

# Analysis of Biometric Data of Eye Movements and Mimic Reactions to Archival Propaganda Posters

**Łukasz Szurmiński**

University of Warsaw

[l.szurminski@uw.edu.pl](mailto:l.szurminski@uw.edu.pl)

ORCID: 0000-0002-2918-6502

**Małgorzata Kisilowska**

University of Warsaw

[mdkisilo@uw.edu.pl](mailto:mdkisilo@uw.edu.pl)

ORCID: 0000-0001-5733-5424

## ABSTRACT

Biometric measurements enable collection of data concerning unconscious respondents' reactions to presented material, visual in this case. **Scientific objective:** Inquiry of reactions of nowadays viewers to the propaganda message of Polish posters from the decade after 1945. **Research methods:** Biometric measurements: *eyetracking* and *facetracking*, questionnaire survey. **Results and conclusions:** Confirmed stronger influence of image than text, and intensive emotional reactions for the communicate; different reactions of the respondent groups with different knowledge. **Cognitive value:** Stable potential of influence of propaganda posters on the viewers, regardless of the age of the former; results to be applied in education and popularisation of science.

## KEY WORDS

biometric study, eyetracking, facetracking, history of propaganda, Polish propaganda poster



Propaganda posters from past decades now have primarily a documentary function. They show how – in terms of content and form of communication – a message was shaped, which was to influence persuasively. But is this persuasive function really disappearing? Does the assumed double effect – through humour and fear – decrease over time? In order to find an answer to this question, a study was carried out using biometric tools to assess the reactions of contemporary viewers to archival propaganda posters.

## Theoretical context

In the literature on the subject, there are several topics of political poster analysis. Most of them concern their reception, social functions and communication effectiveness, and refer to the current political reality. Research is often carried out on material related to election campaigns, due to the popularity and features of the poster in such projects, and consequently – due to the availability of research material.

Arendt, Marquart and Matthes (2015) studied the stereotyped impact of posters using materials from right-wing parties concerning refugees. They showed that the recipients seemed in some way defenceless against a strong, stereotypical media message. As a consequence, they formulated a recommendation to use in the research of political communication the implicit means of measurement, in addition to declarative tools, in order to investigate the hidden influence of the media on recipients.

The relationship between the text and the image (including the power to attract attention) was investigated by Hayek (2011), using posters from the election campaign in Austria in 2008, adapt quantitative content analysis and partly visual analysis. Both she and Geise and Brettschneider (2010) stated that the image (or photo) attracted attention faster and was remembered earlier than the text message. This is due to its larger (compared with text) possibilities of shaping and controlling an activation potential, that is, their content and the visual layer. Schmuck and Matthes (2017) also analysed the differences between text and image influence, this time in the emotional and rational layers, due to the symbolic and substantive message contained in them. According to the results, combined messages (image and text) with symbolic content have stronger impact than the text itself, as well as a combined message containing substantive argumentation.

The subject of the analysis of propaganda posters were artistic and ideological issues as well as references to emotions, including two dominant ones: humour and fear (e.g. Kaminski, 2014; Pretorius, 2016; Thomas, 2012). Kaminski studied American and German posters from the World War I, finding in them a stronger emotional appeal than a rational one. Most messages were to cause fear and demonize the image of the enemy. There were also images shaping patriotic attitudes implemented in the military (reporting to the army) and civilian (involvement in the production of war materials, women's employment) aspects. Individual components of the posters were selected according to the communication function (imposing, aesthetic) within the artistic style popular at that time (see also Pretorius, 2016). They were supposed to build a sense of danger or ridicule the ineffectiveness of the enemy. Miłkowska (2015) also mentioned the therapeutic comism of posters of the war period, making fun of the opponent. She writes that the cleansing power of comism causes that during periods of wars significant quantities of mocking posters were observed.

Nowakowska and Ignatowicz, curators of the exhibition “Rich harvest to the People's Poland!”, organised in 2006 at the National Museum of Agriculture and Agricultural-and-Food Industry in Szreniawa, presented propaganda posters from the 1950s from the countries of Central and Eastern Europe, made by well-known artists, concerning agriculture and rural work. Among them there were also those with a hostile attitude towards opponents of the socialist economy.

Here, too, there are many examples consistent with the pattern of emotional references, i.e., above all, ridiculing or arousing fear. From the point of view of the described project, it is worth mentioning the study on the reception of this exhibition. The viewers spoke separately about the exhibition itself and the period it referred to. Elders often remembered the presented exhibits from their own experience. Younger and middle-aged exhibition visitors “expressed a certain leniency and distance to the socialist system. (...) They appreciated the cognitive and educational value of the exhibition” (Nowakowska & Ignatowicz, 2014, p. 78).

Noteworthy are also compact publications, in which the authors analyse leading themes, dominant shots of the figures and colours. It is worth mentioning the book de Lazari and Riabow on the use of cartoons in Polish-Russian mutual relations from the interwar period to the present day (de Lazari & Riabow, 2008). Other important publications showing a wider spectrum of Soviet activity in the propaganda sphere include the book *Sztuka w służbie utopii* [Art in the service of utopia], describing the construction of the propaganda apparatus of the state in 1917–1922 (Leinwand, 1998), and the study of Norris *A war of images* (2006) explaining the historical and cultural conditions of the content and forms of Russian and Soviet propaganda posters from the 19th and the first half of the 20th century.

The publication of Urszula Jarecka also has a cross-sectional character, and precisely reproduces the use of various visual materials (including posters) in the propaganda machinery of the great powers of the 20th century. Here, we have outlined, among others, an image of the relationship between war and propaganda and visual arts, and, importantly from the perspective of the presented study, issues of the image of the enemy in propaganda (Jarecka, 2008, pp. 199–227).

Thomas (2012) analysed propaganda posters from the war period addressed to citizens who did not participate directly in the fight (if such a division can be applied). Referring to German, British, American and Soviet materials, he showed that the attitude of such messages depended directly on the situation at the front. With positive content they were supposed to shape a sense of patriotism, duty, honour or glory. With negative content – they caused a sense of threat, fear, hatred.

There are not many reports from the study on the reception of political poster with the use of biometric tools. Two of them concerning electoral campaigns in Germany and Austria concerned projects with the use of an eye tracker. The first, by Geise and Brettschneider (2010), showed that the image components of election posters increased the probability of attracting the viewers’ attention: they were perceived faster and received more intensely, and they attracted attention for longer. Respondents focused primarily on the picture before they noticed the text and the logo. More positive “first impressions” were caused by picture posters than those dominated by the text and better designed, and they were also remembered for a longer time.

Marquart, Matthes and Rapp (2016) used the eye tracker to study the ways of reacting and receiving the content of posters of two parties opposing each other. The main hypothesis concerned one-sidedness in the search for information and selection of a message at a very early stage of perception. It was confirmed, but at the same time there was no so-called unilateral avoidance of information, i.e. giving up the perception of messages about content contrary to the views of respondents. Investigating the fixation time, a strong dependence of the stimulus on the fixation length was found, but also on other variables (subsequent behaviours, demographic and ideological factors).

The results of research on propaganda posters with biometric tools show that emotional reactions and changes in the concentration of viewers’ attention often differ from data obtained in studies of analogous scope, carried out with other methods and techniques, e.g. declarative ones. In other words – the physiological responses of respondents reveal more than they can verbalize themselves. This is a prerequisite for continuing similar research in order to obtain a complementary picture of the response to a given text or visual message.

## Purpose of the work, research hypotheses

It is difficult to assume that propaganda posters created in the middle of the 20th century will have the same impact on modern young people as it had during their creation and in the circumstances they concerned. Nevertheless, as historical and visual material, they are a potential subject of interest, regardless of the age, knowledge or experience of the viewers. Contact with this type of documents is not impossible, at least on the occasion of textbooks, popular science publications or museum exhibitions. The main objective of the study is to check whether and to what extent the archival propaganda poster has retained its communication function among young audiences, i.e. whether – as it is presented in the subject literature – it still triggers two basic reactions: fear and amusement. In other words: how young recipients perceive historical media coverage. An additional independent variable adopted in the study was knowledge in the field of visual propaganda, obtained by one of the studied groups through participation in the course “Mechanisms of propaganda in practice”. Its application allowed to obtain comparative data for the reception of propaganda materials by persons with similar demographic characteristics, in groups differing in the level of perception competences.

The following research questions were posed in the project:

- Q1. Do respondents react to historical propaganda posters in accordance with its assumed goals, i.e. checking students’ reactions to the message contained in archival propaganda materials – to what extent history “resonates” in the emotions of young recipients, in consumption and interpretation of historical content;
- Q2. What does declarative and biometric data tell us about the way of perception of a message? Are there any differences between them?
- Q3. Are there any differences in the reception of historical propaganda posters between people prepared (equipped with knowledge of visual propaganda) and unprepared to receive this type of content?

As a consequence, the following hypotheses have been proposed:

H1: historical propaganda posters arouse the emotions of respondents, despite the fact that their subject is outdated, and the content is strongly related to the specific circumstances of the past time and place;

H2: concentration of visual attention visible in the data collected with the use of an eye tracker is different than that resulting from the respondents’ declarations about the components that in their opinion are the most eye-catching;

H3: there are differences in ways of reception of this type of message between people with knowledge of visual propaganda and people who do not have such knowledge.

Hypothesis 1 was formulated on the basis of both construction knowledge (Kaminski, 2014; Pretorius, 2016; Thomas, 2012) and reception (Geise and Brettschneider, 2010; Hayek, 2011; Schmuck and Matthes, 2017) of propaganda posters, according to which the effectiveness of their impact was obtained by inducing two types of emotions: fear and amusement (the use of humorous elements). Differences in the concentration of visual attention and the respondents’ declarations (hypothesis 2) are subject to analysis of, among others, consumer behaviour (see e.g. Clement, Kristensen, & Grønhaug, 2013), they have also been shown with regard to propaganda posters (Arendt, Marquart, & Matthes, 2015; Marquart, Matthes, & Rapp, 2016). Hypothesis 3. refers to the results of analysis of eye movements in educational processes, which showed differences in the way of working with didactic materials depending on the level of knowledge of the subjects (Jarodzka, Gruber, & Holmqvist, 2017).

## Methods, materials and research tools

Outlined subject knowledge, in particular the results of two biometric tests, and suggested by Arendt, Marquart and Matthes (2015) the need to supplement collected declarative data with experiments, encourages more frequent use of biometric tools in the analysis of reception of propaganda materials. Therefore, an attempt was made to apply them to the study of a narrow group of historical documents.

The research material selected from the collection of the Poster Museum in Wilanów contained 17 items, which were made available in excellent quality digital copies. The key to selecting posters was a message comprising of an enemy, a figure/figures presented in a definitely negative light. An element of stigmatization of a figure was the use of propaganda transfer technique, which associated people with critically perceived symbols, widely known from the propaganda of the PPR authorities. These were, therefore, Nazi and American uniforms, a symbol of swastika, runic signs and political figures of the Western world presented in Polish propaganda in a critical perspective (Truman, Adenauer, Eisenhower). All posters had vertical orientation to facilitate and unify the way they are received. When it comes to content presentation elements, all posters depict people – or specific historical figures or personifications of certain ideas. All of them also contain text elements: mandatory they have captions (slogans) suggesting interpretation, sometimes also captions (names) of people presented in the picture or comments. As far as the plastic side is concerned, they are maintained in the then typical style.

The posters were drawn with a rather thick, clear line, in colours that attract attention (red, orange), but also in green or blue. Analysis of colour selection can be distorted by distortions caused by the low quality of the posters themselves and the age of paper. Due to limited space, only two posters of the discussed group will be shown in this text (see Figures 1 and 2).



Fig. 1. Poster no. 3

Source: Department of Polish Poster, Poster Museum at Wilanów



Fig. 2. Poster no. 6

The research sample was created by students gathered in two groups separated by the field of study: journalism and media studies (DIM) and others (psychology, sociology – Other). The first group participated in the workshop “Mechanisms of propaganda in practice”, during which students learned about different methodologies for decoding visual materials.

Two types of biometric tests were carried out (Jaśkowski, 2004):

- a) *eyetracking*, using the Tobii X2 – 60 Hz eye tracker; data on the number of fixations were collected, illustrating places of special focus of the respondents’ visual attention and those remaining in the periphery;
- b) *facetracking*, i.e. a record of facial reaction on the message being watched, allowing to read the emotions of the respondents.

The data was processed in the iMotions platform allowing the integration and analysis of biometric data.

The materials were presented to the subjects on a monitor (in vertical orientation) with a diagonal of 24 inches and a resolution of 1280 x 1900 pixels. After calibration of the equipment and presentation of the welcome screen, each of the respondents watched posters in the same sequence. The poster’s exposure time was 8 seconds. The respondents were instructed to look at the posters freely. The exhibition was carried out in a random order.

In addition to biometric analyses, the study also included a questionnaire. In this case, the data was collected using the *free listing* technique. The respondents in each case after seeing the poster were asked to answer an open question, i.e. to list elements they remembered from the presented image. The study ended with a closed question (asked in written form, anonymous, after seeing all the materials) about experienced emotions (*Please indicate which emotions or feelings you experienced while watching the posters*). Information obtained in this way was a comparative material for biometric results.

## Results

Hypothesis 1. said that historical propaganda posters would arouse the emotions of the respondents in accordance with the intentions of the authors, i.e. mainly fear and amusement. It was assumed that such an effect would be preserved despite the archival character of the materials and the diversity of the then social and political situation in relation to the reality in which contemporary viewers function. The *facetracking* record revealed significant, diverse emotional responses to the presented material. For half of the posters surveyed (in total 8 out of 17) there were high indications of joy, which can be interpreted as a reaction to the humorous aspect of the message, more appealing to the contemporary viewer than in the other examples. This was especially true for metaphorical materials, including those not showing historical figures. Charts for posters 3 and 6. (Fig. 3.) illustrate the situation in which the line of joy (the third from the top) is not raised along the whole length. In addition, the comparison of aggregated results for two groups of respondents clearly reveals differences in perception between participants of propaganda workshops and the second group.

However, dominant emotions are anger, surprise, contempt, sadness and disgust. They all seem to be an obvious reaction to the presentation and content of the images being shown. The surprise may additionally be caused by the novelty of each of the objects. Clear sadness (10 out of 17 posters), sometimes connected with anger, most often appeared at the end of the exposure time, when the respondents got to know and understood the whole message.

In the examples given in Figure 3, the emotions chart for poster no. 3 watched by a group of DIM students at the beginning shows a significant increase in contempt, surprise, anger and fear in response to the combination of the figures shown (Hitler, Truman, Eisenhower) and

the inscription on the door (Atlantic Army Headquarters). As a result of understanding of the message, the indicators for emotions are raising: sadness and disgust. In the case of the second group of respondents, a great surprise is first seen, followed by a “peak” of contempt (after Eisenhower’s figure was identified deep in the picture). However, fear prevails in the perception, and at the end the combined anger and sadness are significantly revealed as a reaction to the interpretation of the whole message.

The reaction of DIM students to poster no. 6 was, above all, contempt, in the second place – surprise, sadness and disgust. These emotions were revealed much stronger than in the second group. Anger and joy in the first part of the chart are related to reading the slogan and understanding the content of the message. “Peaks” of fear arise when the attention of the respondents is focused on the SS soldiers “hatching” from eggs. Reactions of Other students were different. First of all, they revealed surprise, fear, contempt and anger (SS soldiers in the foreground, in a vague connection with an American soldier, bunker and eggs placed in it). Sorrow and fear intensified as the contact with the picture continued. Understanding and appreciating the joke (“U.S. brand breeding ground”) is manifested by an increased joy experienced at the end of the chart.

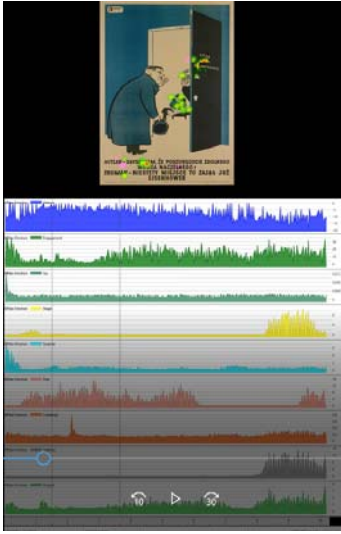
As mentioned, part of the study was a single-choice survey, in which the respondents (after viewing all posters) were to indicate which of their emotions was dominating during the reception of materials. The gathering of declarative data served to answer the second research question and to check the hypothesis connected with it. As shown in Table 1, the most frequently selected ones were positive and cognitive-related options, i.e. interest and curiosity. In the second place, although significantly lower indicators were observed, there was threat (mainly in respondents from other directions) and lack of understanding (distributed equally between groups). Students of journalism (although a small number) more often declared sense of inspiration. Interestingly, none of the respondents pointed fear as experienced emotion.

Possible differences between biometric and declarative data were also examined on the basis of eye tracking data (the number of fixations on selected AOIs<sup>1</sup>) and declarative data (mentioning memorized elements for each poster separately).

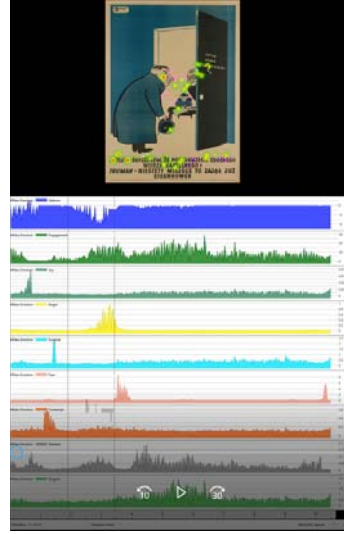
Table 1. The basic emotion felt by respondents while watching posters based on single-choice survey

	All respondents	DIM students	Other students
interest	19	9	10
curiosity	15	8	7
hazard, risk	7	1	6
lack of understanding	6	3	3
boredom	5	2	3
inspiration	5	4	1
amusement	4	0	4
joy	4	1	3
fear	0	0	0

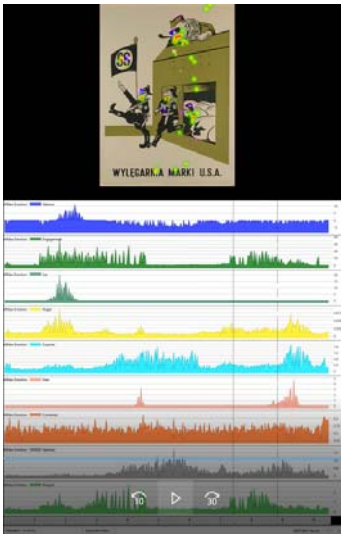
<sup>1</sup> AOI – area of interest; tool used during the analysis of eye tracking data: a part of the research material preliminary designated by the researcher, which is the subject of the analysis, i.e. for which questions are asked regarding, among others, the number of fixations or time to first fixation.



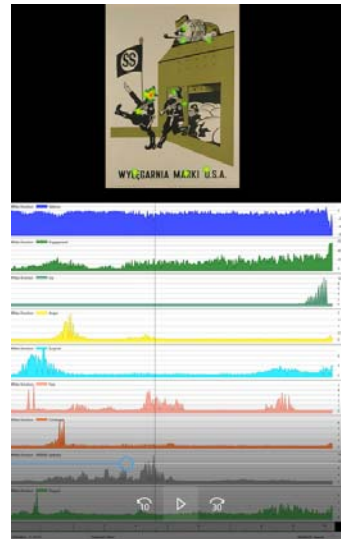
Poster no. 3 – aggregated chart of emotions for a group of DIM students



Poster no. 3 – aggregated chart of emotions for a group of students of other directions



Poster no. 6 – aggregated chart of emotions for a group of DIM students



Poster no. 6 – aggregated chart of emotions for a group of students of other directions

Fig. 3. Records of aggregated emotions charts for selected posters and the two studied groups. Lines, viewed from the top, respectively mean: valence, commitment, joy, anger, surprise, fear, contempt, sadness, disgust.

Source: Attention Tool Core 5.2 by iMotion, retrieved on 15.02.2018



The annex (Table 2) presents aggregate data for all respondents and grouped on selected AOIs, described by the highest numerical indications in the fixation category or declaration. Additional elements (marked in grey) were also included, indicated by the respondents as memorized, which were not previously designated as areas of interest (for this reason they do not have a specific number of fixations). In turn, part of the AOIs has only the given number of fixations, without declarations of memorization. They were placed in this juxtaposition precisely because of high indications of the number of fixations in comparison with the remaining AOIs for a given poster. Declarative data concerns the total number of indications of a given element mentioned as remembered in the first, second or third order.

The analysis of data from Table 2 is of comparative and proportional nature, not quantitative. A comparison of biometric and declarative indications shows that only in the case of 6 posters out of 17 respondents mentioned a text element among the memorized ones. However, despite the lack of a clear indication of the text, some of the respondents in the descriptions of fragments of the picture used the vocabulary and last names used in the messages.

In most materials, both types of data give the same or very similar results. However, there are some minor differences. For example, in poster no. 10 more than half of the respondents mentioned the wings of the figures as a particularly memorable fragment, and in poster no. 13 it was a trombone. Both elements did not have separate AOIs assigned, as they do not carry any message themselves. Among others, these indications give grounds for stating that the respondents, looking at the same places, remember not only large, well-recognizable elements of the picture's foreground, but also the details of a larger whole (e.g. symbols on uniforms, cylinder on the head, etc.) and background fragments.

It is also worth paying attention to the impact of colour of visual material. In posters with a small number of elements, with the dominant background colour (orange, red), the colour itself was mentioned by the respondents as a memorized element. This applies to the three materials tested. Blue or green (also often used by the authors as a background) have not been remembered by students.

In order to verify hypothesis 3, reference was made to the indicator of the number of fixations for individual AOIs, divided into text and pictures being the key elements of posters. As shown by eye tracking data, the distribution of intensity of visual attention for texts placed on posters is clearly different between the two groups of subjects. Respondents without additional preparation for the reception of this type of messages definitely focused their attention on the texts longer than other respondents (see Chart 1).

The distribution of intensity of visual attention between the two groups looks a bit different when it comes to the reception of the visual message. In nine posters, a larger number of fixations on fragments of the visual message (figure(s), face(s)) were shown by DIM students, in eight objects - Other respondents (Chart 2). However, the differences observed in both cases are not statistically significant. After conducting the t-student test,  $p = 0.16$  was obtained for texts, and  $p = 0.36$  for pictures.

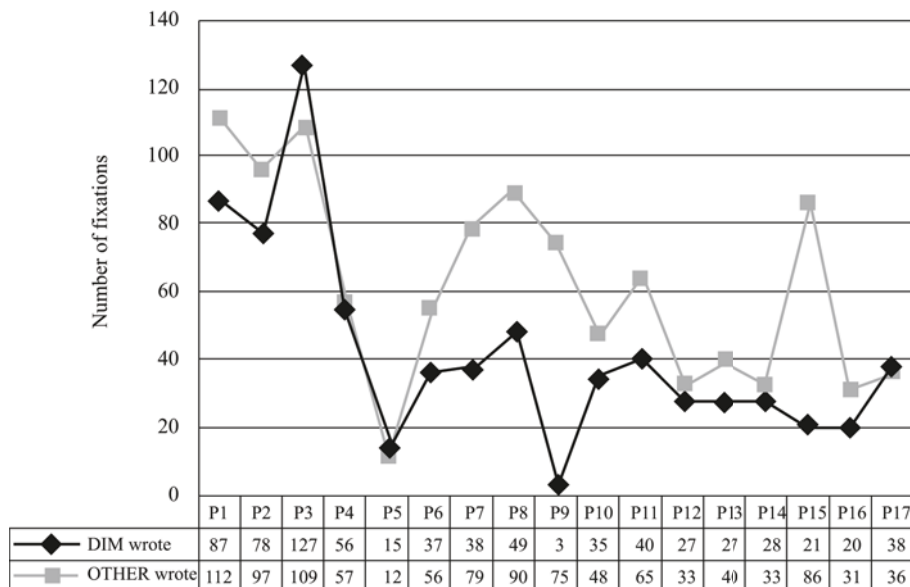


Chart 1. Comparison of focus on texts by groups of respondents

Source: own study

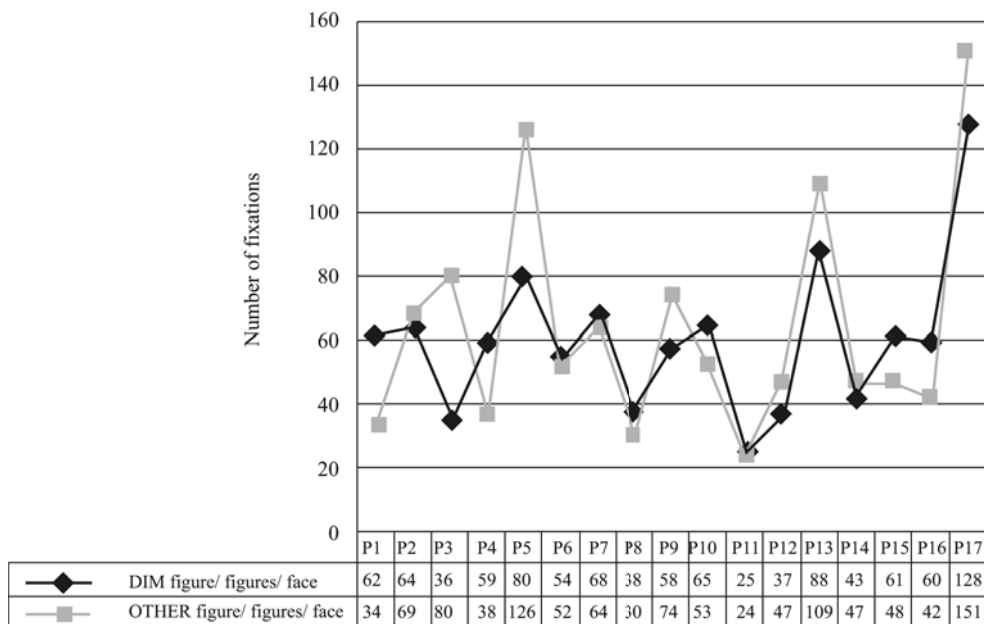


Chart 2. Comparison of focus on visual elements by groups of respondents

Source: own study

## Discussion

Based on the results of *facetracking* research, it was found that archival propaganda posters arouse emotions in young respondents (thus, hypothesis 1 was confirmed). These are primarily negative emotions (anger, contempt, sadness), but also joy – the latter is a response to the humorous layer of the message. The results obtained are in line with the results of previous research cited in the review (e.g., Miłowska, 2015, Schmuck & Matthes, 2017). Fear, mentioned by the authors (e.g. Kaminski, 2014; Nowakowska & Ignatowicz, 2014; Pretorius, 2016; Thomas, 2012), as the second dominant emotion next to humour, was more clearly visible in reactions of the group of respondents without additional propaganda preparation. There are, therefore, clear differences in the manner of reception of this type of material, depending on the substantive preparation of the respondents.

In the analysis of emotional reactions, certain stages can be distinguished:

- a) first, emotions appear which are a reaction to the “first impression” – colours, dominant elements of the picture;
- b) their intensity then increases after reading the slogan accompanying the visual material;
- c) finally, we observe accumulation of negative emotions as a result of interpretation and understanding of the entire message – combination of visual and textual layers.

Differences between biometric and declarative data in terms of experienced emotions and strength of the impact of individual poster elements (visual and textual) give grounds for a positive answer to the second research question. Thus, hypothesis 2 is confirmed along with recommendations in the literature on the need for the use of implicit means of measurement in addition to declarative tools in visual research of propaganda materials (Arendt, Marquart, & Matthes, 2015; Geise & Brettschneider, 2010; Marquart, Matthes, & Rapp, 2016).

The last, third research question concerned potential differences in the reception of material depending on the degree of preparation, i.e. participation in propaganda workshops. Differences were revealed in concentration of visual attention to texts, the content of which facilitates interpretation of the visual message. Other students read the texts on 15 out of 17 posters for much longer. The number of fixations reflects the level of concentration of visual attention, and indirectly also the fact that understanding and interpretation of the text required a greater effort among respondents who were not prepared for the reception of this type of material. This may indicate a relatively lower competence allowing for correct understanding and interpretation of the slogan.

The obtained result (the number of fixations on both types of messages – charts 1 and 2) can illustrate twofold dependencies. Thanks to the gained knowledge, the respondents from the basic group spent less time and attention on reading the texts, and therefore they were able to devote relatively more time to view the pictures. On the other hand, students from other fields, due to the weaker orientation in the issue, put more effort into reading the text as well as the image. It is worth noting that apart from the differences in the intensity of fixation, differences were also observed in the areas of concentration of visual attention when it comes to visual messages. Other respondents (Chart 2) focused on other elements of the picture than DIM students in posters no. 2, 6, 11, 12, 14 and 16. However, it should be remembered that the differences shown are not statistically significant. Thus, it should be noted that hypothesis 3 has been partially confirmed.

It is also worth emphasising the impact of the written message. It was revealed in the respondents' answers, who – describing the memorized fragments – used (perhaps unknowingly) the vocabulary taken from the slogans present on the posters.

## Conclusions

Archival propaganda posters maintain their potential to influence the viewers, despite the passage of time and the political and social changes, including the methods and tools of contemporary persuasive communication. Young recipients react to historical media messages in accordance with the intentions of its authors (cf. Kaminski, 2014; Miłkowska, 2015; Nowakowska & Ignatowicz, 2014; Pretorius, 2016; Thomas, 2012), which was confirmed by the results of the study of facial expressions. Triangulation combining the use of biometric tools and declarative techniques, according to the statement of Arendt, Marquat and Matthes (2015), allows collecting complementary data on the recipients' reactions to the message presented on the poster, which is another confirmation of the purposefulness of conducting media research, with the simultaneous application of different methods and techniques (in the form of triangulation or mixed methodology).

The question about changes in the reception of the historical propaganda poster due to its topicality (or its lack, or associations with current events) is still valid. Not only the content, symbolics and protagonists of pictures can influence the reception, but also, for example, the artistic style characteristic for the period when an image was created. In other words – does the form influence (and how much, how?) the reception of the content? In addition, the results obtained in the biometric-declarative study should be verified on a larger and more diverse group of respondents, developing (and methodologically differentiating) the component of qualitative research. It would also be interesting to carry out a study deepening the interpretation of emotional reactions – both humorous (amusement, joy, positive surprise) and negative (fear, disgust, contempt). There are, among others, questions about similarity and differences in the sense of humour among different generations, and consequently perhaps also about the consolidation or disappearance of certain stereotypical reactions.

The obtained results may be useful in educational and documentary activities: in the design of exhibitions (similar to those described by Nowakowska and Ignatowicz) or in the creation of textbooks – e.g. in the selection of illustrative material and the manner of content presentation. An important observation is that – especially at the lower level of substantive knowledge within a given scope – viewers watching visual materials focus attention on other elements of the message than professionals, focusing, among others, on colours or details of the picture.

The authors thank the Poster Museum at Wilanów for providing digital copies of the analysed posters.

## Annex

Table 2. Focus on and remembering of components of selected posters. The comparison of biometric and declarative data for each group and all respondents.

<b>POSTER 1.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
texts	87	4	112	3	199	7
figures	99	9	56	8	155	17
horse	15	4	10	7	25	11
symbols on uniforms	6	2	5	2	11	2
<b>POSTER 2.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text	78		97		175	
Acheson	39	6	69	7	108	13
figure in the middle	64	11	59	6	123	17
„Bevin”	14	4	20	4	34	8
Schuman	11	2	6	2	17	4
drawing	21	2	13		34	2
text Bevin				2		2
<b>POSTER 3.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text	127		109		236	
Hitler – figure	13	11	12	8	25	19
Hitler – head	25	11	34	8	59	19
Truman	19	4	11	2	30	6
Eisenhower	36	2	80	7	116	9
text on the door	22		34	2	56	2
doors		5				5
<b>POSTER 4.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text	56		57		113	
Korea	21	2	29		50	2
face	59	6	38	5	97	11
hand on the left	29		30		59	
USA	5	7	6	4	11	11
globe		2		7		9
cylinder		6				6
red colour				3		3

<b>POSTER 5.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
Hitler	80	8	126	9	206	17
leg	10	2	11	2	21	4
Adenauer	47	4	69	8	116	12
MacCloy	36	4	48	4	84	8
swastika	9	3	7		16	3
elevation/ pedestal		2		2		4
<b>POSTER 6.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text	37		56		93	
soldiers	108	7	139	5	247	12
figure on the bunker	44	6	33	2	77	8
symbol \$\$	32	8	21	8	53	16
flag		2		3		5
bunker				2		2
<b>POSTER 7.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text	38		79		117	
wolf	108	11	126	11	234	22
jaw	24	6	23	3	47	9
German symbols	9	2	5		4	2
Truman – dentist		9		10		19
<b>POSTER 8.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text	49		90		139	
people	107	5	86	10	193	15
smoke	31		48		79	
text „Vietnam”	2	9	10	5	12	14
fishing nets		4		7		11
sea		2				2
<b>POSTER 9.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text on the bottom	3		75		78	
figure	58	8	74	7	132	15
flag	45	6	50	2	95	8
text US	19	3	23	6	42	9
text ONZ	11	7	9		20	7
diseases	29	2	50	2	79	4
fleas	32	2	25	5	57	7

<b>POSTER 10.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text	35		48	6	83	6
figure	65	8	53	8	118	16
airplanes	45	7	51		96	7
hands with airplanes	27	2	34		61	2
symbol \$	5	2	3	2	8	4
ruins	11		28		39	
text „Korea”	3	3	7		10	3
wings		7		6		13
<b>POSTER 11.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text at the top	16		45		61	
people/hens	71	9	61	6	132	15
USA	5	4	3	4	8	8
France	8	2	5	6	13	8
England	5	3	3	7	8	10
chick	61		68		129	
red colour (background)		2				2
<b>POSTER 12.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text	27		33		60	
watering can	37	6	29	7	66	13
coins	46		21	4	25	4
symbol \$	14	2	13		27	2
hand	2		3		5	
face	20	7	31	5	51	12
firearm	35	4	47	7	82	11
cylinder		2				2
<b>POSTER 13.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text	27		40	4	67	4
Truman	75	10	71	8	146	18
Adenauer	88	3	109	6	197	9
text „Revision...”	26		58		84	
trombone		9		4		13
<b>POSTER 14.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text on the bottom	28		33		61	
figure in caftan	8	2	16		24	2

skull	43		46	2	89	2
text „war”	14	3	9	2	23	5
hand on the left	5	3	7	2	12	5
hand on the right	7	3	5	2	12	5
knot + Acheson’s head	16	2	47	2	63	4
Churchill’s head	30	4	28	2	58	6
text „defenders of peace”	11	7	12	13	23	19
pipe/cigar				2		2
<b>POSTER 15.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text Miss America	21	3	22	3	43	6
text „help for Europe”	18		86	2	104	2
figure	24	7	28	8	52	15
head	61		48		109	
hands	18	5	28	2	46	7
ball	10		17	5	27	5
chain	17	5	18	5	35	10
seat, seating				2		2
<b>POSTER 16.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text	20		31	2	51	2
car	60	7	36	2	96	9
figure	78	8	53	3	131	11
stones	7	2	15	2	22	4
cold war flag	34		14	4	20	4
“hydrogen bomb” balloon	33		10	2	23	2
text „Acheson”	4		3	3	1	3
“total diplomacy” flag	29		42	6	71	6
orange colour (background)		2				2
<b>POSTER 17.</b>	<b>DIM students</b>		<b>Other students</b>		<b>All respondents</b>	
<b>AOI</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>	<b>fixations</b>	<b>declarations</b>
text on the bottom	31		25	4	56	4
figure	128	7	151	4	279	11
snake	13	7	17	5	30	12
hand	14	6	11	5	25	11
text „US”	7		4		11	
helmet		2				2
coffin				6		6



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