Q1.

For your first question/story (this should be the story that you made the alternate design for): A short description of the story. A sentence or two of what you are trying to show.

The time spent on the top-5 activities over time (2015-2021) across male and female. The top-5 activities are defined by the top-5 activities where people spend most of their time on. As shown in the plot, when the pandemic hit in 2020, there are significant change in how people spend their time.

Q2.

If this story is from the class list, please enter 1-4 for the question number (1=balanced, 2=pre/post pandemic, 3=income, 4=age). Please put 0 if this is not from the class list.

0

Q4.

A design rationale explaining why you chose the design that you did. What choices did you make to make your story clear?

As my goal is to illustrate how the time spent on each activity change over year across two sexes, I chose to use a line chart because the “change” is encoded by the slope of the line. Another design choice I made is to only focus on the top-5 activities because there are dozens of activities, and it is impractical to show them all. I also color-coded the lines by the activity to better differentiate different activities. In addition, as suggested by the critiques I receive, I highlight the year 2020 and 2021 to emphasize that it is during the pandemic.

Q6.

Please give a comparison between the two designs. What are the pros and cons of the two designs?

In the main line plot design, because the change is directly encoded by the slope of the line, it is easier to tell the “change” in time over years. However, compared to the area plot, it is harder to see that female spends more time on activities not in these top 5 categories.

In the alternative area plot, it is obvious that female spends more time on activities not in these top 5 categories (e.g., taking care of children) because the “sum” of the top-5 activities is directly encoded by the upmost boundary. However, compared to the line plot, it is harder to see the trend of each individual activity over years because they are not aligned on a common y axis.

Q7.

For your second question/story: A short description of the story. A sentence or two of what you are trying to show.

The trend between the number of household children (age<18) and the time the subjects spend on 1) sleeping, 2) TV watching (non-religious), and 3) working on full-time job. The subjects are separated by their sex – male and female. The trend shows that having more children does not significantly change the sleeping time but does change the TV time and work time.

Q8.

If this story is from the class list, please enter 1-4 for the question number (1=balanced, 2=pre/post pandemic, 3=income, 4=age). Please put 0 if this is not from the class list.

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Q10.

A design rationale explaining why you chose the design that you did (for question 2). What choices did you make to make your story clear?

Because my goal is to show how the time spend on each activity changes as people have more household children, I chose to use a line chart because the “change” is encoded by the slope of the line. Additionally, to show how this trend differs across sexes, I juxtapose their trend lines with a common y axis so that viewers can easily make the comparison between male and female for any given activity. To highlight the difference between male and female, I also color-code the lines by two different colors. Because viewers may want to perform detailed comparison, I add the value label for each dot. Finally, another design choice I made is to only focus on the top-3 (sleep, TV, work) activities because there are dozens of activities, and it is impractical to show them all.

Q11.

For your third question/story: A short description of the story. A sentence or two of what you are trying to show.

The top-10 activities in terms of the difference in time spent on each activity of those who have children compared to those without children (minutes) across male and female. It shows that, for those who have children compared to those who don’t, the activity with the largest decrease is watching TV (not religious), whereas the activities with the largest increase are working (for men) and physical care for children (for women).

Q12.

If this story is from the class list, please enter 1-4 for the question number (1=balanced, 2=pre/post pandemic, 3=income, 4=age). Please put 0 if this is not from the class list.

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Q14.

A design rationale explaining why you chose the design that you did (for question/story 3). What choices did you make to make your story clear?

Because my goal is to show the impact of having household children on the time spent on each activity across sexes, I directly encode the difference in time between those with children and those without children using bar chart. Additionally, to show how the different differs across sexes, I juxtapose their bars with a common y axis so that viewers can easily make the comparison between male and female for any given activity. To highlight the difference between male and female, I also color-code the bars by two colors. Because viewers may want to perform detailed comparison, I add the value label for each bar. Finally, another design choice I made is to only focus on the top-10 activities where the effect of having children is the largest because it is impractical to show all activities.

Q15.

For your fourth question/story: A short description of the story. A sentence or two of what you are trying to show.

The time on selected activities as people age. It shows that, as people grow up, the working time increases and then decreases. The time for working is replaced by the time on watching TV. The replacement of working time by TV watching time is true for both male and female. The time on relaxing also increases after the retirement age.

Q17.

If this story is from the class list, please enter 1-4 for the question number (1=balanced, 2=pre/post pandemic, 3=income, 4=age). Please put 0 if this is not from the class list.

Q18.

A design rationale explaining why you chose the design that you did (for question/story 3). What choices did you make to make your story clear?

I chose a stacked area plot rather than a line plot because it is better at showing the part whole relationship and showing which activity takes more time at a given age. I also juxtapose the two sexes side-by-side with a common y axis to facilitate comparison between sexes. In addition, I order the activity based on the time spent in a descending order so that viewers can easily know the importance of each acitivity.