Attention! Attention!

Do people look at infographics?

A summary of literature findings that measured whether infographics and graphs really do grab & hold our attention.

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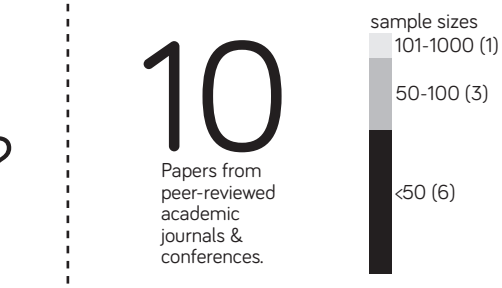
Papers from peer-reviewed academic journals & conferences.



Headline Findings:

1) **People tend to look for longer at infographics than other forms of non visual information** (Holmqvist & Wartenberg, 2005; Smerecnik et al, 2010).
Longer viewing times were also associated with readers having higher levels of interest in a subject (Cummins et al, 2014). In one study, students with higher maths aptitude (Merle et al, 2014) were found to look at infographics for longer than those with lower skills. Interestingly though, Hess et al (2011) found the opposite - that people with lower aptitude in maths employed longer viewing times. We need to show caution with these results and research our own audiences well, particularly with respect to numeracy skills. Longer viewing time may show engagement or confusion.

2) **Infographics tend NOT to be the first thing we look at unless they are very visually dominant** (Holmqvist & Wartenberg, 2005; Pasternak & Utt, 1990).
Despite looking at early fixation data (e.g. where readers look first), there is no conclusive evidence that an infographic, per se, attracts the eye instantly.

3) **Most of the studies surveyed are small in scale.**
More than half of the studies used fewer than 50 participants.

4) **Eye tracking is the most prevalent means of assessing attention.**

5) **There is a lack of studies that focus on attention to health infographics**. Most studies focus on attention to newspaper infographics.

6) **Readers may focus on different areas, depending on the presentation style of the data**. It's been found that readers pay more attention to the data areas when plain graphs (rather than embellished graphs) are used (Li and Moacdieh, 2014). They warn against using large areas of embellishment as it may take attention away from the meaningful areas of the infographic. Renshaw (2004) found also that readers paid more attention to legends in plain graphs whereas they spent more time looking at data areas in 3D graphs. Hess et al (2011) found their readers (in relation to health risk content) were discerning and paid more attention to important information that aided risk comprehension than superfluous content.

7) **Readers benefit from text and images being placed closely together and to the use of visual guides (such as grid structures) that suggest a clear attention pathway through the infographic** (Holsanova, 2009). Also **readers pay attention to titles within infographics** when alignment of elements within the graphic are tight. Keep elements together to guide the eye to meaningful areas such as the title. (Renshaw, 2004)

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! Variables that impact upon attention.

Characteristics of the infographic

(Holsanova et al, 2009)

There are few studies that discuss, in any, detail, visual characteristics of infographics and their affect on attention.

Characteristics of the reader

(Merle et al, 2014; Hess et al, 2011)

(Cummins et al, 2014)

Search strategies

The following databases were searched (Design and Applied Arts Index, Web of Science, Scopus) as well as the Google Scholar Search Engine. Relevant papers were also taken and inspected from reference lists.
The following search terms were used to initially identify publications: 'infographics', 'information graphics', 'graph design', 'chart design' 'graphical presentation' and 'visualisation'. Further keywords were employed in reaction to cited papers in order to extend the search such as 'attention', 'visual attention' and 'visual salience'.

References:

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(red = student participants, green = public participants, grey = not stated)