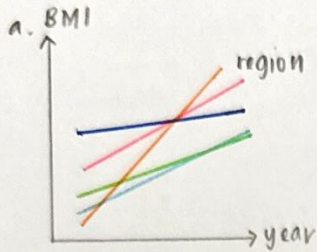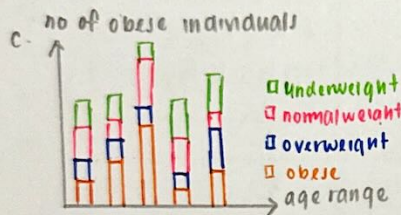Author : Joey Liow   Date : 15/8/24

Title :   Sheet : 1

Task :

IDEAS

1. Global Obesity Rate (Trend)

   a. BMI

   region / year

   b. obesity in 2022

   countries

2. Demographic Analysis

   a. obesity proportion

   - without family history
   - with family history

   b. no of obese individual
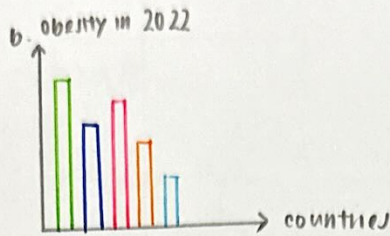
   ▮ male ▮ female
   age range
   obesity across different age group

   c. no of obese individuals

   ▯ underweight
   ▯ normal weight
   ▯ overweight
   ▯ obese
   age range

   d.

40 50	10-20	20-30
		70-80
	30-40	
0 10		60-70

3. Behavioral Insight

   a. water intake

   physical activity level

   b. lifestyle habit on different BMI type

4. Health Outcome Analysis

   a. transport mode

   no of obese individuals

   b. BMI

   obesity type

   c. public transport across obesity type

FILTER

2d. Treemap

40 50	10-20	20-30
		70-80
	30-40	
8-10		60-70

→ redundant & less informative compared to 2b & 2c

3b. radar chart

→ attributes are in mixture of continuous & categorical

4b. box plot

→ BMI is used to determine obesity type (meaningless)
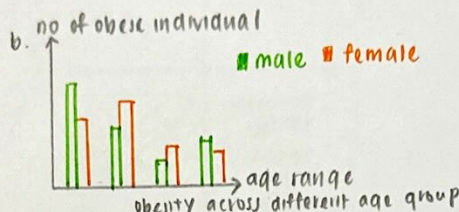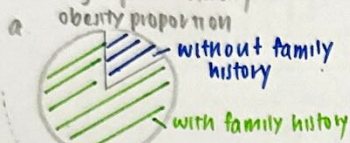
4c. Ordered Proportional Diagram

→ No direct impact on obesity
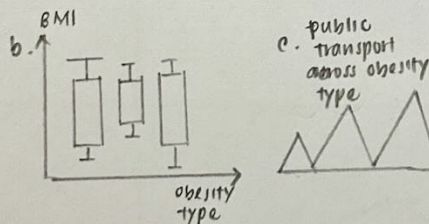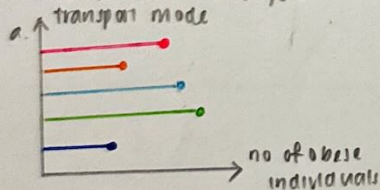
CATEGORIZE

Global Obesity Rate (Trend)
↓
Demographic Analysis
↓
Behavioral Insights
↓
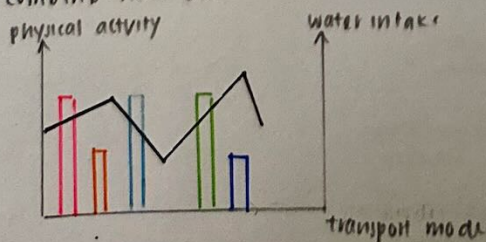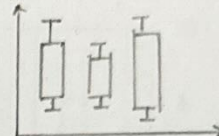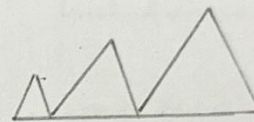Health Outcome Analysis

COMBINE & REFINE

1. Transform 2a (pie chart) into waffle chart

TITLE ...

2. Combine 3b & 3c & 3d into one sunburst chart

3. combine 4a & 3a
   physical activity / water intake

   transport mode
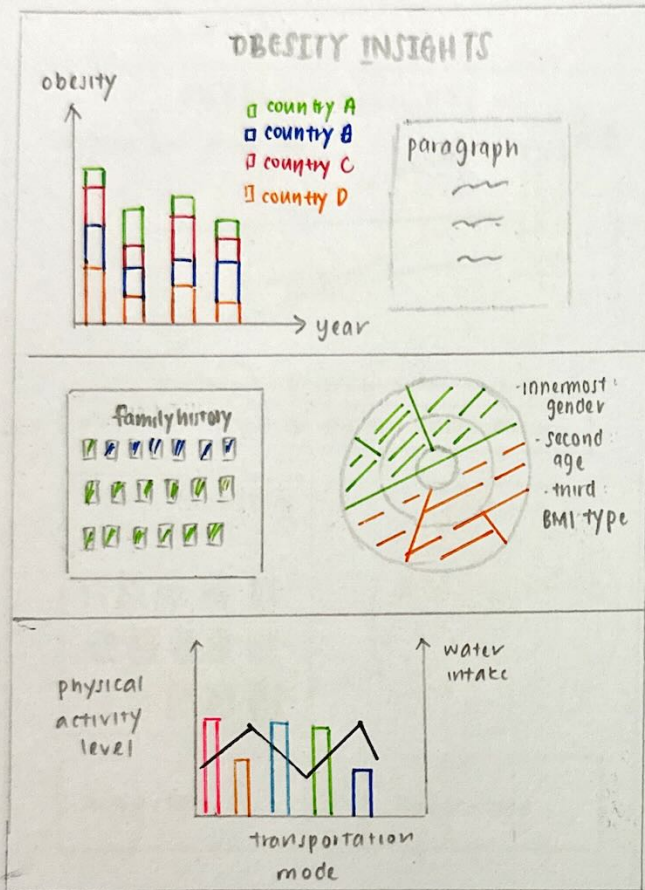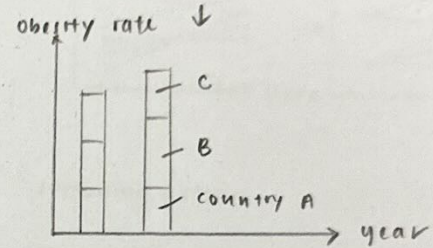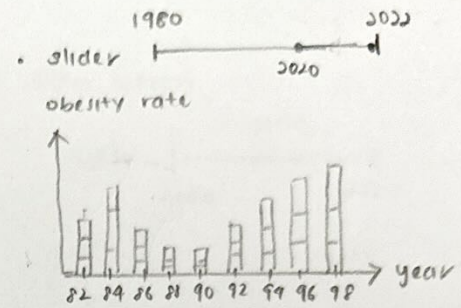
QUESTIONS

1. what type of information or insights are produced through these visualisation, are they gonna focus on obesity issue ?

2. Are these visualisations going to leave a big impact for viewer at first glance ?

3. Are these visualisation able to implement using tableau ?

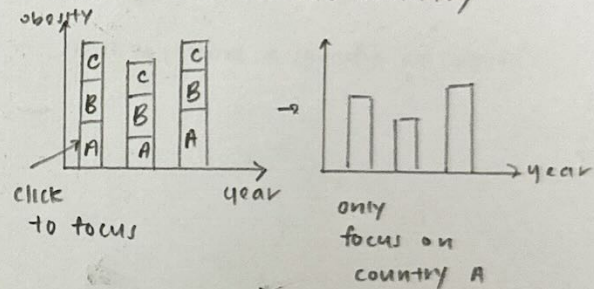4. Will the graphs contain lying information ?

LAYOUT

OBESITY INSIGHTS

obesity

- country A
- country B
- country C
- country D

paragraph

year

family history

innermost : gender

second age

third BMI type

physical activity level

water intake

transportation mode

OPERATION

→ filter action

- slider   1980 ———•— 2022
                  2020

obesity rate

year
82 84 86 88 90 92 94 96 98

obesity rate ↓

C
B
country A

year

- click to focus on one country

obesity

C   C   C
B   B   B
A   A   A

click
to focus   year

→ only
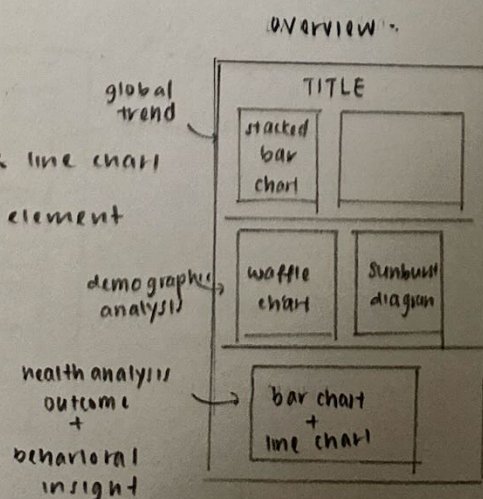focus on
country A

year

FOCUS

- No main focus but the trend graph of obesity
rate across different countries is made to be bigger
to emphasise on the topic with some paragraph
to provide brief intro to the visualisation

  → story telling

- dual axes bar chart & line chart
  → ensure no lying element

overview

global trend

TITLE

stacked bar chart

demographic analysis → waffle chart | sunburst diagram

health analysis outcome + behavioral insight → bar chart + line chart
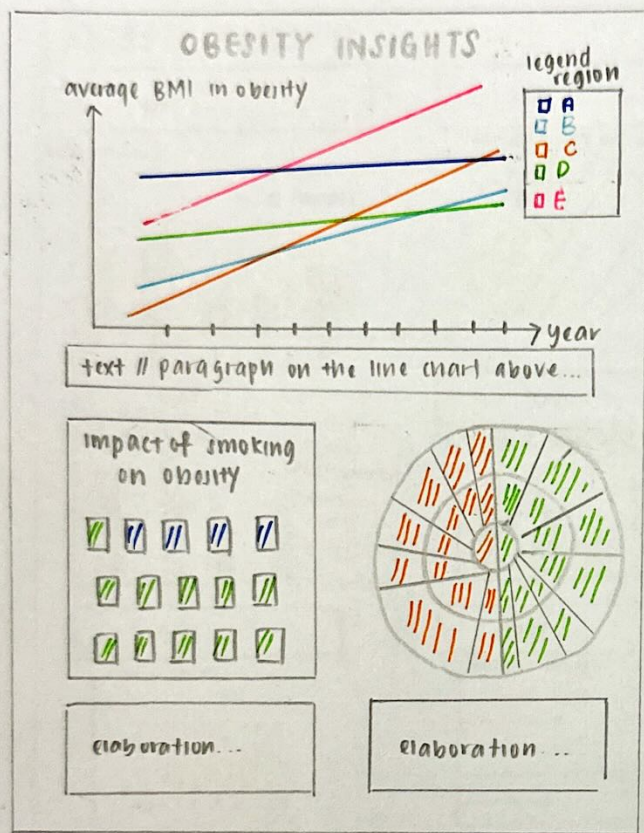
DISCUSSION

1. Advantages
   - variety of visuals to cater
     various analytical needs and
     preferences
   - integration of text on global
     trend obesity

2. Disadvantages
   - increased in complexity due to
     multiple charts that is overcrowding
   - layout is unbalanced
   - potential of misleading / lying
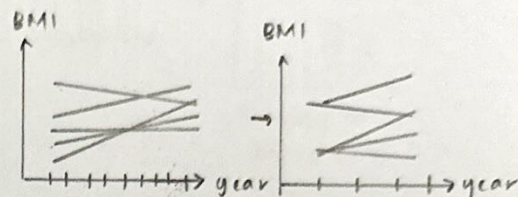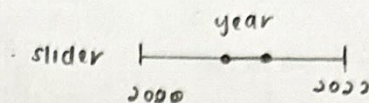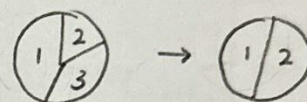   element in the combined bar and
     line chart

LAYOUT

OBESITY INSIGHTS

average BMI in obesity

legend region
- ☐ A
- ☐ B
- ☐ C
- ☐ D
- ☐ E

→ year

text // paragraph on the line chart above...

Impact of smoking on obesity

☑ ☑ ☑ ☑ ☑
☑ ☑ ☑ ☑ ☑
☑ ☑ ☑ ☑ ☑

- innermost obesity type
- second: gender
- outermost age range

elaboration...   elaboration...

OPERATION

1. filter action

- slider

year

2000 ● ● 2022

BMI   BMI

→ year → → year

- excluding action

① ② ③ → ① ②

click to remove a specific category

FOCUS

- Line chart : to show trend as the intro to the theme for viewers
  x-axis : year
  y-axis : average BMI value for obesity
  color : different region

overview

TITLE

Line chart ———— global trend

text

categories :

behaviour   woffle   sunburst ———— demographic analysis
insights

text   text
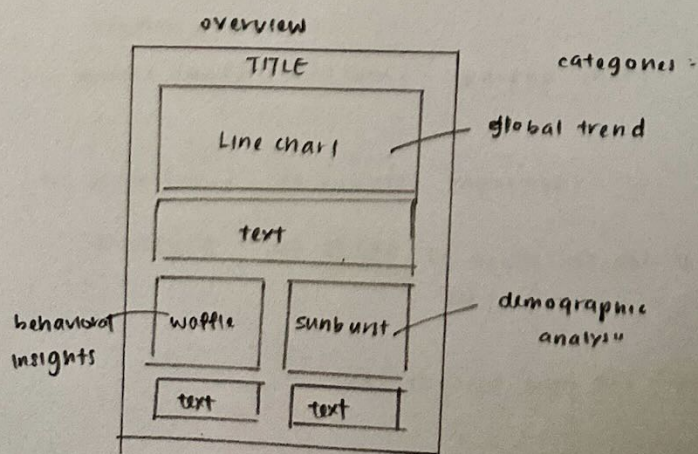
DISCUSSION

1. Advantages :
   - consistent theme
   - clarity and simplicity
   - diverse visualisation techniques

2. Disadvantages :
   - limited interactivity
   - limited information, only focusing on trend, demographic analysis, and a smoking habit
   - layout balance with line chart occupying half of the layout

Author : Joey Liow
Title
Task
Date : 17/8/24
Sheet : 4

LAYOUT

OBESITY INSIGHTS

text ...

BMI in 2022
□ male
□ female
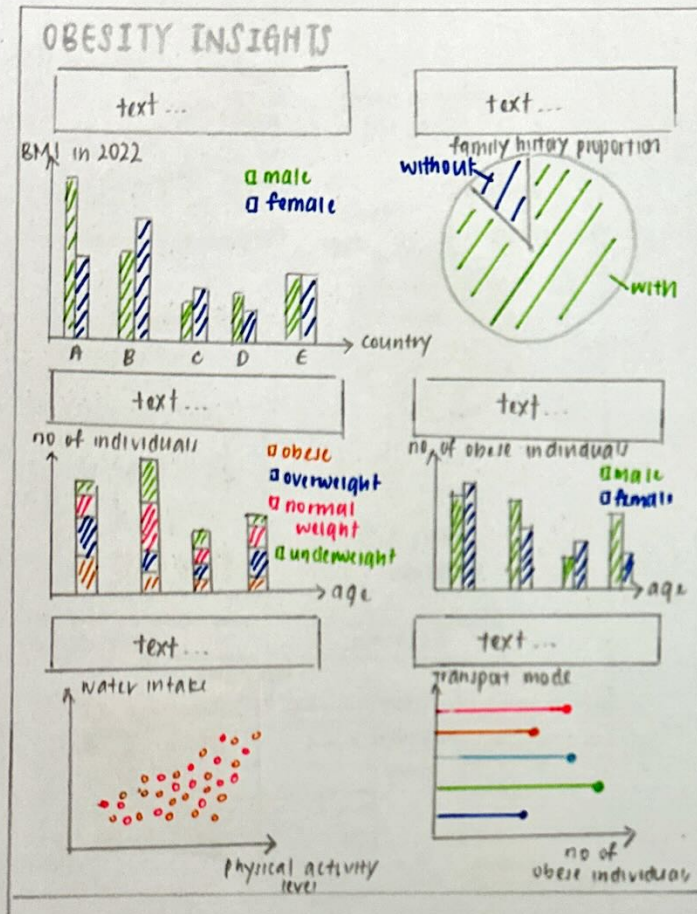A B C D E → country

text ...

family history proportion
without
with

text ...

no of individuals
□ obese
□ overweight
□ normal weight
□ underweight
→ age

text ...

no. of obese individuals
□ male
□ female
→ age

text ...

water intake
→ physical activity level

text ...

transport mode
→ no of obese individuals

OPERATION

1. Filter

click on one of the bar
→
focusing on one factor only

2. Tooltips

hover over bar / point

apply typographic principle

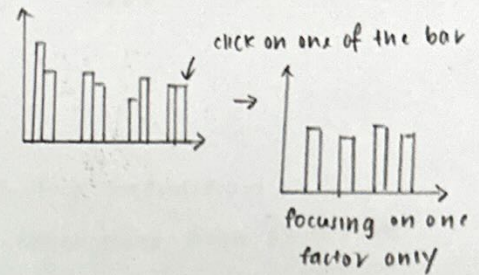additional info on that mark

FOCUS

- Focus on 4 categories

  - global trend : grouped bar chart (top left)

  - demographic analysis : pie chart, grouped bar chart, stacked bar chart

  - behavioral insight (focus on only 2 factor - water intake, physical activity level)
    scatter plot

  - health analysis outcome : lollipop chart

- No main focus, all equally important

  HOWEVER, THE <u>ORDER</u> OF VISUALISATION IS A MESS !

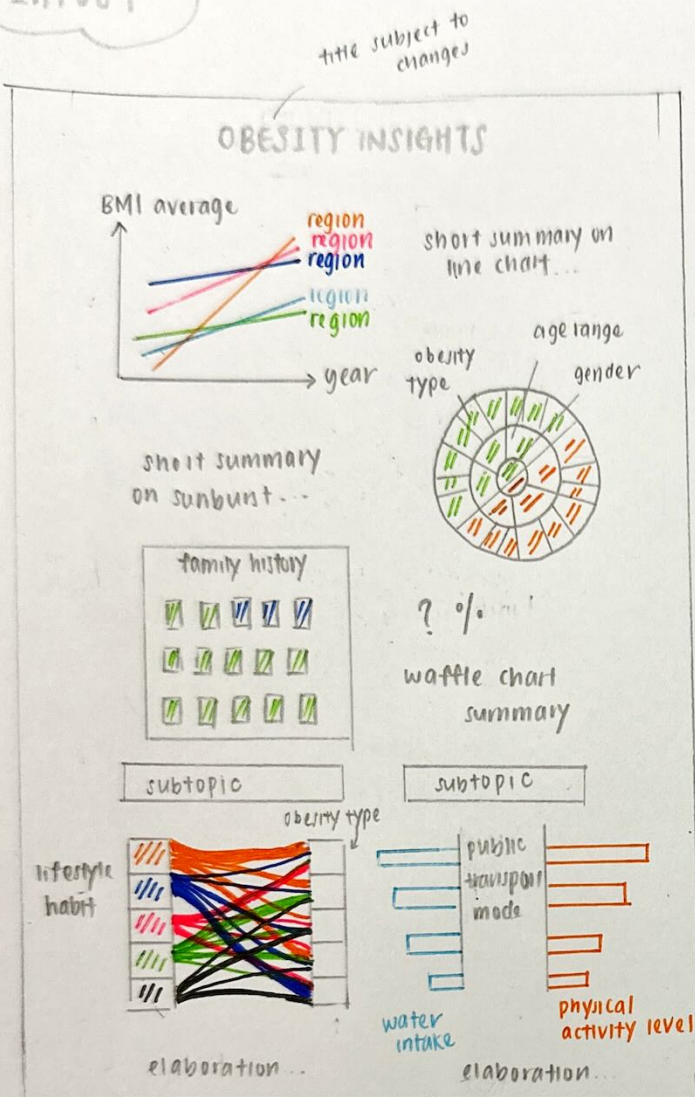 Not logical with the flow

DISCUSSION

1. Advantages :
   - clear comparison across multiple dimensions
   - balanced layout

2. Disadvantages :
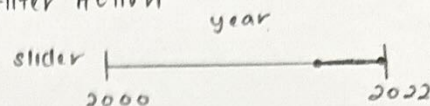   - information overload
     → overwhelming to user
   - lack of contextual information
   - limited focus on specific insights
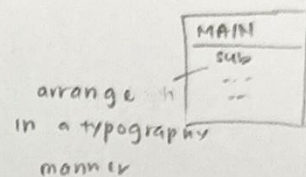
LAYOUT

title subject to changes

OBESITY INSIGHTS

BMI average

region
region
region
region
region

→ year

short summary on line chart...

obesity type   age range   gender

short summary on sunbunt...

family history

? %

waffle chart summary

subtopic   subtopic

obesity type

lifestyle habit

public transport mode

water intake   physical activity level

elaboration...   elaboration...

OPERATION

1. Filter Action

slider |————————•———| year
       2000   2022

2. Tooltip interaction
   hover over data points

   MAIN
   sub
   ...
   ...

   arrange in a typography manner
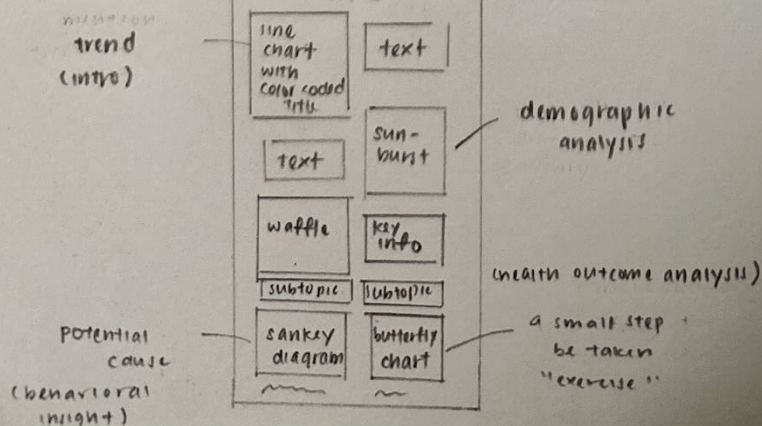
FOCUS

- No main chart focus, all graphs are equally important

- Main focus on story telling

- Emphasis on consistent color across chart, layout in terms of white space, sight line & typographic principle to create a clear hierachy

- overview :

  TITLE

  trend (intro)

  line chart with color coded title   text

  text   sun-burst

  waffle   key info

  subtopic   subtopic

  Potential cause (behavioral insight)

  sankey diagram   butterfly chart

  demographic analysis

  (health outcome analysis)

  a small step be taken "exercise"

DETAIL

- Dependencies : Tableau Public & Excel worksheet / workbook to clean dataset & generate visualisation

- Estimated Time Taken to complete : 1 week