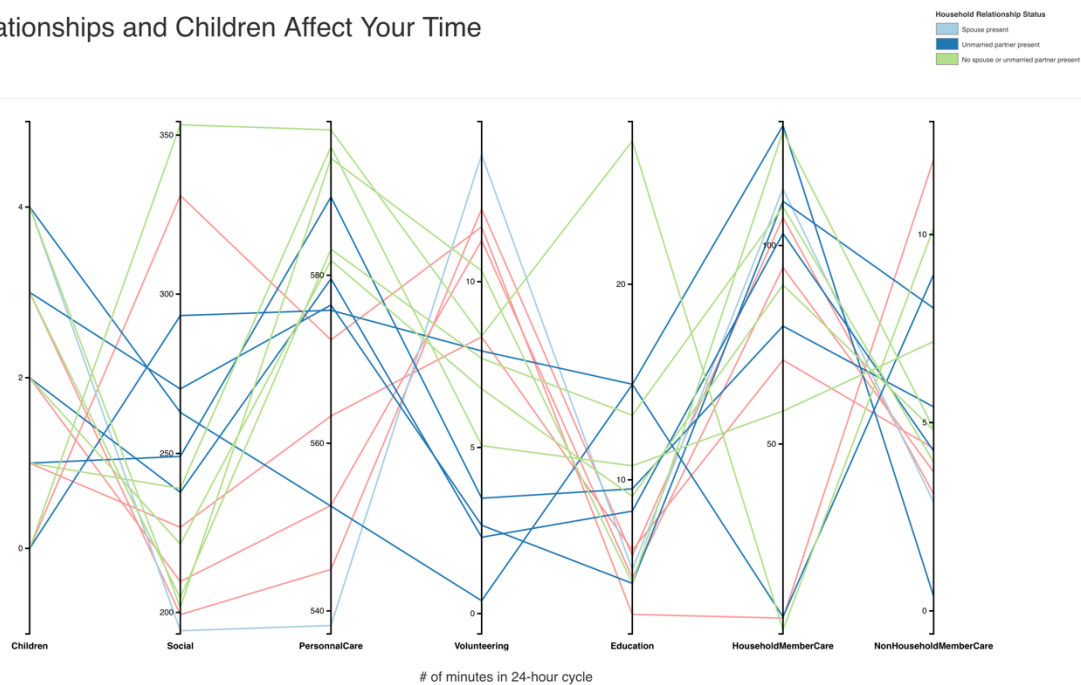# Description of Data

The data for this visualization comes from the American Time Usage Survey (ATUS). The data set contains information on how people spend their time in a 24 hour cycle. People are categorized by family, economic, demographic, and physical attributes. There are a number of different activity categories that range from Work to Social to Personal Care. IPUMS provides data from 2003 to 2017. For this visualization I am using data from 2013 to 2017. Because their are tens of thousands for responders to this survey, I decided to calculate the average for several groups of people that fit a particular attribute list. The following graph is a visualization of this data.

This visualization shows how people with varying levels of children and relationship status spend their time. The leftmost column represents number of children. The rest of the columns show # of minutes spend doing a certain activity.

Description of Visualization

This visualization attempts to address the relationship between how romantic relationships and children affect how people spend their time. Each line in this visualization represents the average response for 12 different categories of respondent (spouse w/ 0 to 4 children, unmarried partner w/ 0 to 4 children, and no partner w/ 0 to 4 children). The vertical coordinate axis measure the average number of minutes each group spent doing that activity in a 24 hour cycle.

This visualization depicts three different relationships that allow it to effectively answer the task. The color map encodes partner categorization. The color mapping was picked using colorbrewer and contains colors that are distinct enough to be recognized but similar enough to make the visualization readable. This color scheme makes it easier for trends to be seen, and allows for an easy comparison amongst the three partner categories. Encoding each attribute along a vertical scale and placing those scales parallel to each other encodes the relationship between different activities and allows for trends to found quickly. Displaying number of children with the first vertical bar lets viewers combine this knowledge with color to quickly identify which group a certain line belongs to.

Their were several pieces of feedback from my critique session that guided my implementation of final visualization. The most helpful conversation, and the one that is still perhaps ongoing has to do with color. The visualization uses color to distinguish three pieces of categorical data: spouse present, unmarried partner present, and spouse and unmarried partner are not present. The trick is trying to come up with the right three colors to represent that data. The colors should be different enough so they are easily distinguishable amongst themselves but not so different that they clutter the visualization. The people that critiqued my rough draft and final draft helped me decide which color maps worked the best. It was also mentioned during the critique session that I could add some filtering interaction to allow users to change which attributes were plotted in the visualization. I investigated this and decided that it was out this projects scope and did not add enough to the visualization to warrant the amount of time required to implement that feature.

This visualization has two main pieces of interaction: Hovering and Toggling. Hovering over a line will highlight all lines that match that match the hovered line's index. Hovering out of a line will return those lines to their original colors. A viewer can toggle a line by clicking on a line will increase the width of all lines that share the same amount of children. Clicking the larger lines once more will return those lines to their original sizes.