Affairs

Data Visualization

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Overview

Description of the dataset

Extramarital Affairs Data

- 601 men and women from the United States were surveyed about how many (if any) affairs they have had in their marriage and other information (maybe related) including the number of years they have been married, number of kids, etc.

Source

- Fair, R. (1977) "A note on the computation of the tobit estimator", *Econometrica*, **45**, 1723-1727. http://fairmodel.econ.yale.edu/rayfair/pdf/1978A200.PDF.

References

- Greene, W.H. (2003) *Econometric Analysis*, Prentice Hall, http://www.prenhall.com/greene/greene1.html, Table F22.2.

Variables (factors)

Variable names	Values range
Gender Identification	(male, female)
Age	17.5, 22, 27,32, 37, 42, 52, 57
Number of Years Married	0.125, 0.417, 0.75, 1.5, 4, 7, 10, 15
Children	(yes, no)
How Religious	from 1 (not religious) to 5 (very religious)
Education in years	9, 12, 14, 16, 17, 18, 20
Occupation	from 1 to 7, according to Hollingshead classification (reverse numbering)
Self Rating of Marriage	from 1 (very unhappy) to 5 (very happy)
Number of Affairs in the Past Year	0, 1, 2, 3, 7, 12

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Pre-Visualization

Data quality

- **Outdated**
  - The data was first collected more than 40 years ago. The world has changed a lot since then. I believe people's values also have changed a lot. The results could only represent people's tendency back then. I think there were scarce gay/les couples back then and they should be taken into consideration.

- **Limited**
  - By observing the data, the values of some factors, such as number of year married, and number of affairs have a less distributed range than expected in a not small dataset. I wonder how and where did the researchers collect the data. And I therefore doubt the reliability of the dataset.

- **Lack of key factors**
  - In common sense, people would have an affair during some special periods. For example, a husband would be more likely to have an affair when his wife is pregnant. This information is also valuable in this analysis.

Assumptions

- People may be more possible to have an affair while fostering a kid in the house. As one of the spouses would pay more attention to the child and the other may have chances to be with others.

- People may be less possible to have an affair when they feel happiness in the family life.

- People may be more possible to have an affair if they work in a higher occupation and make a lot of money. They may be accessible to more elites and have spare money to date.

- People may get bored of accompanying the same person for many years for example the saying "seven years itch".

- There's a saying in China that having affairs is only the difference between zero and countless times. Maybe we could test this later.

My Questions – related to my assumptions

1. Are people of higher education less possible to have extramarital affairs? Since they are maybe more ethical and rational, have a clearer understanding of things and relationships?

2. Are people less possible to have extramarital affairs if they rate highly of their marriage?

3. Since having a child is a turning point in marriage, does it have an effect on people rate of their marriage or choice to have extramarital affairs?
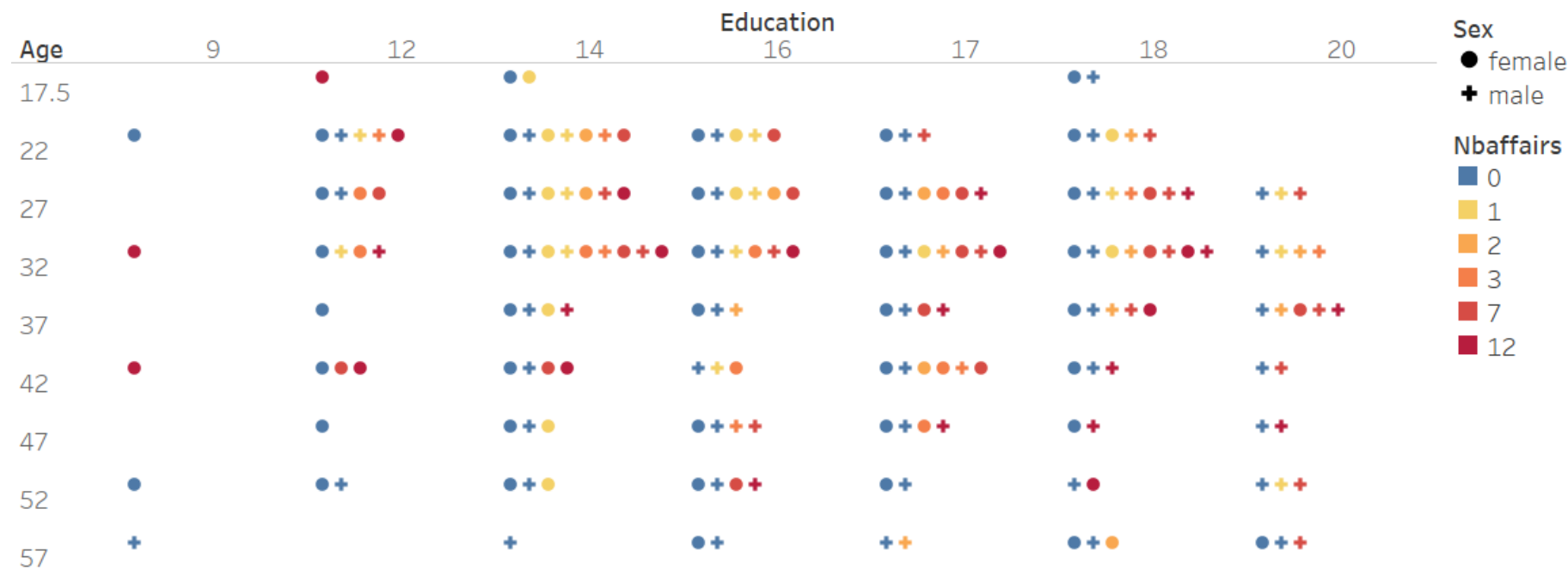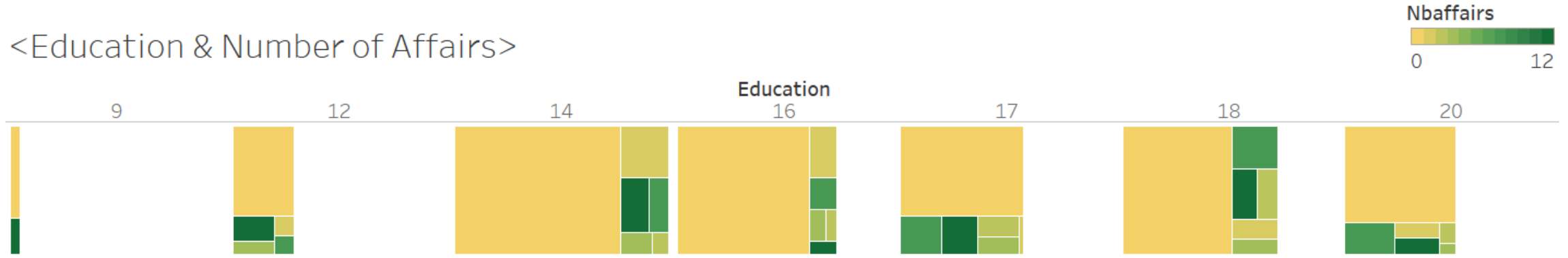
/03
Visualization

Education (age)

We can't see whether people of higher education would be less possible to have affairs in this visualization. We can only see people of higher education are mostly male.
People aged 27 to 32 is the most possible group of having affairs and the group of people aged 47 and older is the least possible to have an affair (since people are not allowed to get married younger).

Nbaffairs (color) broken down by Education vs. Age. Shape shows details about Sex.

Design Codes
- Filled distinct shapes to show the two sexes and colors are more obvious on filled shapes
- Totally distinct colors to represent 0 and non-0 in number of affairs.
- Gradient colors to represent 1+ to imply sum of affairs. The darker, the more affairs.

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Education

<Education & Number of Affairs>

Nbaffairs (color) and count of Nbaffairs (size) broken down by Education.

- The area represent the population of a certain kind. We can see yellow occupies most of the visualization which means most of the surveyed people don't have an affair in the past year.
- The green color indicate the number of affairs people had in the past year. The darker green means more.
- It seems that years of education is not necessarily related to affairs.
- People of 14 or 16 years of education are the least possible to have affairs.
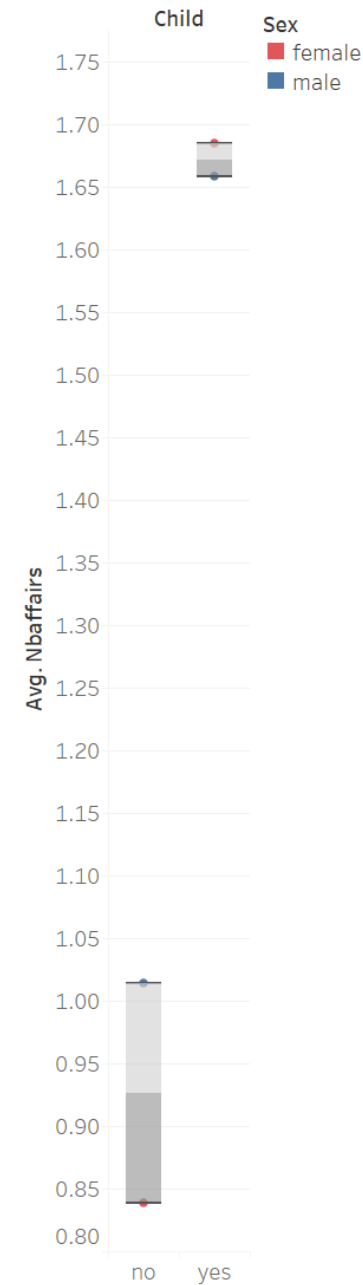
Child in the family

Left

It is obvious that people are more possible to have affairs if they have a child. An interesting thing is in the families with no kid, the male are more possible to have an affair than the female while in the families with kids, the female are slightly more possible to have an affair than the male.
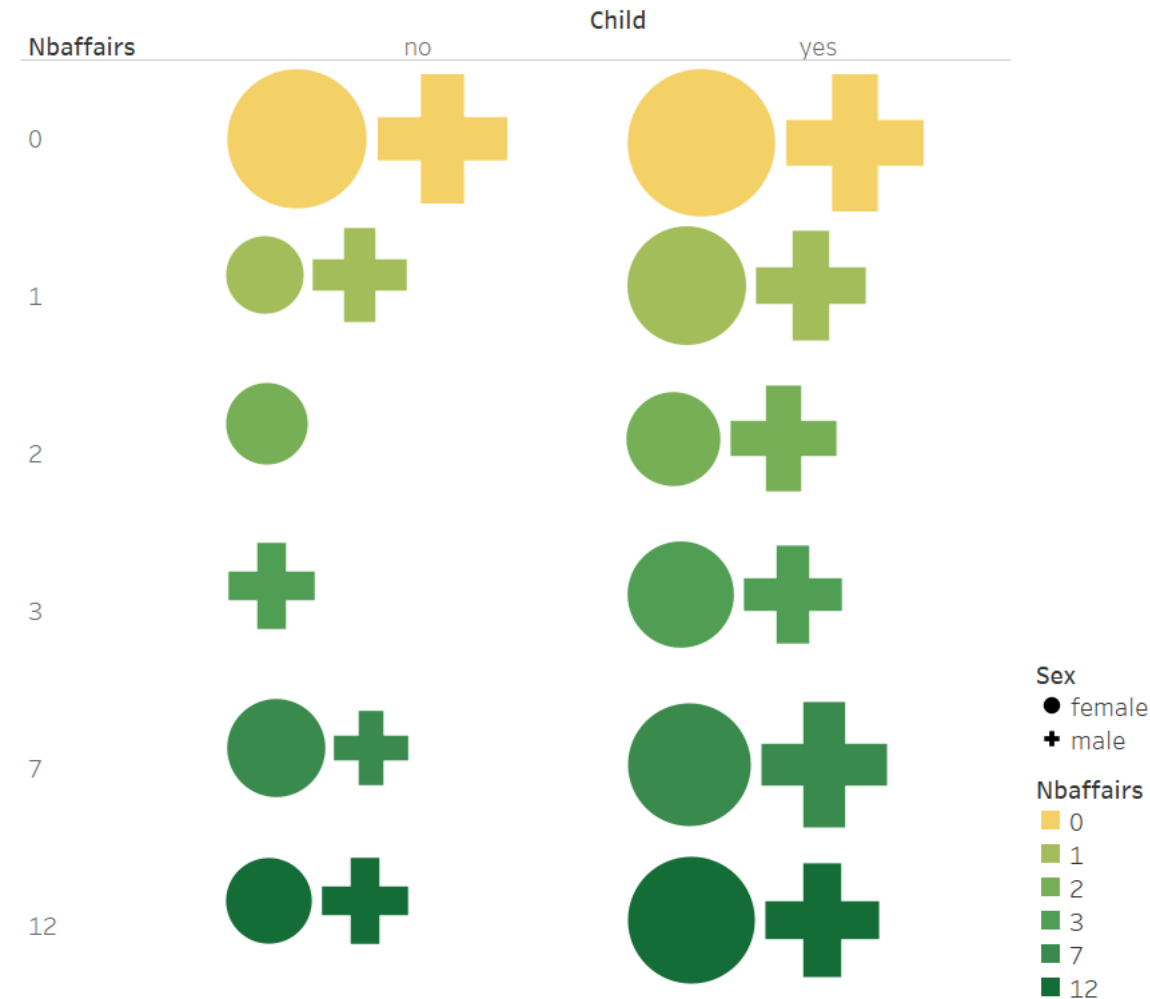
Right (more good looking)

The area represents the population of that group. We can still easily see the differences between the families with and without a child.
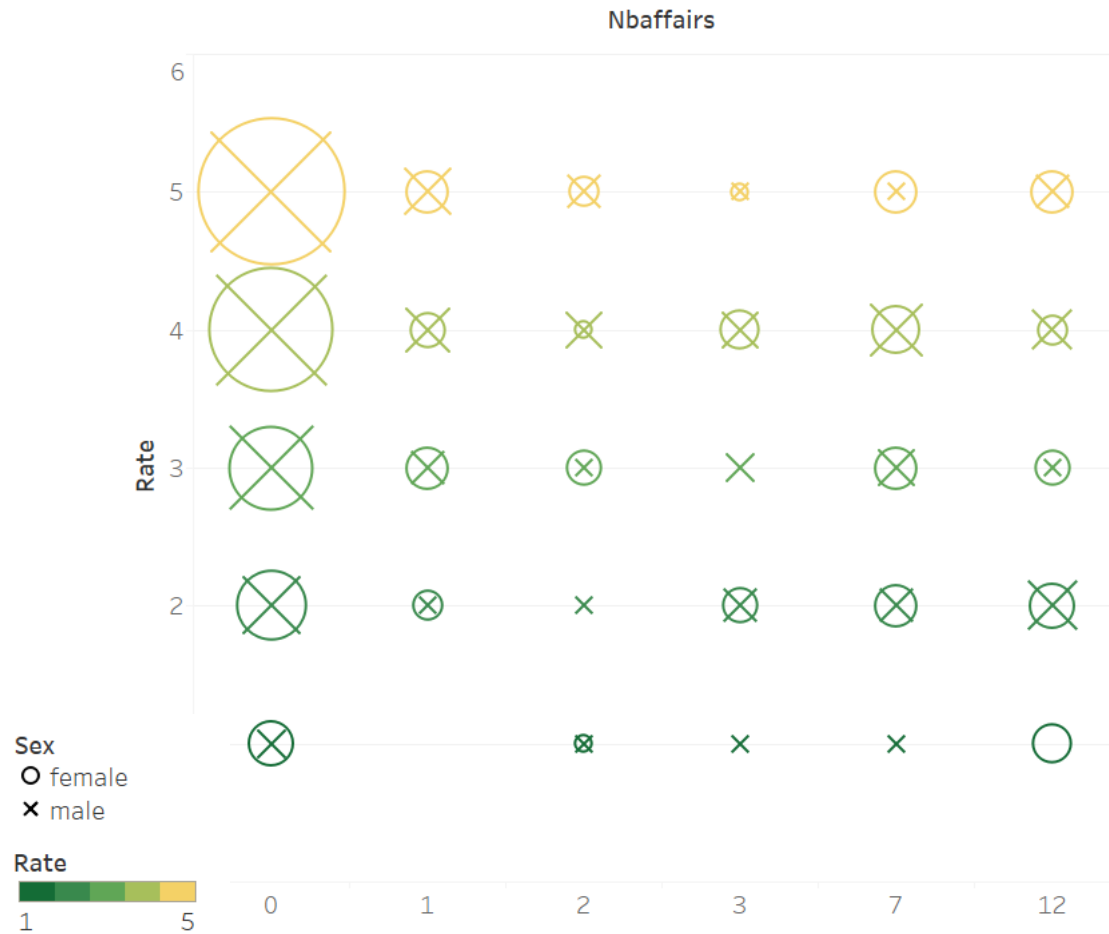

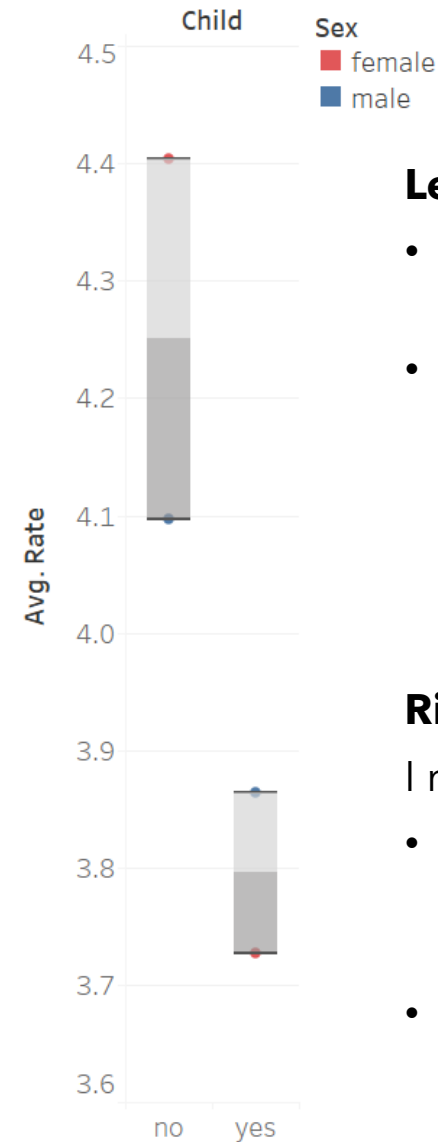Average of Nbaffairs for each Child. Color shows details about Sex.

Nbaffairs (color) and count of Nbaffairs (size) broken down by Child vs. Nbaffairs. Shape shows details about Sex.

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Self Rating of Marriage

Rate for each Nbaffairs. Color shows details about Rate. Size shows count of Nbaffairs. Shape shows details about Sex.

Average of Rate for each Child. Color shows details about Sex.

Left

- Hollow shapes are clear even when they are overlapped.
- People are less possible to have an affair if they have a high rating of their marriage. But it doesn't mean they are more possible to have an affair if they are unhappy with their marriage.
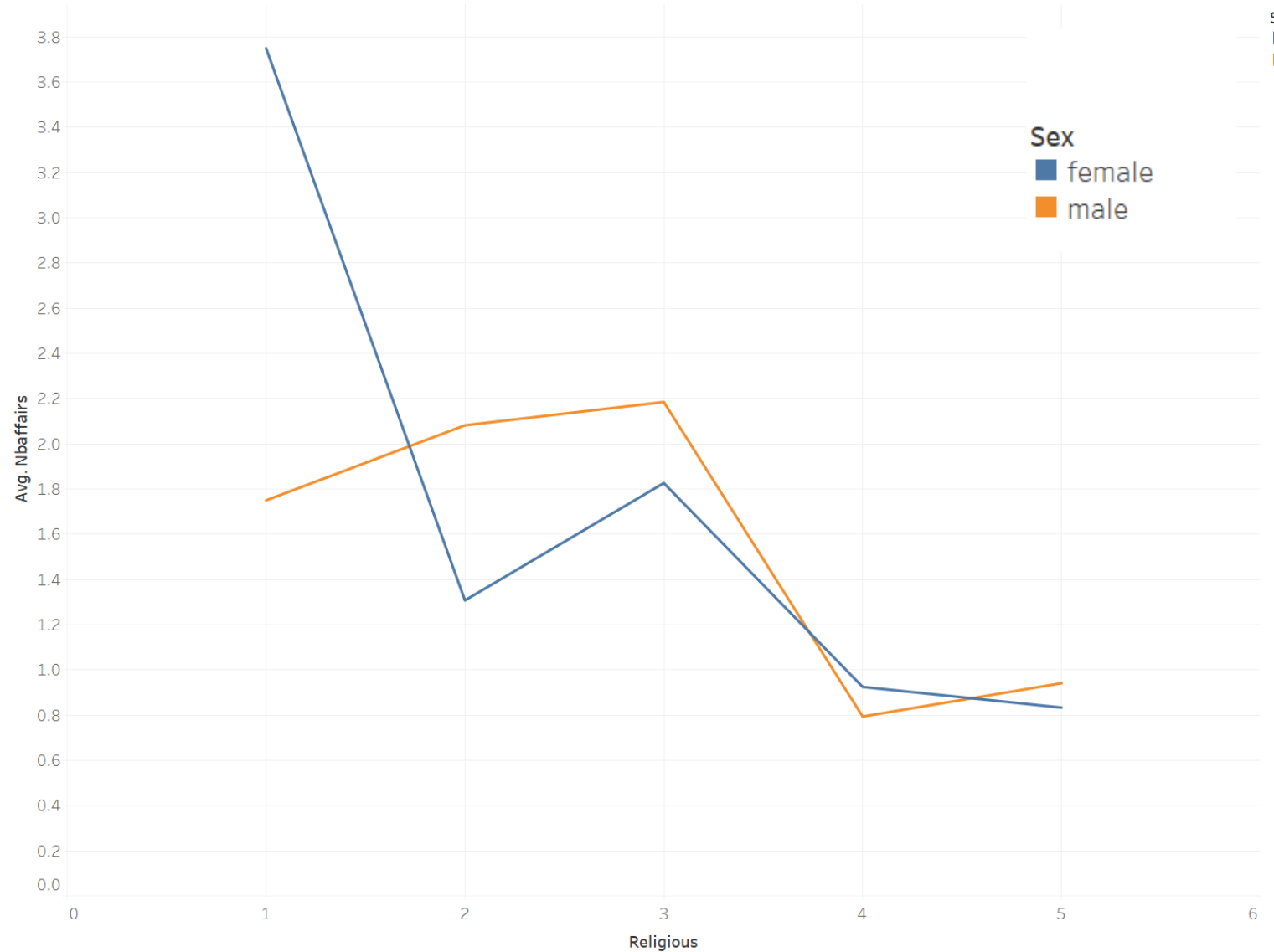
Right

I related the rating and child factor.

- In average, people have higher ratings if they don't have children, especially the female.
- In families having children, male spouses tend to rate their marriage higher than the female.

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How religious

- Generally, people who are more religious are less possible to have affairs.

- But it seems like that how religious does not affect having affairs or not for the male.
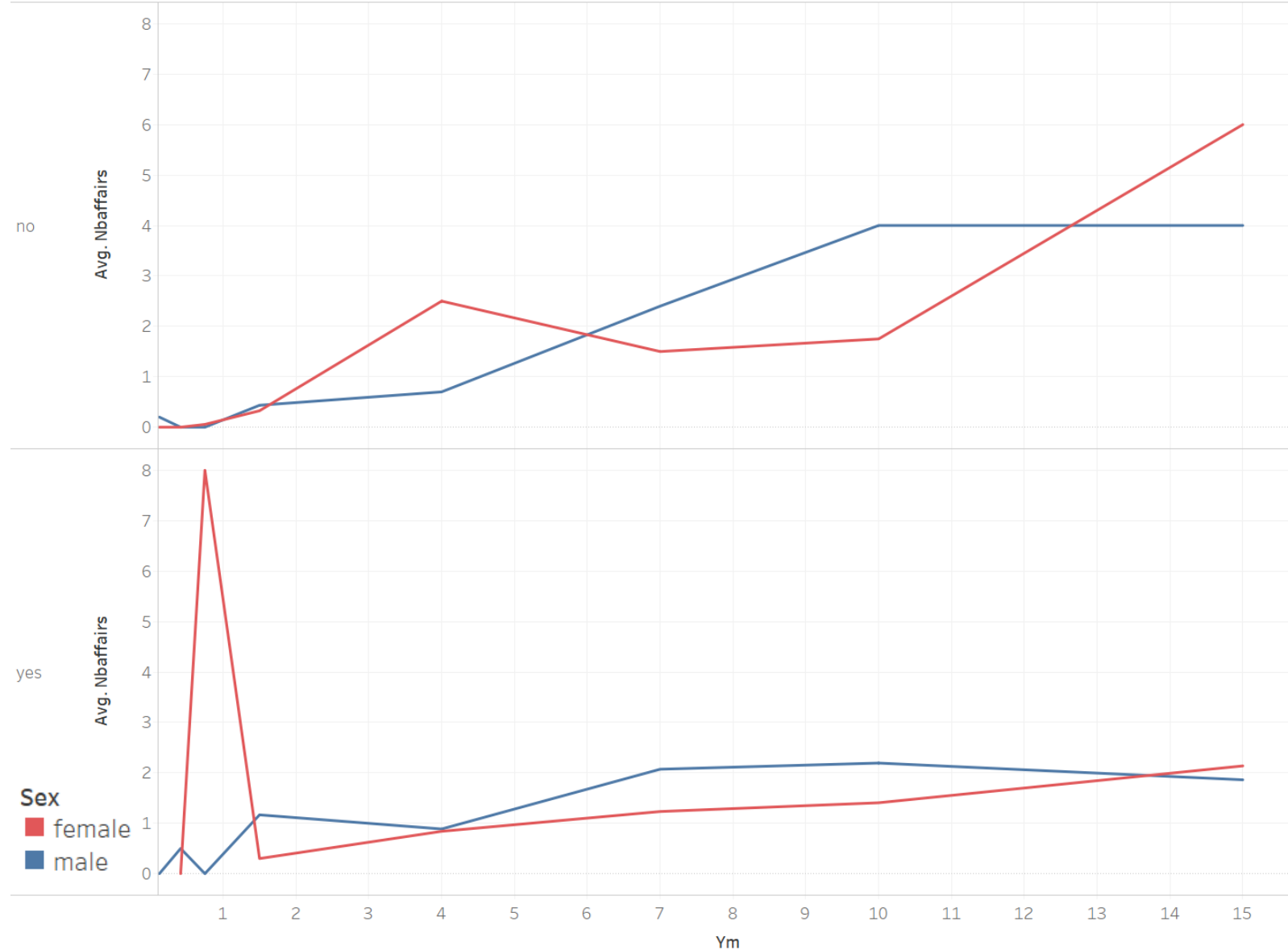

<religious vs number of affairs>

The trend of average of Nbaffairs for Religious. Color shows details about Sex.

Years of Marriage

- Since "child" is a significant influencing factor to whether a person would have an extramarital affair. So I split the plots by whether having a child in the family.
- The interesting is we have found that people are more intended to have an affair if they have children. Whereas, families that have children are more stable as the spouses age. In the contrary, spouses who don't have children tend to have more affairs as time goes by.
- The male spouse would experience the "seven-year itch" earlier than the female mostly in the fourth year of their marriage.
- The female spouse tend to have affairs after the tenth year of their marriage.
- And surprisingly, the female spouse would possibly have more affairs than the male in longer years of marriage.
- I suppose the peak of the female line at the start of the marriage in the families having children means that child is an accident and the mother may be a merry woman.

<year of marriage and affairs>

The trend of average of Nbaffairs for Ym broken down by Child. Color shows details about Sex.

Occupation Scale

Hollingshead Index of Social Position (ISP)

Occupation Scale (Weight of 7)

Description	Score
Higher executives of large concerns, proprietors, and major professionals	1
Business managers, proprietors of medium-sized businesses, and lesser professionals	2
Administrative personnel, owners of small businesses, and minor professionals	3
Clerical and sales workers, technicians, and owners of little businesses	4
Skilled manual employees	5
Machine operators and semiskilled employees	6
Unskilled employees	7

Source: (2015) https://slideplayer.com/slide/4509651/
Published by Dorthy Webster

occupation

Note that smaller number of occupation means higher occupation.

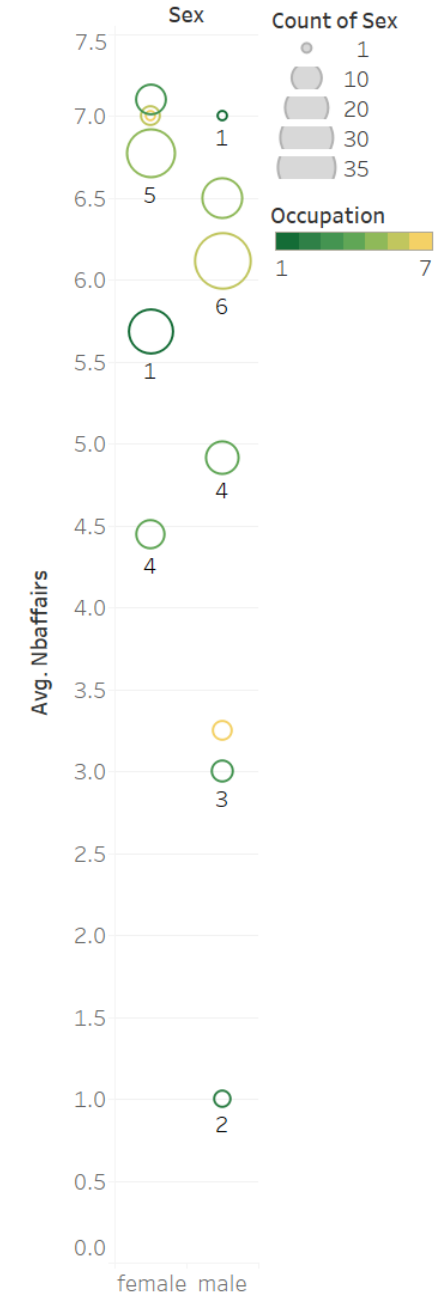The line chart based on people who have affairs.

- The female who either are unemployed or have a decent career have a higher chance of having affairs.

- It seems like the male spouse would have an affair no matter his career is like. Since there's only one male whose occupation mark is 1 shared his information in the survey, we cannot conclude that the male who have an extremely successful career would have more affairs.

The heat map based on people who don't have any affairs at all.

- The gradient colors means the population of that group.

- It seems like these groups of people are less possible to have affairs in marriage: elite women, skilled but not professional women, men whose career is not very good.

Sex	1	2	3	4	5	6	7
female	90	3	17	20	89	23	1
male		7	15	27	71	81	7

Occupation

Count of Sex
1   90

Count of Sex broken down by Occupation vs. Sex. Color shows count of Sex. The marks are labeled by count of Sex. The data is filtered on Nbaffairs, which ranges from 0 to 0.

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Summary

Summary – about the process

- At first, I would have a preview of what the visualization is like. I would decide which visualization form for each variable. But when I start to draw it in Tableau, I found that the exploratory methods I planned are not always suitable for the exact data because of the unpredictable data distribution. So it is important to explore the dataset thoroughly before drawing the visualization. And inspirations occur more likely when I am revising my visualizations. It is interesting and inspiring to see how the pattern is like while switching suggesting plots in Tableau.

- Since my still a beginner using Tableau, I cannot make the best of the dataset and the visualizations. But I am already enjoying the discoveries while plotting the variables in different ways, playing with the settings.

Summary – people's pattern of having affairs

- Many results are contrary to my assumptions. And some results have different meanings when plotted in different visualizations.

- The choice to have an affair is…
  - Related to:
    - Whether raising a child together: complicated, details on the former slides.
    - Age: Less possible to have an affair while aging.
    - Rating of marriage. But people would still have affairs even when they are enjoying their marriage.
    - Year of marriage.
  - Not as assumed related to :
    - How much a person is educated
    - How successful the career is
    - How religious a man is

Thanks.
end of the report

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