Map

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Wish to explore differences in student experiences in HS across states

We have core survey items that measure different aspects of student/school experience, rigorously designed and tests for validity that measure:

Engagement: engage_fact Academic Challenge: rigor_fact Culture: climate_fact Belonging & Peer Collaboration: peers_fact Relationships: adult_fact College & Career Readiness: prep_fact

Each survey item is compiled into a key factor or overall score.

#libraries

```
library(usmap)
library(ggplot2)
library(dplyr)
## Attaching package: 'dplyr'
## The following objects are masked from 'package:stats':
##
       filter, lag
##
## The following objects are masked from 'package:base':
##
##
       intersect, setdiff, setequal, union
library(tigris)
## To enable caching of data, set 'options(tigris_use_cache = TRUE)'
## in your R script or .Rprofile.
library(tidyr)
library(plotly)
##
## Attaching package: 'plotly'
## The following object is masked from 'package:ggplot2':
##
##
       last_plot
```

```
## The following object is masked from 'package:stats':
##
       filter
##
## The following object is masked from 'package:graphics':
##
       layout
library(htmlwidgets)
library(leaflet)
library(ggthemes)
library(stringr)
Prepping data
HSsegcount <-read.csv("/Users/valerier/Dropbox (CEP)/YouthTruth/Report Production/Reports_22JU/clients/c
HSsegmean <- read.csv("/Users/valerier/Dropbox (CEP)/YouthTruth/Report Production/Reports_22JU/clients/c
#removing variables other than state, and first column
HSsegcount<-HSsegcount[71:106,-1]</pre>
HSsegmean<-HSsegmean[71:106, -1]
#renaming first column as state
names(HSsegcount) [names(HSsegcount) == 'val'] <- 'State'</pre>
names(HSsegmean) [names(HSsegmean) == 'val'] <- 'State'</pre>
#Taking only state and factor variables
HSsegcount<-subset(HSsegcount, select= c("State", "engage_fact", "rigor_fact", "climate_fact", "peers_fac
HSsegmean <- subset (HSsegmean, select = c ("State", "engage_fact", "rigor_fact", "climate_fact", "peers_fact"
region <- c("arkansas", "california", "colorado", "connecticut", "district of columbia", "florida", "geo.
HSsegmean<-cbind(region, HSsegmean)</pre>
HSsegcount<-cbind(region, HSsegcount)</pre>
USmap<-map_data("state")</pre>
YTmap<-left_join(USmap, HSsegmean, by="region")
#YTmapn<-left_join(HSsegcount, YTmap, by="region")</pre>
#YTmap<-merge(x=USmap, YTmap, by ="region")</pre>
```

As it is likert data the values tend toward an average of three, peer belonging is the most interesting and will be the one I present. I'd like to develop a map that could click between factors, but perhaps that would be a good shiny app.

```
#"engage_fact", range: 3.208853 4.110526, diff: 0.901673

#"rigor_fact", range: 3.454870 4.217949, diff: 0.763079

#"climate_fact", range: 2.809873 4.190789, diff: 1.380916

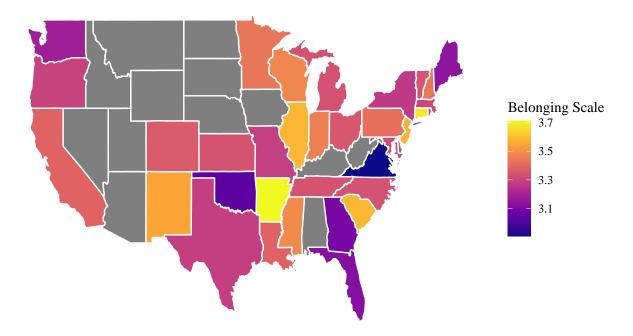
#"peers_fact", range: 2.909091 3.757303, diff: 0.848212

#"adult_fact", range: 3.039216 4.311966, diff: 1.27275
```

```
#"prep_fact", range: 2.70276 3.75000, diff: 1.04724
#Interested in looking at Peer belonging
YTUSA<-ggplot(data=YTmap, mapping= aes(x = long, y = lat, group = group))+
  geom_polygon(color="white", aes(fill=peers_fact)) +
  theme_tufte()+
  scale_fill_viridis_c(option = "plasma")+
  scale_colour_gradientn(colours = "plasma")+
   theme(axis.ticks.x = element_blank(),
       axis.text.x = element_blank(),
       axis.ticks.y = element_blank(),
       axis.text.y = element_blank(),
       panel.background = element_blank(),
       axis.title.x=element_blank(),
       axis.title.y=element_blank(),
       panel.grid=element_blank())+
  ggtitle("Belonging & Peer Collaboration by State")+
  labs(subtitle = str_wrap("Average key rating for High School students by state. Values ranged from 1-
      caption = "Source:YouthTruth Student Survey, Note: Key ratings are a composite score of survey i
      fill= "Belonging Scale")
YTUSA
```

Belonging & Peer Collaboration by State

Average key rating for High School students by state. Values ranged from 1-5 on a likert scale, n = 262,572.



Source: YouthTruth Student Survey, Note: Key ratings are a composite score of survey items