

God's Fingerprints

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Chapter 1

Motivation

Like father, like daughter.

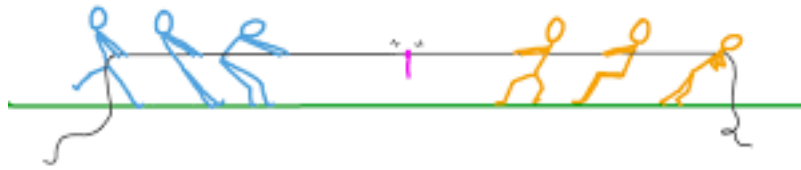


Chapter 2

Tension

Tension..

TENSION FORCES



Chapter 3

Our Quiz: Exodus 20 (NIV)

1. You shall have no other gods before me.
2. You shall not make for yourself an image in the form of anything in heaven above or on the earth beneath or in the waters below...
3. You shall not misuse the name of the Lord your God...
4. _____ ???
5. "Honor your father and your mother..."
6. You shall not murder.
7. You shall not commit adultery.
8. You shall not steal.
9. You shall not give false testimony against your neighbor.
10. You shall not covet your neighbor's house. You shall not covet your neighbor's wife, or his male or female servant, his ox or donkey, or anything that belongs to your neighbor.

Chapter 4

Tension Quotes

4.1 Work, Ecclesiastes 5:18-20, NIV

18 This is what I have observed to be good: that it is appropriate for a person to eat, to drink and **to find satisfaction in their toilsome labor under the sun during the few days of life God has given them—for this is their lot.** 19 Moreover, when God gives someone wealth and possessions, and the ability to enjoy them, to accept their lot and **be happy in their toil—this is a gift of God.** 20 They seldom reflect on the days of their life, because God keeps them occupied with gladness of heart.

4.2 Worry Not, Ecclesiastes 4:4-6, NIV

4 And I saw that all toil and all achievement spring from one person's envy of another. This too is meaningless, a chasing after the wind.

5 Fools fold their hands and ruin themselves. 6 Better one handful with tranquillity than two handfuls with toil and chasing after the wind.

4.3 Work, Matthew 25:14-30, NIV

The Parable of the Bags of Gold 14 “Again, it will be like a man going on a journey, who called his servants and entrusted his wealth to them. 15 To one he gave five bags of gold, to another two bags, and to another one bag,[a] each according to his ability. Then he went on his journey. 16 The man who had received five bags of gold went at once and put his money to work and gained five bags more. 17 So also, the one with two bags of gold gained two more. 18

But the man who had received one bag went off, dug a hole in the ground and hid his master's money.

19 "After a long time the master of those servants returned and settled accounts with them. 20 The man who had received five bags of gold brought the other five. 'Master,' he said, 'you entrusted me with five bags of gold. See, I have gained five more.'

21 "His master replied, 'Well done, good and faithful servant! You have been faithful with a few things; I will put you in charge of many things. Come and share your master's happiness!'

22 "The man with two bags of gold also came. 'Master,' he said, 'you entrusted me with two bags of gold; see, I have gained two more.'

23 "His master replied, 'Well done, good and faithful servant! You have been faithful with a few things; I will put you in charge of many things. Come and share your master's happiness!'

24 "Then the man who had received one bag of gold came. 'Master,' he said, 'I knew that you are a hard man, harvesting where you have not sown and gathering where you have not scattered seed. 25 So I was afraid and went out and hid your gold in the ground. See, here is what belongs to you.'

26 "His master replied, 'You wicked, lazy servant! So you knew that I harvest where I have not sown and gather where I have not scattered seed? 27 Well then, you should have put my money on deposit with the bankers, so that when I returned I would have received it back with interest.'

28 " 'So take the bag of gold from him and give it to the one who has ten bags. 29 For whoever has will be given more, and they will have an abundance. Whoever does not have, even what they have will be taken from them. **30 And throw that worthless servant outside, into the darkness, where there will be weeping and gnashing of teeth.**'

4.4 Worry Not, Matthew 6: 28-31, NIV

28 "And why do you worry about clothes? See how the flowers of the field grow. They do not labor or spin. 29 Yet I tell you that not even Solomon in all his splendor was dressed like one of these. 30 If that is how God clothes the grass of the field, which is here today and tomorrow is thrown into the fire, will he not much more clothe you—you of little faith? 31 **So do not worry, saying, 'What shall we eat?' or 'What shall we drink?' or 'What shall we wear?'**

Chapter 5

Analytics

5.1 Some Truth

“All models are wrong, but some are useful.”

– George Box, 1976, *Journal of the American Statistical Association*

5.2 Critical Thinking, Analytics, and Reproducibility

Chapter 6

Today's agenda

- Biology
- Vaccines
- Dataset 1 (Marathon Kids; size, means and correlation?)
- Per Dr. Suzie Smith, a quiz
- Tensions
- A few quotes
- See if we've had fun

Chapter 7

Vaccines

Vaccines

Chapter 8

An example

A non-Beasley frindly example

Chapter 9

Another Example

A non-Beasley frindly example

Chapter 10

Motivation

Like father, like daughter.



Chapter 11

Marathon Kids

Let's evaluate trainers. Calculate:

1. the `mean` pre for each trainer
2. the `mean` post for each trainer
3. the `correlation` between pre and post for each trainer

11.1 About this data

trainer	pre	post
1	55.3846	97.1795
1	51.5385	96.0256
1	46.1538	94.4872
1	42.8205	91.4103
1	40.7692	88.3333
1	38.7179	84.8718

11.2 More about this data

trainer	n
1	142
2	142
3	142
4	142
5	142
6	142
7	142
8	142
9	142
10	142
11	142
12	142
13	142

11.3 Some fun data for you

Marathon Kids Data

11.4 The Full Data Set

trainer	pre	post
1	55.38460	97.1795000
1	51.53850	96.0256000
1	46.15380	94.4872000
1	42.82050	91.4103000
1	40.76920	88.3333000
1	38.71790	84.8718000
1	35.64100	79.8718000
1	33.07690	77.5641000
1	28.97440	74.4872000
1	26.15380	71.4103000
1	23.07690	66.4103000
1	22.30770	61.7949000
1	22.30770	57.1795000
1	23.33330	52.9487000
1	25.89740	51.0256000
1	29.48720	51.0256000
1	32.82050	51.0256000
1	35.38460	51.4103000
1	40.25640	51.4103000
1	44.10260	52.9487000
1	46.66670	54.1026000
1	50.00000	55.2564000
1	53.07690	55.6410000
1	56.66670	56.0256000
1	59.23080	57.9487000
1	61.28210	62.1795000
1	61.53850	66.4103000
1	61.79490	69.1026000
1	57.43590	55.2564000
1	54.87180	49.8718000
1	52.56410	46.0256000
1	48.20510	38.3333000
1	49.48720	42.1795000
1	51.02560	44.1026000
1	45.38460	36.4103000
1	42.82050	32.5641000
1	38.71790	31.4103000
1	35.12820	30.2564000
1	32.56410	32.1795000
1	30.00000	36.7949000
1	33.58970	41.4103000
1	36.66670	45.6410000
1	38.20510	49.1026000
1	29.74360	36.0256000
1	29.74360	32.1795000
1	30.00000	29.1026000
1	32.05130	26.7949000
1	35.89740	25.2564000
1	41.02560	25.2564000
1	44.10260	25.6410000
1	47.17950	28.7180000

Chapter 12

Some Final Thoughts

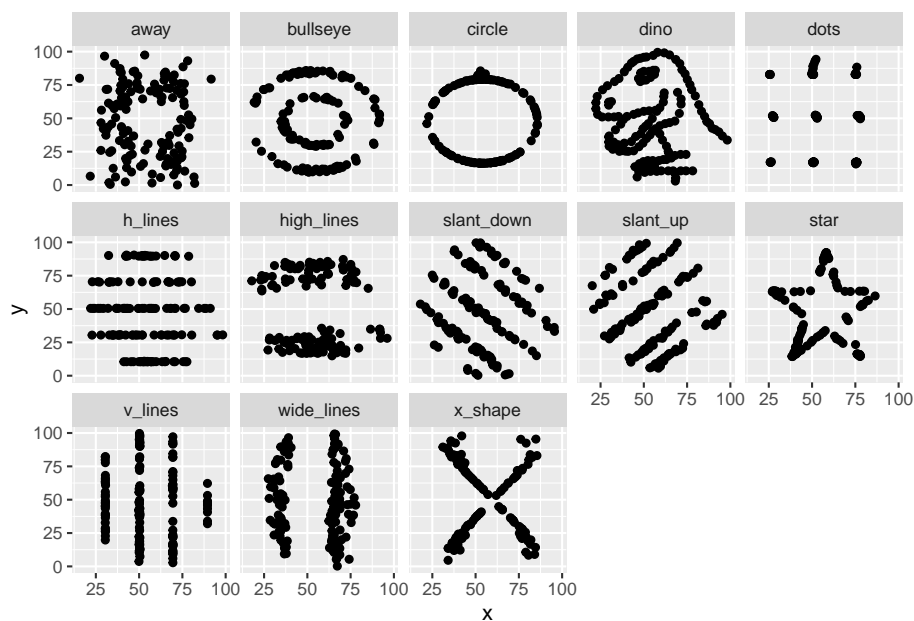
12.1 Marathon Kids

12.1.1 Mean and correlation Results

dataset	mean(x)	mean(y)	cor(x, y)
away	54.26610	47.83472	-0.0641284
bullseye	54.26873	47.83082	-0.0685864
circle	54.26732	47.83772	-0.0683434
dino	54.26327	47.83225	-0.0644719
dots	54.26030	47.83983	-0.0603414
h_lines	54.26144	47.83025	-0.0617148
high_lines	54.26881	47.83545	-0.0685042
slant_down	54.26785	47.83590	-0.0689797
slant_up	54.26588	47.83150	-0.0686092
star	54.26734	47.83955	-0.0629611
v_lines	54.26993	47.83699	-0.0694456
wide_lines	54.26692	47.83160	-0.0665752
x_shape	54.26015	47.83972	-0.0655833

Chapter 13

A picture is worth a
thousand words (or a
dinosaur)



13.0.1 Reference

Same Stats, Different Graphs: Generating Datasets with Varied Appearance and Identical Statistics through Simulated Annealing. Matejka, Fitzmaurice. Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems. May 2017. Pages 1290–1294. <https://doi.org/10.1145/3025453.3025912>.