenity, each of which were divided into further subcategories and finally individual tags.



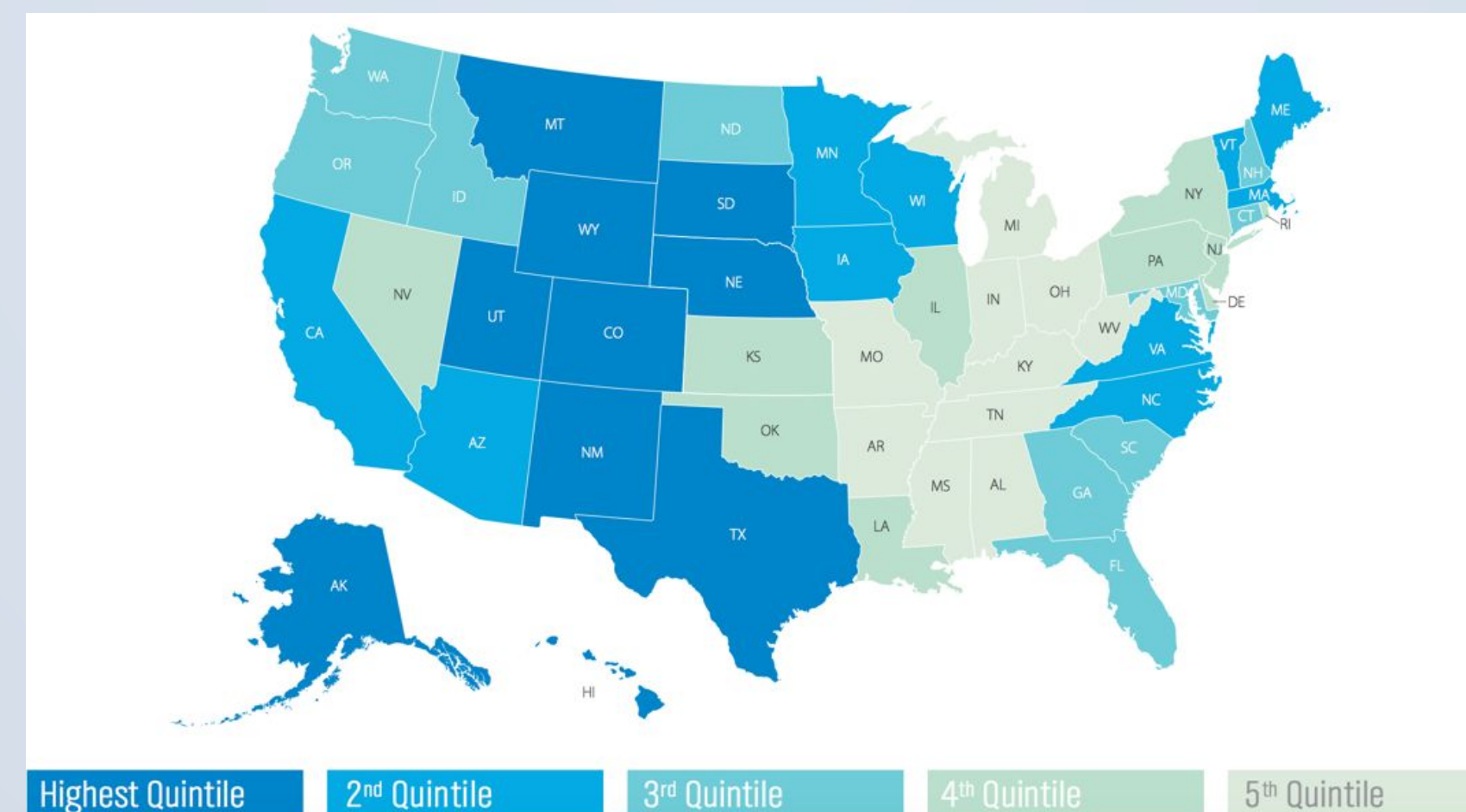
*Bolted text denote actual features; the rest are categories

Data Exploration Results

Social Well-Being indices and feature values for highest and lowest-ranking communities

Community	Social Well-Being	taxi	video arcade	club	common	city tax
Chattanooga, TN-GA	1st	2.73	0	0	1066.20	0
Reno, NV	2nd	1.11	0	0	47.86	0
Knoxville, TN	2nd to last	0	0	0	2.15	0
Youngstown-Warren-Boardman, OH-PA	Last	0	0	0	4.16	2.75

Overall state well-being rankings (2014)

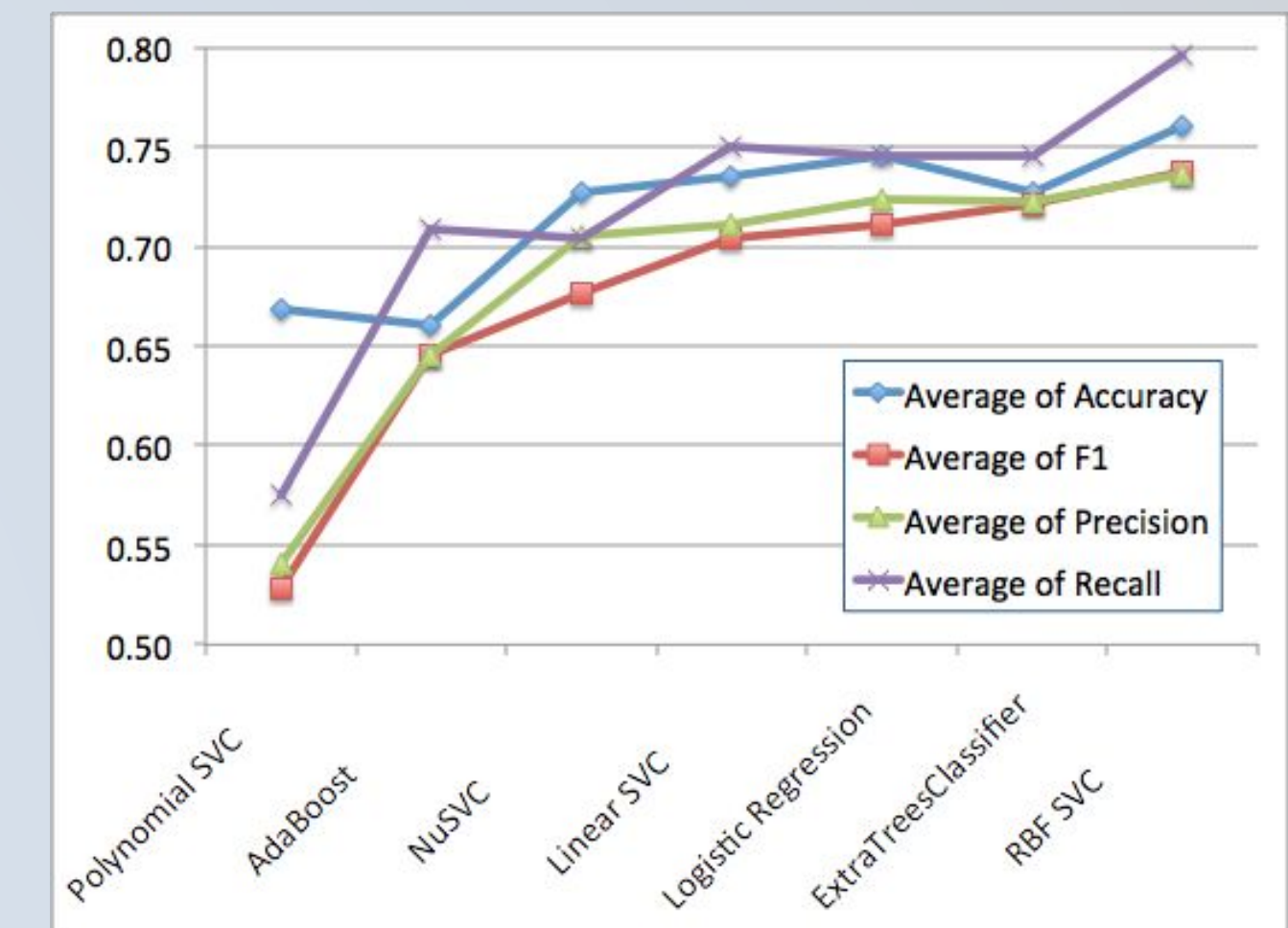


Feature selection rankings for each index

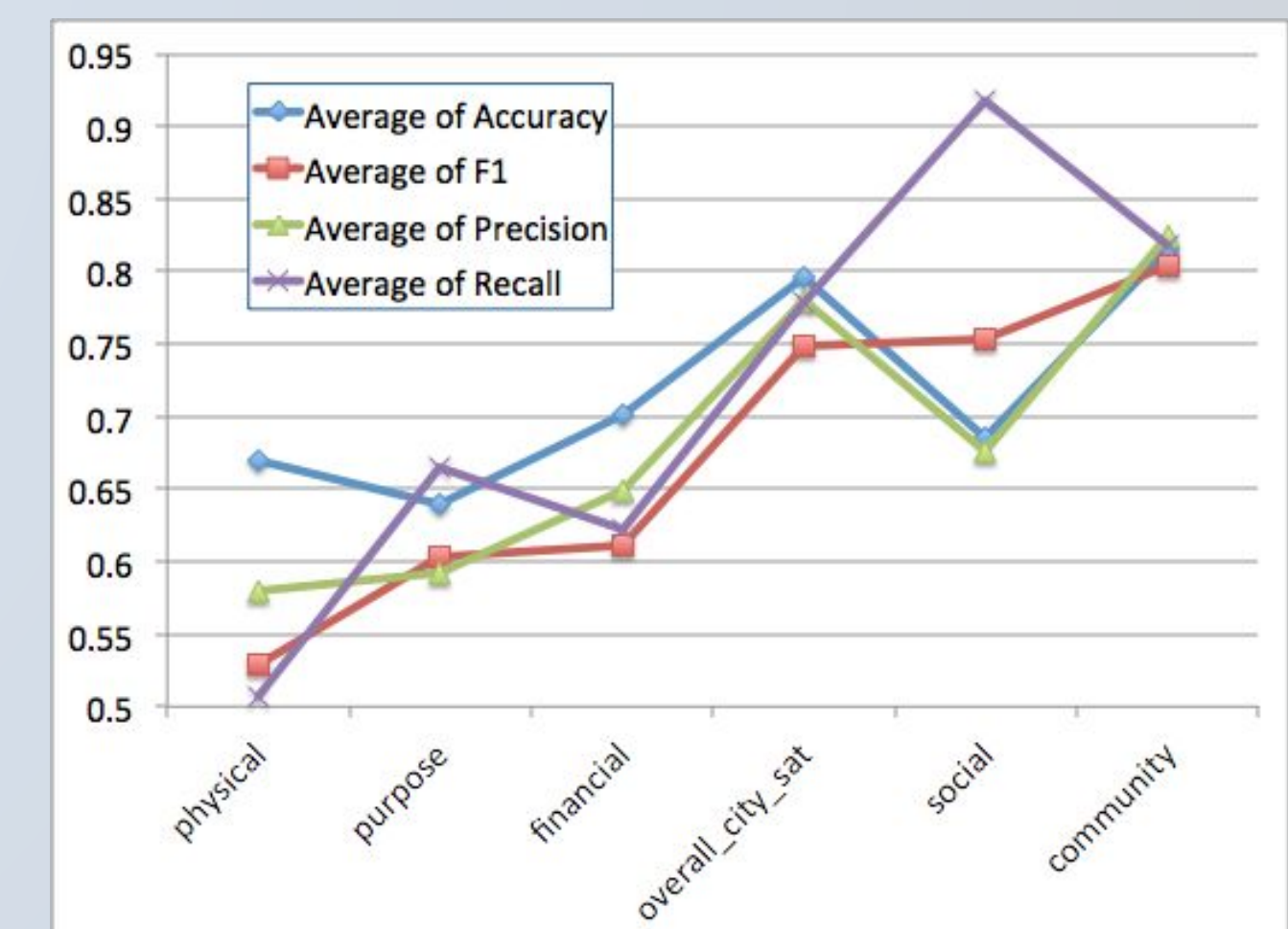
Index	Financial Well-Being	Physical Well-Being	Purpose Well-Being	Social Well-Being	Overall City Satisfaction
Rank 1	bar	community center	pharmacy	taxi	college grads
Rank 2	playground	waste basket	water park	video arcade	city tax
Rank 3	college grads	dentist	stadium	club	gdp per capita
Rank 4	coastal	fitness center	city tax	common	gdp growth
Rank 5	gdp per capita	population growth	population growth	city tax	population growth

Binary Classification Results

Algorithms vs. Average Scores



Indices vs. Average Scores



"In communities with higher well-being, we have found that people live longer, happier lives and business and local economies flourish. A reliable well-being metric provides community and business leaders with the data and insights they need to help make sustained transformation a reality."

-Dan Buettner, founder, Blue Zones

References

http://info.healthways.com/hs-fs/hub/162029/file-2513997715-pdf/Well-Being_Index/2014_Data/Gallup-Healthways_State_of_American_Well-Being_2014_State_Rankings.pdf?t=1449256433494