

1918590 L4 Data Analysis & Visualisation Assignment 1

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LEVEL 4 ASSESSMENT

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Lecturer:	B Holland	Internal Verifier:	Dr Nik Whitehead
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Task 1: Physical Activity Infographic

Introduction

The infographic presented is attempting to convey both the reduction of comorbidity factors attributed to increased physical activity and also methods for various activities that can improve health. Hätönen and Tolonen note that the highest advantage of infographics in health contexts is where there is “a need to raise a complex phenomenon to the discussion or present it to the decision-maker closely and quickly” [1]. This discussion will focus on how effective the graphic is for presenting the information it contains using both text, colour, graphs and graphics with recommendations for further improvement.

Text Selection

The heading takes up approximately 15 percent of the visual and is one the two parts of the visual that use a larger font size, the other being the large red circle that draw the most immediate impact. The text font is well chosen, being a sans serif style it is easy and clear to read [2] and is consistent, however, there are some parts of the text that may be difficult to read at a distance and where the viewer is several meters away from it; perhaps sat down in a doctors waiting room for instance. There is a lot of text contained within the poster – over 100 words meaning there is a lot of text information to take in. Hamish et al, notes the challenge of maintaining visual impact and avoiding text heavy messages whilst at the same time maintaining clarity of message [3].

The message conveyed is confusing as an additional line is taken up by the phrase ‘and older adults’ given that the message is ‘physical activity for adults’ the additional text feels superfluous and takes up space that could be given to increasing the size of rest of the title

or the infographic below it. As Schwabish notes text should use should be sparing to communicate key concepts and when used made as large as possible to bring the audience's attention to it [4].

There are also several instances of text 'reduces the chances' would not be immediately visible from more than a metre away, particularly if the viewer was visually impaired. There are other examples of smaller text size used as descriptors of the tasks and these are not clear on first viewing.

Colour Selection

The immediate attention is however drawn by the red circle. This is in part due to the fact red is a bold colour that typically grabs attention [4] however, it can also have associations of guilt and regression in contexts of health [5]. On first reading it could appear that the function of the poster is to provide instructions on building strength.

Underneath the title the health benefits are shown in tiles alongside the risks, and both are in the same colour. The continuity of colour provides a link between the two while the separate tiles show they are two different classes of data. It may be more effective to present the benefits in a colour that is psychologically uplifting such as green and enable to the viewer to make a distinction between the two sets of data and therefore lessen the mental load of the top part of the graphic.

The infographic also uses lots of coloured background areas: there are 6 different colours used to demark different sections of the infographic. Using background colours can be impactful but using too many may reduce readability; as Flatley notes it is best to use a

simple white background where you are unsure of what lighting your poster will be displayed in and the highest contrast should be afforded between the background and the text [6].

Graphs

The source of the information is given as the UK Chief Medical Officer but presumably the data in the graph is multivariate data meaning it is comprised of multiple data items. The graph detailing the reduction in risk of health conditions is clearly presented and the organisation from largest reduction to smallest is clear and succinctly put, it does a good job of what Hätönen and Tolonen identified as a primary function of infographics: to take complex data and simplify it for an audience [1].

Graphics

The graphic makes repeated use of a simplified human icon to demonstrate various tasks being carried out. However, all 16 human icons are in the bottom third of the poster and many of the positions are similar, given that this will be viewed at distance and is target in part at older adults who will be more likely to be visually impaired [7] there is a possibility these will not be clearly understood. Ethically each of the persons portrayed appear able bodied and there perhaps could have been more use of icons relating to activity such as a sporting equipment so as to make the images more inclusive.

Recommendations and Conclusion

As Hamish et al note; “the translation of complex epidemiological evidence into effective public health practise is challenging” [3] and so it is likely no infographic will ever be effective at reaching all demographic groups. However, as we have seen colour, font, and

the amount of have all played a factor in its effectiveness. Most of the improvements identified would apply to the lower part of the infographic where there is a lot of information competing for viewer cognition.

A recommendation from this study would be to avoid the use of red and giving such prominence to the ‘Build strength’ and rather to place the actions people can take using a more neutral background and emphasising what is encouraged in green and discouraged in amber/yellow:

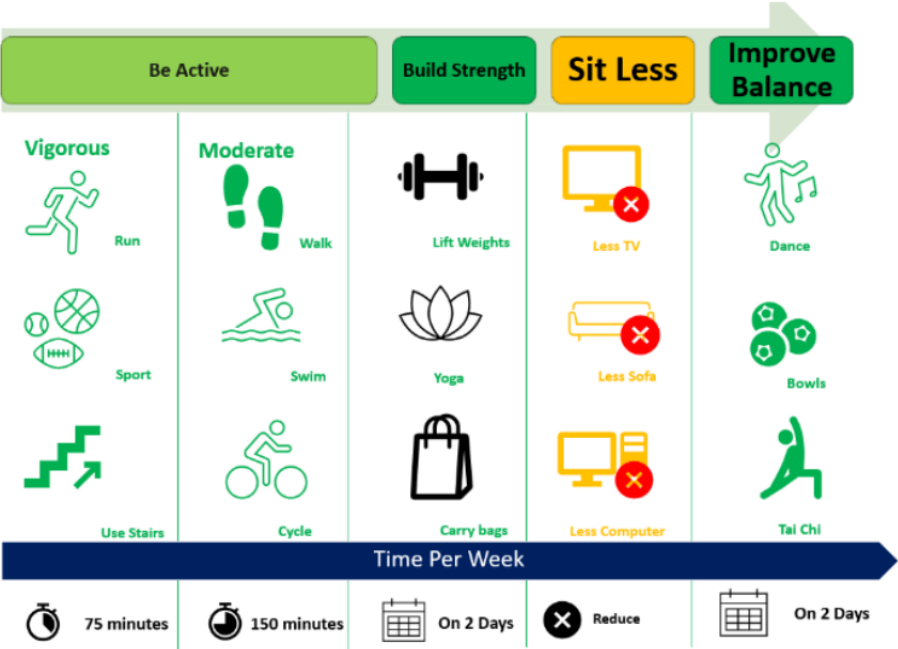


Fig 1: Proposed Amendments to the Lower Elements of the Infographic

In the above image I have rearranged the activities to rely less on human icons and used graphical representations of the subject matter wear possible to both create interest and to make the activities more inclusive where possible. The arrow moves left to right in an

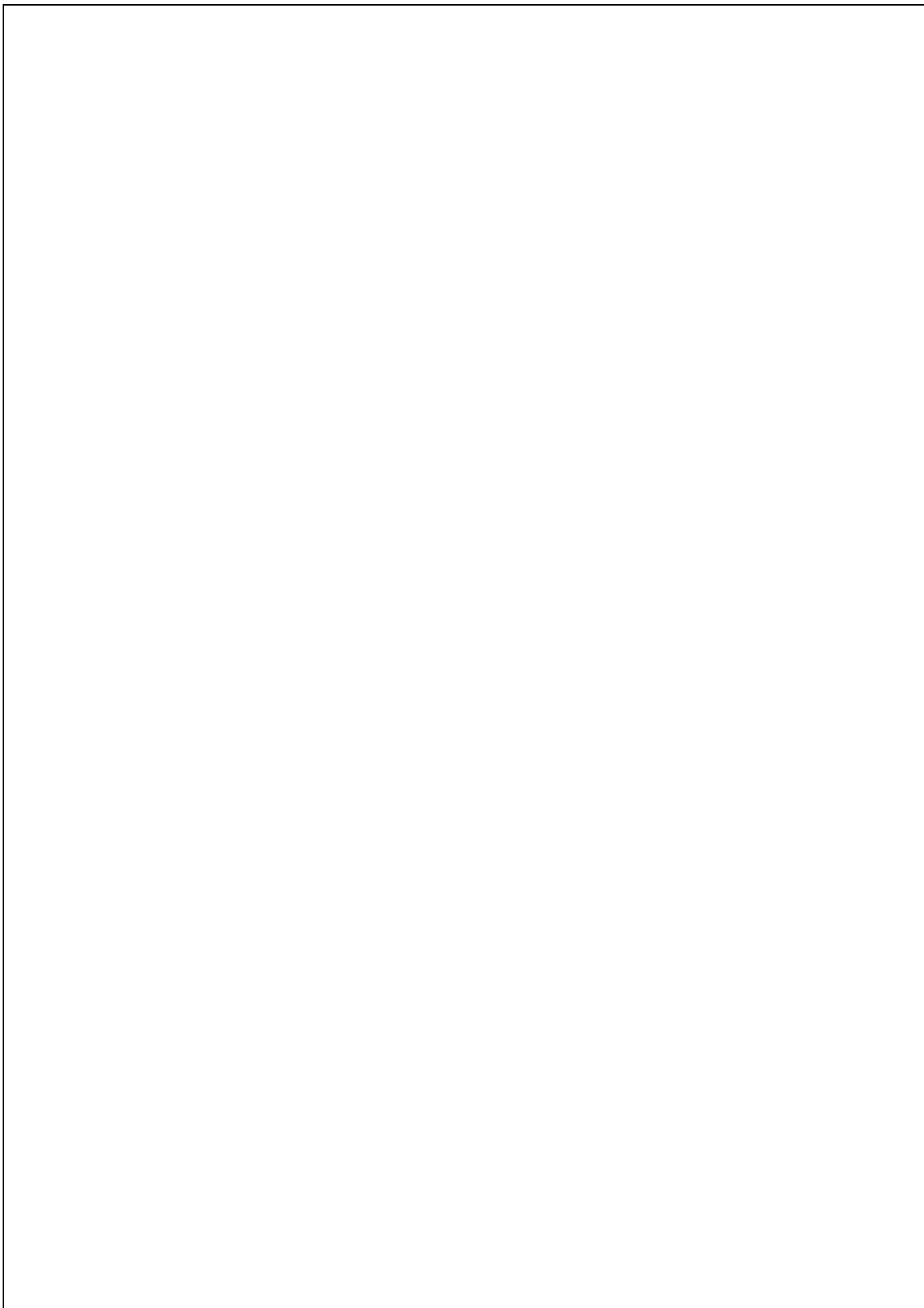
organic manner in the same way the human eye moves when moving over information. The white background ensures clarity of presentation with the eye being drawn to no more than 5 colours.

I have also added supporting icons to support cognition of the expected time to be allocated to the activities listed each week. Following on from Flatley [6] I have also chosen a white background to create the most direct contrast with the content.

Overall the example provided does a good job of conveying the message of the health benefits associated with physical activity but more clarity could be given on the recommendations for the viewer to take away with them, and this report has suggested how this can be improved by use of the above example.

References

- [1] H. Tolonen and H. Hätönen, "Infographics in Support of Decision-Making of Well-Being and Health Promotion," *European Journal of Public Health*, vol. 31 Supplement 3, pp. 107-108, 2021.
- [2] J. Mackiewicz, "Audience Perceptions of Fonts in Projected PowerPoint Text Slides," *International Professional Communication Conference*, pp. 68-76, 2006.
- [3] H. Reid, K. Milton, G. Bownes and C. Foster, "Making physical activity evidence accessible: are these infographics the answer?," *British Journal of Sports Medicine*, vol. 51, no. 10, p. 764–766, 2017.
- [4] J. A. Schwabish, *Better presentations : a guide for scholars, researchers, and wonks*, New York: Columbia University Press, 2016.
- [5] S. C. Lunardo and D. Chaney, "Food packaging and the color red: How negative cognitive associations influence feelings of guilt," *Journal of Business Research*, no. 134, pp. 589-600, 2021.
- [6] M. E. Flatley, "Using Color in Presentations," *Business Communication Quarterly*, vol. 59, no. 1, pp. 90-92, 1996.
- [7] J. Ravenscroft, *The Routledge handbook of visual impairment*, Oxford: Routledge, 2019.



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GRADEMARK REPORT

FINAL GRADE

/100

GENERAL COMMENTS

Instructor

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