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GEOG-172: Cartography and Data Visualization

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Santa Clara County Unemployment Rate by Age

Research Foundation: My final project is displaying the ACS multi-year data of the unemployment rate of Santa Clara County residents ages 16 and older. My research statement was to compare the census data of my home county, Santa Clara, to the undisputed fact college aged adults have a high unemployment rate. This research question is also very close to home as I have a few friends that have gotten incredible educations from very good universities yet are finding it difficult to land any job at all, let alone keep one.

Data Documentation: My data was collected from the US Census Bureau, and can be found linked in my works cited below.

U.S. Census Bureau. (n.d.). Employment Status. *American Community Survey, ACS 1-Year*

Estimates Subject Tables, Table S2301. Retrieved January 16, 2026, from

<https://data.census.gov/table/ACSST1Y2024.S2301?t=Employment&g=050XX00US060>

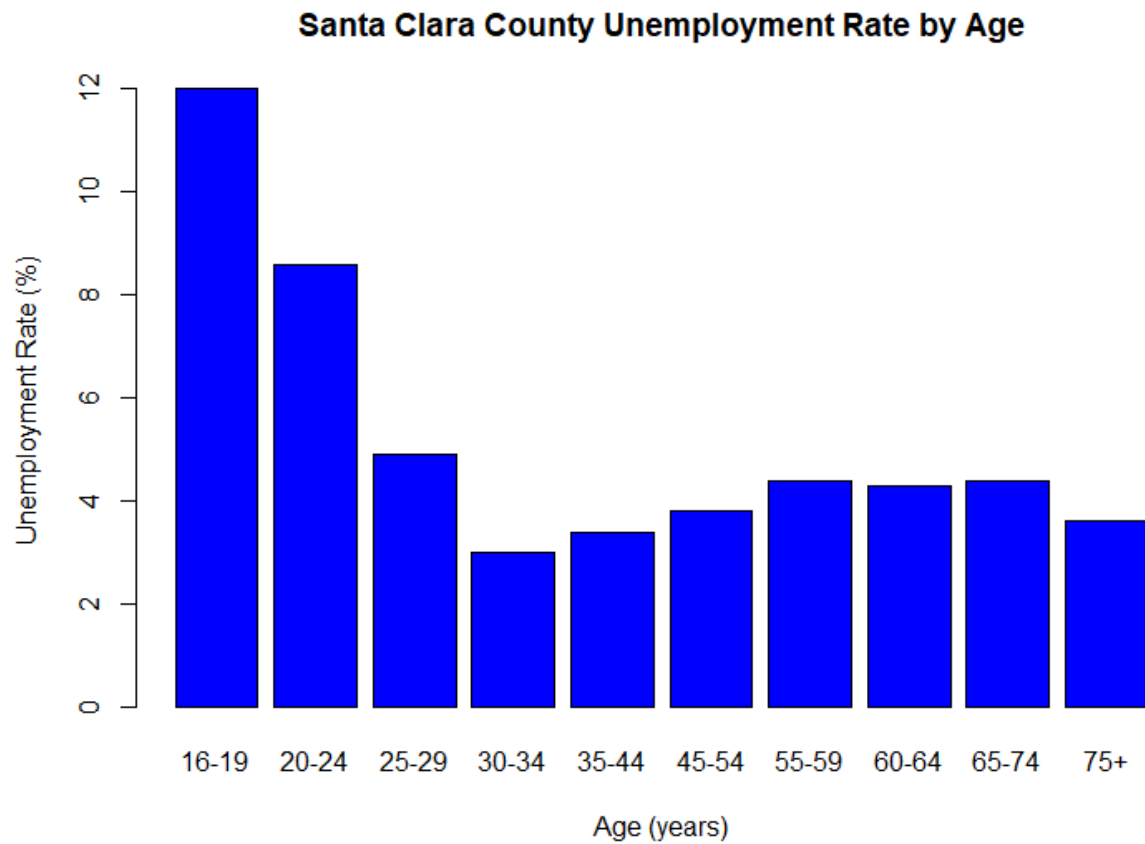
[85](#).

Methodology: My workflow and process for cultivating this data into something visual and presentable was very fun. I have taken other Geography and GISci classes before with similar projects, mostly making maps in suites like ArcGIS. I had the most fun making the histogram in module 2, as that was something I had never done before in a GISci-adjacent class. I had to

change my approach and really learn about the way some of these libraries worked, like tidyverse and dplyr, in order to get some things to work. I had a lot of fun looking up errors, specifically relating to finding the variable IDs as the census no longer includes any metadata in their download options. It was also fun to look at how to properly go about consolidating the data into one place. Initially, I was only able to get each variable into one place but formatted improperly into a dataframe. With a bit of outside the box thinking with some consolidation and renaming, I was able to get the data into an easy and readable format that I was proud of. Also, keeping all the explanations of each line of code in the notes of the script was really beneficial for looking at where errors were and what each line should be doing.

Technical Execution: My R script thankfully had no errors, and when ran is able to output a visualization of Santa Clara County's unemployment rate for each measured age range by the census (seen below).

Professional Visuals: As shown by the visual, college aged adults, aged 20-24, are among the highest unemployed population in the county. The second highest, 16-19 year olds, are an interesting case due to them being made up of kids that are not expected to have jobs nor have a higher education to help them get a career. The 20-24 year old cohort is over double the unemployment rate of the next cohort, 25-29.



I will be keeping this script around for a very long time to remake the graph with the data over the next few years to see how it changes, and hopefully my peers and I will be able to look at it while employed.