

The Role of Individual Design Elements on the Effectiveness of Visual Advertisements

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Abstract

It is well established fact that individual design elements such as color, size or shape can have a significant effect on viewer's attention, memory, emotions and behavior. All these effects are critical for successful use of advertisements. However, most of the existing data is based on studies that evaluated each element separately and ignored the context in which this element is presented. The aim of the current study was to evaluate combined effects of several design elements in a specific field of application – advertising. To achieve this goal 50 visual advertisements (including commercial ads and non-commercial public service announcements) were created by manipulating their content, image color, size, emotional valence, and usage of text. Then the effects on viewers' attention, emotions, intentions, attitudes, and memory were assessed. The results revealed the specific psychological effects of different design elements. The use of greyscale images in advertisements resulted in more positive and more acceptable evaluation of those advertisements. Bigger size was associated with stronger emotional reactions, better attention and greater acceptability of advertisements. The usage of text in advertisements evoked more positive emotions and stronger intention to act. This has demonstrated the importance of specific visual elements on the effectiveness of advertisements

Keywords: Design, size, color, text, advertisement, emotion

1. Introduction

The designers of visual advertisements use a variety of different design elements while creating an ad: manipulate the size of objects, choose specific colors, place objects in a specific spatial location, etc. Psychologists agree that these image characteristics are important not only for aesthetical purposes, but also for the graspable effects on observer. For example, larger image size can increase emotional arousal (Codispoti & De Cesarei, 2007), color images elicit more positive and arousing emotions compared to greyscale ones (Detenber, Simons, & Reiss, 2000), the use of diagonal elements in an image is related to more negative emotions (Larson, Aronoff, & Steuer, 2012). However, most previous studies researched design elements individually and only in the context of simple images or photos. While design elements can have an independent effect despite the content of an image (Detenber, Simons, & Reiss, 2000; Zettl, 2005), the content of the image that is being used for an advertisement is critical as well. There is a lot of data that images with different content evoke different emotional reactions for the viewer (Bernat, Patrick, Benning, & Tellegen, 2006; Bradley, Codispoti, Cuthbert, & Lang, 2001; Dan-Glauser & Scherer, 2010; Lang, Bradley, & Cuthbert, 2008). The specific content that is being used can be one of the reasons why different studies sometimes get different results even while studying the same stimulus in similar conditions. Moreover, more complex images, such as photos, include several different design elements, so it is important to evaluate, how the combination several elements are related to the effects of each individual element. That is why the results of previous studies that concentrated on researching the effects of single design elements can be difficult to apply in the practical context, where several elements are combined.

Moreover, another important part of any advertisement is text. While there is data about the importance of specific text, there is little research about the interaction of text and visual design elements.

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Although there is some information that effectiveness of text can be influenced by such variables as emotional arousal (Kallgren, Reno, & Cialdini, 2000), which is related with design decisions. Lastly, advertisement's effectiveness includes many different aspects (Bigsby, Cappella, & Seitz, 2013; Kuusimäki, Simola, Uusitalo & Öörni, 2010; Nolan et al., 2008): attracting attention, evoking emotion, changing attitudes or encouraging to behave in a specific way (or at least instilling an intention to behave in a specific way). A highly effective advertisement usually is able to affect at least several of these aspects. For example, emotions evoked by an advertisement are related to the evaluation of both the advertised product and the ad itself (Bambauer-Sachse & Gierl, 2009). So, concentrating only on single area of effectiveness can limit advertisement's potential. Nevertheless, there is a limited amount of data regarding combined effects of visual stimuli. This is an important shortage of information, especially considering the fact that most previous studies researched images without a specific context in mind (i.e. used plain images as stimuli). That is why an experiment was conducted, which assessed the combined effects of several different design elements in the context of usage in advertisements.

2. Method

2.1 Participants

70 students (mean age – 20.67 years, SD = 5.1, 46 females) who have volunteered to participate in the study.

2.2 Stimuli

A total of 50 advertisements were shown to participants. Each advertisement was based on a photo and half of them also included text (see Figure 1 for an example). 40 advertisements used a photo from Geneva Affective Picture Database – GAPED (Dan-Glauser & Scherer, 2010), 8 used freely available (i.e. based on Creative Commons license) photos of commercial products, and another 2 – freely available photos of cars. The latter two were used for illustrating and testing the procedure during the study, so are not included in the data analysis. All advertisements were presented on a white background.

48 main experimental advertisements reflect 5 main variables:

- Size– 24 advertisements with small images and 24 – with large (twice the size in comparison to small);
- Color– 24 color and 24 grayscale;
- Content– 16 commercial advertisements (inanimate object is depicted in the used image), 16 public (animal is shown to reflect common target of public service announcements), 16 political (human is visible to reflect the main object in political advertisements);
- Emotion– 16 advertisements with neutral images (the valence of the photo was determined based on GAPED ratings), 16 ads with negative photo, 16 with positive;
- Text– 24 images with no text and 24 images with text (“Buy!”, “Take care!” or “Vote!” in Lithuanian language).

All images were selected to be as equivalent as possible in both content and visual characteristics.

2.3 Measures

The effectiveness of advertisements was measured by using 10-point self-report rating scales, which were based on 5 single items measuring different aspects of effectiveness:

- Attention–presented with labels doesn't attract / attracts attention on opposite sides of the scale;
- Emotional arousal–presented with labels evokes weak/strong emotions on opposite sides of the scale;
- Emotional valence–presented with labels evokes unpleasant/pleasant emotions on opposite sides of the scale;
- Intentions–presented with labels doesn't encourage / encourages to take action on opposite sides of the scale;
- Attitudes–presented with labels it is unacceptable/acceptable what is shown on opposite sides of the scale.

All labels were presented in Lithuanian language. Additionally, the memory was also tested by asking participants to recall 10 best-remembered advertisements that were shown previously and write brief descriptions of them.

2.4 Procedure

The study took place in a big room. Advertisements were shown on a large white screen via projector. Participants viewed them in group. While such methodology can induce effects related to social influence, at the same time it makes experimental conditions closer to real environment, because advertisements are often shown to groups of people. It also reduces participant stress that could be induced due to artificial laboratory conditions. At first participants were reminded about the optional participation in the study and introduced to the study (without revealing the specific variables that were tested). Then a detailed instruction about the procedure was presented.

After giving an opportunity to ask questions and making sure that everything is clear an experiment was started. Participants were presented an advertisement on the screen for 15 seconds, during which they had to evaluate the presented advertisement using scales that were printed out on a sheet of paper (for each advertisement participants had to rate 5 items). After that a written warning appeared on the same screen stating (in Lithuanian language) that a new advertisement will soon be presented. The warning was shown for 5 seconds to ensure that participants would notice it and have additional time to finish their ratings. Then a new advertisement was presented, and the procedure repeated (see Figure 1). The order of advertisements was random, but to avoid unfamiliarity effects the ratings of the first advertisement were not included in the analysis.

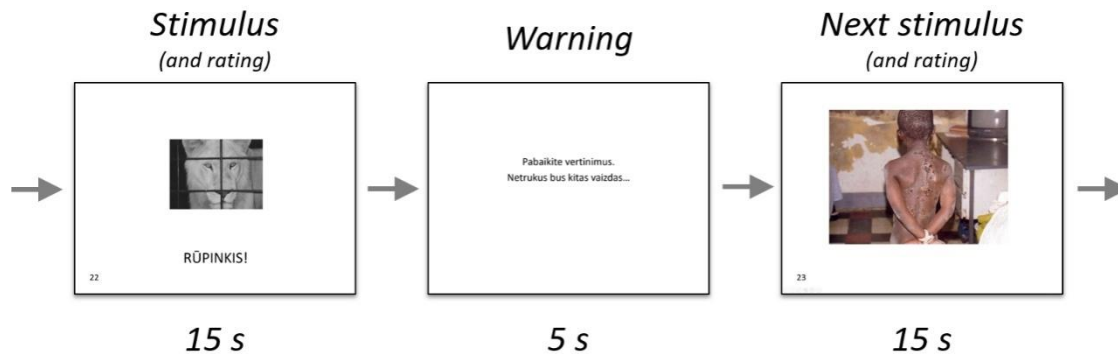


Figure 1. The main procedure of the study

After viewing all advertisements, a new paper sheets (for memory task) were distributed. The distribution time also served as an additional period before seeing and recalling advertisements. Admittedly, group nature of the study resulted that this period was not identical for participants that received the sheets first and last. Nevertheless, this discrepancy was alleviated by presenting the instruction of the memory task only after all participants have received the answer sheets. Participants used these sheets to write the descriptions of the recalled 10 advertisements, together with the demographical information. After completing the study participants were rewarded with souvenir pencils and were informed about the study in more detail. The whole study lasted around 30 minutes.

2.5. Data Analysis

The analysis of the ratings of different effectiveness measures was conducted by averaging the ratings of all advertisements constituting a specific category: size, color, content, emotion, and text (e.g. the ratings of all 24 advertisements that were using large images were averaged to get the score for a big image advertisement category). Then a comparison between the different types of advertisements in that category (e.g. small vs. large) was conducted either by running a paired sample t test or repeated measures ANOVA. This was done separately for each measure: attention, emotional arousal, emotional valence, intentions, and attitudes.

For the analysis of the effectiveness of an advertisement based on memory test, it was calculated how often the advertisements representing a specific category (e.g. advertisements based on large images) were mentioned.

3. Results

Comparison of the role of image size in advertisements revealed that advertisements based on large photos were rated as more likely to attract attention ($t = 7.32$, $df = 69$, $p = .01$), evoking more arousing emotions ($t = 6.68$, $df = 69$, $p = .01$), more motivating to take action ($t = 4.85$, $df = 69$, $p = .01$), and more acceptable ($t = 2.2$, $df = 69$, $p = .03$). However, there were no significant differences while comparing the pleasure of evoked emotions ($t = 1.01$, $df = 69$, $p = .32$). Image color was also a significant variable in determining the effectiveness of advertisements. The data revealed that despite equivalent content advertisements that were based on greyscale images were rated as evoking more positive emotions ($t = 2.8$, $df = 69$, $p = .01$) and more acceptable ($t = 3.03$, $df = 69$, $p = .01$) compared to advertisements that were using color photos. However, there were no significant differences while evaluating attention ($t = 1.75$, $df = 69$, $p = .09$), emotional arousal ($t = .26$, $df = 69$, $p = .79$) or motivation to act ($t = .7$, $df = 69$, $p = .94$). Presence of text also affected the general effectiveness of advertisements. The mere presence of text (despite the variety of content) increased the ratings of pleasure ($t = 3.4$, $df = 69$, $p = .001$) and motivation to act ($t = 3.71$, $df = 69$, $p = .001$) compared to advertisements that had no text message included.

However, there were no significant differences while comparing the effects on attention ($t = 1.62$, $df = 69$, $p = 0.01$), emotional arousal ($t = .6$, $df = 69$, $p = 0.01$) or acceptability ($t = 1.84$, $df = 69$, $p = 0.01$). Significant differences were also found while comparing the ratings of advertisements based on images with different emotional content.

As can be expected, advertisements based on positive images were rated as evoking more pleasant emotions compared to advertisements based on negative images ($F[2,138] = 209.28$, $p < .01$). However, advertisements based on positive images were also rated as more attracting attention ($F[1.67,115.31] = 117.72$, $p < .01$) compared to advertisements based on neutral or negative images ($F[1.67,115.31] = 117.72$, $p < .01$). Moreover, advertisements based on images with emotional content (either positive or negative) evoked more arousing emotions ($F[1.68,115.57] = 159.11$, $p < .01$) and more strongly motivated to act ($F[2,138] = 33.52$, $p < .01$). As for the memory test, participants most often recalled advertisements that were based on emotional images (either positive or negative) confirming the importance of evoked emotions on the various aspects of effectiveness of advertisements.

4. Discussion

The results of the current study revealed that individual design elements that constitute an advertisement have had a significant effect on the effectiveness of advertisements. According to our data, the bigger is indeed better. Advertisements constructed from large photos were rated as attracting more attention, evoking more intensive emotions, more encouraging to act, and more acceptable. This is quite expected, because emotions and motivation are closely related (Bradley et al., 2001). Thus, stimuli with increased emotional arousal reflect the importance of that stimuli for the viewer, and, in turn, has a greater tendency to encourage behavior. Bigger image can indeed be considered as more significant and realistic stimulus compared to a small one. Due to this significance viewers will attribute more attention to it and will be more ready to react to it.

Results regarding color were unexpected. Current experiments have demonstrated that greyscale can some be more effective than color. Full color advertisements were rated as evoking less positive emotions compared to greyscale ones despite equivalent content. While most studies have demonstrated that color pictures tend to evoke more pleasant emotions compared to their greyscale versions (Detenber, Simons, & Reiss, 2000; Detenber & Winch, 2001), some previous studies (e.g. Polzella, Hammar, & Hinkle, 2005) found that emotional effect of color depends on the specific type of content. For example, greyscale versions of portraits were evaluated as more pleasant than color ones, but opposite results were found for landscapes – the latter were evaluated as more positive when they were presented in color version. It might be that that individual colors that were used in color versions of photos were not matching other elements or content, since individual colors differ in their associations with specific type of content. For instance, nature is most associated with green color (Clarke & Costall, 2008). Perhaps the content that was used in the current study also had specific connotations with individual colors that were not mirrored in the photos that were used.

Another possible explanation is that greyscale images simply allowed to avoid the distraction from colors and to concentrate on the content itself (Zettl, 2005). As can be expected based on previous studies (Dan-Glauser & Scherer, 2010; Lang, Bradley, & Cuthbert, 2008), emotional valence of photo content was indeed an important factor. Advertisements that were using positive photos were rated as evoking more pleasant emotional reactions than ads based on negative images. Moreover, positive advertisements were more effective in attracting attention compared to neutral or negative ads. At the same time both positive and negative advertisements had stronger effect in promoting behavior compared to neutral ones. This demonstrated that in addition to emotional valence, emotional intensity is also an important factor. Another interesting finding was that mere existence of text in the advertisement can be advantageous. Advertisements with text in addition to photos were evaluated as more positive and more encouraging to act than photos only. Even though the text was very simplistic. All these findings demonstrate that using images in advertisements should be based on deliberate intentions to invoke specific effect, instead of just selecting design elements that are more aesthetically pleasing.

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