

1918576_Visualisation_Assignm ent

by Karen Windsor

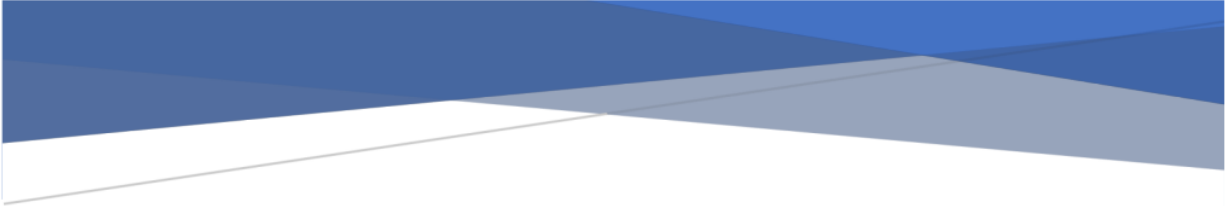
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DATA ANALYSIS & VISUALISATION ACCB4002

BSC Computing Data and Information Systems

Abstract

This document analyses and critiques an infographic visualisation and makes suitable suggestions on how to improve both the over aesthetics of the infographic and enhance its readability.

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1. Overview

The infographic is designed to highlight to adults and older adults the benefits of living a healthy lifestyle and how exercising regularly can improve their quality of life no matter their age or what type of exercise they decide to participate in.

I would have liked to be able to print off the visualisation on A3 and study it from a distance to get more of a prospective, unfortunately working from home I do not have access to a printer with that option, so all my observations have been digitally.

2. Structure of visualisation

The heading is confusing as what age is an older adult? A preferable option would be to rename infographic's title to "Physical Activity for adults" and re-word the blue section to "Activities recommended for 65+".

When viewing the visualisation on a screen the viewer's focus is immediately drawn straight to the Build your strength circle – I would change the main axis of the visualisation to the main message of the benefits that regular exercise can provide you with and have the activities you can do placed around that message and alter the placement of the encouraging messages to bubbles around the main message. (Appendix 1). Rearranging the visual will put the message into the center of the visual to form, which will help form the basis of an enforced Z pattern, which Bank [1] states is the perfect for designs where simplicity is a priority. Rearrangement of the text and the charts allows for more 'negative space', which as Tomboc [2] explains shouldn't be feared but embraced, as it creates a more sophisticated product and improves readability and lessens overload.

3. Colour

3.1 Cognition

One of the first noticeable feature of the infographic is how colourful it is, but as Spence [3] states you should not go overboard with the colours in your visualisation. In the infographic reviewed for this assignment the number of colours used (including fonts) numbers 8, Tackels [4] suggests that having too many colours within a visualisation makes it too hard for the brain to process leading cognitive issues and the user feeling overwhelmed. Doyle [5] affirms that the overuse of colour can distract from the meaning of the visualisation and lead to misinterpretation. Looking at this infographic it is hard to determine if the colours used for the sections have any meaning, is green the best with brown being of less importance or vice versa.

Something that might cause a cognitive issue for some of the population when trying to browse this infographic is the use of yellow, red and brown, which are indecipherable not only for those suffering from Tritanopia (colour blindness), but for the demographic that this visualisation has been designed to reach, that is the older adults who are more prone to co-morbidities like diabetes or multiple sclerosis as supported by The Colour Awareness Organisation. [6]

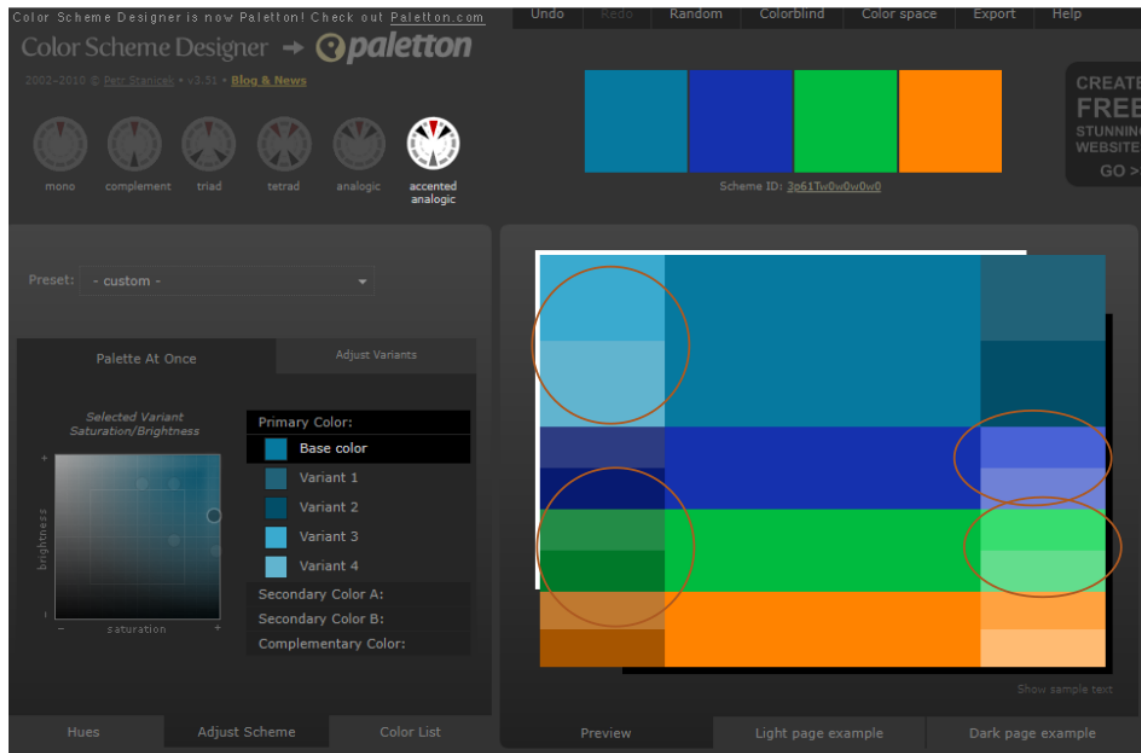
3.2 Resolution

To improve the colour scheme, I would suggest using analogous colours, an easy method of picking colours that compliment each other and add to the story is by using the colour wheel [7]. Which will allow you not only to pick colours that enhance the look of your infographics, it also gives you the option to check for how it would appear for anyone with colour blindness. I would decrease the number of colours used in the visualisation to by making the 4 sections detailing the activities all one colour as no one section is more important than the others.

3.2.1 Colour Picker/Colour Wheel [7]

Using the colour picker below I would change my background to white and make all the activity sections the green and keep the darker green for titles.

For the center circle I would choose the blue and have the lilac and purples for my charts



4. Graphics

4.1 Icons

When reviewing the icons used to represent people, it looked like just white males have been included in the infographic, Hooper [8] advises that it is important that it includes all aspects of the population. I have included a few examples of alternative figures that could be used to ensure that everyone feels included within the visualization. (Appendix 2)

Nediger [9] explains how 40% of our brain is used for visual perception, so the use of icons is a very powerful tool when designing an infographic and the icons that are used in this visual are simple, clear and enhance the text they are beside.

5. Charts and Text

The icons used to represent the benefits are simple and convey the message well.

I would as shown in sketch (appendix 1) that the charts and benefits would be moved to the center circle, but I would also reword the title to "% Exercise can reduce chance of "and that would remove the need for negative percentage.

Using the colour banding technique as described by Microsoft [10] to make the chart clearer and easier to read.

Figure 1

Type II Diabetes	40%
Cardiovascular disease	35%
Falls, depression etc	30%
Joint and back pain	25%
Cancers (colon and breast)	20%

The word “etc” what does that refer to? Should the wording be changed to “Falls and Mental Health” as that is more informative then “depression etc”.

The white text does not work well on these colours so I would use a contrast checker like WebAim [11] to find the best colour to make the chart readable. Blue is shown as the best workable colour and the text really stands out. See below figure 2. There is a slight issue with “older” begin in italics (see figure 3) if I wanted to emphasis the text, I would use bold rather than italics. As the italics blurs the text and makes it harder to read, I would not include any italics at this font size level,

Figure 2

Contrast Checker

[Home](#) > [Resources](#) > Contrast Checker

Foreground Color
#0000FF
Lightness

↔

Background Color
#D8BFD3
Lightness

Contrast Ratio
5.03:1
[permalink](#)

Normal Text

WCAG AA: **Pass**
WCAG AAA: **Fail**

The five boxing wizards jump quickly.

Large Text

WCAG AA: **Pass**
WCAG AAA: **Pass**

The five boxing wizards jump quickly.

Graphical Objects and User Interface Components

WCAG AA: **Pass**

Text Input

Related Resources

- [Contrast and Color Accessibility](#)
- [Quick Reference: Testing Web Content for Accessibility](#)
- [Web Accessibility for Designers](#)
- [Link Contrast Checker](#)

Figure 3



6. Conclusion

The infographic does include informative data and gives the audience the information they need to improve their health and wellbeing through exercise, however, the information is 2 years out of date and since the creation of the visualisation the escalation COVID pandemic has meant that people have had to make a lot of changes even to how they exercise. I would amend the gym and swimming with outdoor workouts as shown in Runners World by Zickl. [11]

I would add a message in the footer below the guidelines (figure4) to say that before undertaking a new exercise routine people with underlying health concerns should check with their clinicians first.

Figure 4



7. References

- [1] C. Bank, "How the human eye reads a website," UXPin, 24th November 2014. [Online]. Available: <https://www.creativebloq.com/ux/how-human-eye-reads-website-111413463>. [Accessed 15th November 2021].
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- [4] D. Tackels, "7 Best Practices for Using Color in Data Visualizations," Stigma Computing, 2021. [Online]. Available: <https://www.sigmacomputing.com/blog/7-best-practices-for-using-color-in-data-visualizations/>. [Accessed 11th November 2021].
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- [7] P. Stanicek, "Color Scheme Designer," Paletton.com, 2010. [Online]. Available: <https://colorschemedesigner.com/csd-3.5/>. [Accessed 11th November 2021].
- [8] L. Hooper, "7 Tips on How to Make a Good Infographic," Venngage, 26th February 2021. [Online]. Available: <https://venngage.com/blog/good-infographic/>. [Accessed 11th November 2021].
- [9] M. Nediger, "How to use an Icon Story to Take Your Infographic to the Next Level," Venngage, 27th April 2018. [Online]. Available: <https://venngage.com/blog/icon-story/>. [Accessed 11th November 2021].
- [10] Microsoft, "Apply color to alternate rows or columns," Microsoft, 2013. [Online].
- [11] D. Zickl, "This Outdoor Workout Builds Total Body Strength," Runner's World, 2nd October 2021. [Online]. Available: <https://www.runnersworld.com/training/a37757332/outdoor-workout/>. [Accessed 17th November 2021].

8. Appendix

8.1 Appendix 1



rough_sketch.jpg

8.2 Gender Icons

Gender and disability icons



Icons.pdf

1918576_Visualisation_Assignment

GRADEMARK REPORT

FINAL GRADE

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GENERAL COMMENTS

Instructor

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