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Debunking as a Method of Uncovering Disinformation and Fake News

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Abstract

Journalism is about much more than just seeking and processing information. Multi-skilled journalists of the twenty-first century have to fulfil the given basic tasks and invest much of their time in verifying the affairs that are presented, and uncovering half-truths or false information. That is why all truly professional editorial offices pay attention to demasking, denying, or explaining disinformation in order to monitor and properly check the publishing activities of other media subjects. The chapter is focused on so-called debunking, a method of identifying disinformation, or rather a media genre that is associated with investigative journalism. The present study therefore aims to further explain why nowadays more and more media recipients express their trust in disinformation or various conspiracy theories. The outlined theoretical frameworks are followed by a discourse analysis in which the authors reflect on the current strategies of debunking applied by selected online news media. The text's contribution to the contemporary scholarly discussions on journalism thus lies in defining various journalistic strategies associated with debunking, i.e., publicly uncovering false information that is disseminated in order to influence or rather manipulate the whole of society or at least its major parts.

Keywords: debunking, digital media, disinformation, fake news, hoax, journalism

1. Introduction

The post-factual era, as the scientific and media spheres call today, brings with it challenges not only for politicians but also for journalists. Although it is possible to speak of the presence and existence of various kinds of lies and manipulation techniques before the emergence of the Internet, no medium has provided such opportunities for the dissemination of fake news as does the digital space [1]. It is for this reason that journalists, whose ambition is to honestly verify and obtain information, are faced with various pseudo-media, blogs and social media accounts on a daily basis, presenting more or less thoughtfully and with certain goals various half-truths, information taken out of context or visual and audiovisual lies [2]. The creators of the news have thus (un)plannedly expanded their professional duties, namely on the one hand to identify the fake news itself and on the other hand to state the correct facts in the given context. In addition, their work on health and disease issues is very important, where disinformation and hoaxes directly threaten

the health of individuals and, as we can see during the coronavirus pandemic, the lives of the whole of society. However, this activity is often underestimated by the recipients because, as psychologists claim, individuals find it very difficult to change their attitudes and admit that they were wrong. The reason is a lack of critical thinking and its insufficient support and teaching by educational institutions. An appropriate method of publishing a combination of facts or arguments, however, can help change the attitudes of larger groups of people. Specifically, the phenomenon of debunking, the intention of which is to clarify the primarily false information presented and thus force the recipient to think more deeply about the published facts. The present study therefore deals with the current state of application of debunking in the Slovak media during the coronavirus pandemic.

2. Disinformation, fake news, misinformation, hoaxes, and debunking

Apart from the entertaining role of the media, the information needs of individuals have become one of the fundamental reasons for their reception of any media content, whether printed, radio, television, or, as currently dominant, online. Information-saturated content has the goal of presenting new knowledge, or to expand the recipient's knowledge of already known facts. In conjunction with the above, however, we can now talk about the origin and presence of the phenomena of disinformation, fake news, hoaxes or misinformation, which are respectively phenomena occurring mainly in the current online environment, which are described in layman's terms as a purposeful imitation of relevant information or the production of misleading messages and which furthermore, unfortunately, also fulfill the cognitive needs of recipients. It is also important to note that multimedia in particular has made a significant contribution to the development of this phenomena, in which even a nonjournalist can publish any information, and at the same time publish it both very quickly and easily [3].

The term "**disinformation**" represents the manipulation of facts or the publication of out-of-date, inaccurate and unverified information, the intention of their creators being to confuse the recipient and influence their opinion [4]. It is thus deliberately created and at the same time disseminated knowledge, the aim of which is to influence the public opinion of citizens [5], p. 247. In this context, it can be comprehensively argued that it is a deliberately distorted and at the same time deliberately inserted "fact" into a sophisticated information system with the ambition to permanently influence the actions and behavior of the users [6], p. 45. A characteristic feature of disinformation is, on the one hand, deliberately changed presented information, and, on the other hand, (often) the complete fabrication of a false fact (or lie), while the person who produces and subsequently disseminates it has full knowledge of this deception [7], p. 44. In this context, however, it should be noted that the explanatory term is frequently confused with the phrase "**fake news**," which can be understood as a collection of all misleading or false information in the online space, not excluding those which are disseminated improperly. The primary difference between the mentioned terms thus lies in the purely deliberate production of misleading facts (disinformation) and in the combination of the planned and at the same time unintentional dissemination of false knowledge (fake news). However, fake news can generally be considered as false news about certain events, existing mainly in the online space [8]. The mentioned theory thus clearly indicates the correlation of the existing phenomenon with the Internet media environment, in which no emphasis is placed on the veracity of reports offered to journalists, facts are usually not verified with several sources and the presented information is often made up [5], p. 247. An equivalent term to the previous two

mentioned is so-called "**misinformation**" or in other words, rumors. Even in these cases, it is false information, but disseminated exclusively unintentionally. This is due in particular to the failure of certain individuals to interpret the knowledge acquired, which is then passed on to another recipient. In this context, however, we must not exclusively mention the complete distortion of the intended information, but also about slight modifications of certain reports presenting mostly unintentional untruths [9], p. 8.

The presented findings thus indicate that false information can be broken down mainly according to its production as either being intentional or unintentional. However, within the researched issues, they found, mainly in the foreign online media space, usability in many forms. One form of misleading news, which has also established itself in the Slovak media, is the **hoax**. This, as a type of disinformation, is specific in that it both entertains and misleads the recipient. J. Makoš defines it as a deliberately untrue report, the creator of which tries to give the impression of truth to the recipients, sometimes it is composed of jokes, other times it is the central part of a disinformation campaign [5], p. 248. A Hoax is an alarm chain message, creating fear in recipients and thematically oriented to death or sex, while encouraging users to further share it via social networks or email communication [10], p. 140. As for the topic of hoaxes, it can also be messages discussing potentially dangerous situations, false requests for help, advice against diseases in the form of dangerous guidance on how to treat them, etc. [11], p. 45. In today's online journalism, however, we can also encounter modern types of disinformation, of which it is worth mentioning so-called "click-bait" ("click bait" in the title of the article, which is solely to entice the recipient to click on a particular website to increase its traffic [10], p. 18), "imposter content" (websites imitating socially known news sources, which differ mostly only by differingend domains [12], p. 11), "deepfake" or "cheap fakes" (fake videos, recordings or photography, which were created with the help of advanced artificial intelligence and are used as entertaining satirical material or as the subjects of targeted disinformation campaigns [5], p. 247; [13], p. 2–9), or "conspiracy theories" (reports explaining public events without credible and relevant evidence as a result of the secret conspiracy of a group of powerful governments, secret services, international organizations or others [5], p. 248; [10], p. 19).

Due to the noticeable presence of disinformation and its specific forms in media content, current (especially online) journalism is not only focused on the searching, processing and subsequent publication of information, but also on the verification of already presented knowledge, respectively on the identification of untruths and falsehoods. The given method of detecting false facts is called **debunking**. In a free translation, it can be defined as a declaration of a certain claim as conceited, untrue or exaggerated, or in other words, misleading [14]. The intention of journalists is simply to point out that a certain fact is not as important, valuable or true for society as it seems at first glance. Their aim is therefore to reveal a kind of myth currently prevailing in the consciousness of individuals. J. Cook and S. Lewandowsky, building on previous theses, argue that while the ambition of democratic societies is to publish accurate and truthful information, reducing the impact of disinformation on recipients is a difficult process and a demanding challenge for each and every society. According to these authors, it is easy elimination from the media environment is a misconception, because the presence of false information and its automatic acceptance are primarily a reflection of the lack of knowledge of individuals and their underdeveloped critical thinking. The debunking method therefore involves primary knowledge of the complex cognitive and perceptual processes of humans. This is because journalists need to understand how people process the acquired knowledge and information, how their existing knowledge is affected or how their worldviews impact their ability to think rationally. Thus, debunking is not primarily about what people think, but

about how they think [15], p. 1. The basic task of debunking is to reveal the afore-mentioned disinformation, fake news, misinformation, and their various forms, such as hoaxes or conspiracy theories. Despite the fact that the method evokes positive action, according to M. R. X. Denthit, the abovementioned term has a rather negative meaning, since debunking, in the sense of uncovering wrongdoings, is understood as a negative intention to point out the inaccuracy of a thing or concept. This is not only about the incorrectness of the published information, but also about the very act of drawing the audience's attention to the presented false findings [16], p. 2245. In this context, it is therefore essential to clarify the basic procedures, in particular the essence of the application of the debunking method.

3. Application of debunking in the online media environment and its ignorance by users

Thanks to the current development of multimedia, the behavior of the recipients themselves has been modified in journalism, among other things. Apparently passive consumers of messages have become active users who choose for themselves, from a considerable amount of content, what they will select [17], p. 37. The disadvantage is that, in addition to serious and truthful knowledge, there is also a large body of disinformation, fake news, or misinformation in online media spaces, which the audience can barely identify. This fact determined the emergence of the so-called method of debunking, potentially a new area of journalistic work. However, its implementation and application in practice is challenging, as it is, on the one hand, to ascertain the untruthfulness of the presented report and, on the other hand, to rebut it, relating to achieving a change in the perception of a certain message by individuals.

In the context of debunking, journalists must focus on the cognitive processes already mentioned, which reflect how people not only perceive information but also how they accept the change in knowledge they have recently adopted. It is thus a kind of update to the recipient's knowledge and memory. In their work, J. Cook and S. Lewandowsky clearly state that at the moment of receiving disinformation, it is really difficult to additionally remove the impact on the recipient of the lie or misrepresentation. The authors give an example in an experiment from 1994, when a report on a fictitious fire in a warehouse was published. Immediately, the journalists published a correction of the information, which was untrue, but despite receiving the corrected data, the recipients showed a lasting effect of disinformation at the moment when anyone asked them for the exact wording of the event. The first rule of debunking is therefore the so-called "the familiarity backfire effect." The authors claim that in an attempt to publish corrective information to previous disinformation, it is necessary not to mention the original falsehoods (not even in the title of the presented article). The best approach is therefore to focus exclusively on the "new" facts that the journalist wants to communicate to his recipients and raise their awareness in society. The second, equally appropriate approach is "the overkill backfire effect." The essence of the application of this effect is the fact that easily understandable information is more likely to be accepted by the recipient than true information. The "less is more" rule therefore applies. A simple argument is thus much more effective than refuting several (and at the same time complicated) lies. The content presented should therefore not only be short, but also of good readability regarding the use of simple language [18], short sentences and an acceptable number of sub-titles or paragraphs. Illustration of facts in the form of infographics also seems to be a suitable strategy here. The last and at the same time the most effective method of debunking is the implementation of "the worldview backfire effect." This strategy is based on the assumption of the complicated nature of cognitive processes in

people who often unknowingly receive information in a biased manner. This group of individuals reinforces their misconceptions even more strongly when confronted with counter-arguments for disinformation (e.g., by searching exclusively for information that confirms their previous opinion). If possible, the information should also reflect the experience of the average individual with the phenomenon, which makes the presented facts more acceptable to the rest of the audience, or possibly frame the fact by emphasizing selected attributes that the journalist considers the important in this context, making it more successful in forming the opinion of the recipient. Comprehensively speaking, when disinformation is published and subsequently refuted, a so-called "mental gap" arises in the mind of the recipient, which is often dealt with by accepting an incorrect statement rather than respecting an unexplained falsehood or lie [15], p. 2–5. The debunking method should therefore adhere to the following rules:

1. Disclosure of falsehoods should focus on highlighting the facts, with the author omitting previously published disinformation.

2. Before making any mention of falsehood, the author of the recipient should point out that the following information is misleading.

3. The text should always contain an alternative explanation of the refuted disinformation, and thus not only say that the information presented was false, but also explain in more detail what specifically mislead the recipient.

4. The simple graphic processing of the message also presupposes a clearer acceptance of the intended message.

In that regard, Reid complements the findings of Cook and Lewandowski, arguing that it is equally important to focus on:

1. Disclosure of an idea and not of a person—authors seeking to point out widespread disinformation should focus on rumors and lies relating more to the subject of the event and not on the subject that is part of the event.

2. Storytelling—recipients find it easier to remember the facts if they are presented in the form of a continuous narration. The role of the debunker is to choose a suitable narrative structure for presenting arguments about particular falsehoods.

3. Selection of relevant sources—the author should work clearly in their text and refer to credible sources (not only textual, but also, for example, auditory or audiovisual), which increase the legitimacy of his statement.

4. Presence of positivity—as M. R. X. Denthit also mentioned, the term "debunking" as such is mostly associated with negative connotations. It is therefore important for the journalist to apply positive language in his or her efforts to uncover lies or misinformation, thus making a more positive and credible impression on the recipient [19].

In many cases, however, despite the successful application of debunking to the online journalistic environment, individuals continue to trust the disinformation presented. The most common reason is their lack of critical thinking or inadequate media literacy. Mr. Rogers considers that one of the main reasons for the recipient's

confidence in disinformation is the fact that they did not learn to work with information or to orient themselves correctly in such informational overload. We often accept information unquestioningly, we do not question the sources and intentions of the authors and we do not have well-established mechanisms or techniques by which we can distinguish false reports from quality information. The theorist adds that this fact is mainly due to the fact that our society has significantly shifted technologically in recent years, but the recipients have not been able to adapt their way of thinking. The presence of multimedia has not only accelerated the reception and processing of knowledge, but has also reduced the time to read the articles themselves or the time to think about the messages presented [20]. Also, thanks to the wide availability of modern technology, today anyone can be considered as a form of media or journalist (including authors of blogs, videos, etc.). However there is a difference in reading an article by a serious journalist or anonymous blogger, in which W. Rogers sees dangers, as according to him the average recipient cannot distinguish these two polar opposites, in other words they are not media literate. Most individuals are not able to think critically about media content and are unable to ask questions that help them to understand the reality of the everyday media [21], p. 120, 121. In this context, J. Markoš adds that people's trust in disinformation often lies in their being "tailor made for the recipients." A serious journalist cannot write what their readers would like to read—they are limited by the truth. However, authors of false reports are not interested in the truth of the message, so the more enticing and tempting they can make ideas, the more believed they are, despite the fact that they are misleading. Equally acceptable for the recipient is an ordinary sensory experience, which absolutely does not have to be based on truth, preferable to information of a scientific nature, which is often confusing or complicated for Internet users [5], p. 88–99. J. Makoš calls the belief in disinformation, or in other words restricting our rationality, cognitive distortion. According to him, the most important are:

1. anchoring—in an unknown situation, the recipient considers the first information to be the relevant message, even though it may be false,

2. peak-end bias—past events are evaluated as (un) true according to their most recent or most significant positive or negative experience,

3. survivalship bias—when evaluating an event, individuals tend to trust the version of successful, well-known people (although they can be misleading), ignoring the words of those considered less well-known or unsuccessful,

4. confirmation bias—recipients subconsciously seek confirmation of their (often false) opinions. As a result, they create groups of like-minded people on social networks, where they support each other in their belief in false information,

5. contrast bias—the human mind often uses comparisons and contrast in perceiving and evaluating certain (e.g., fictitious) events, which reassures it of its (incorrect) opinion [5], p. 175.

The findings of theorists are currently supplemented by practical findings. One example is logistic regression analysis, dealing with the perception of democracy and governance, carried out across 10 countries of the European Union. The research, among other things, identified five key factors that influence people's beliefs in disinformation and conspiracy theories. Above all was seen their willingness to trade their freedom for other benefits, support of an autocratic leader,

distrust of the media as such, and dissatisfaction with the social system and imbalance in their own lives. However, the presented analysis shows that the tendency of individuals to believe false information is also related to the historical and political significance of a country. According to the degree of belief in disinformation and conspiracy theories, the Slovak Republic ranked first (56%), while the least believing in published lies are Lithuanians (17%) from EU countries. Most Slovaks interviewed believed five out of six published conspiracy theories [22]. Similar data is published by the Reuters Institute in the Digital News Report 2020. They involved 40 countries in their research, and focused their attention partly on mapping the concerns of the population about media-presented disinformation and misinformation. Although more than half of all respondents (56%) are concerned about the fact that there is a significant amount of fake news on the Internet, there are more concerns about the reception of falsehoods in countries in South America or Africa than in Europe. The given results can be conditioned by several aspects. On the one hand, the greater trust by the European population in disinformation may be due to their weaker digital literacy, in contrast to countries such as Brazil, Kenya, etc. [23]. On the other hand, it does not have to be strictly just about technical and technological progress, in terms of the educational level of society, but also about its socio-cultural growth. Every nation has a certain cultural identity, while individuals belonging to it often intuitively try not to admit the fact of their ignorance, or errors in their ways in terms of belief in fake information [5], p. 233. By declaring their own ignorance, they would degrade their social roles, or social status.

It is the existence of the fact concerning the trust of the recipients in the fake news that raises the question of improving the implementation of debunking in journalistic practice, or in individual online media. As part of the discursive analysis, we will therefore try not only to point out the apparent dissemination of erroneous information in the current online media space, but also to map effective and at the same time heterogeneous journalistic creative procedures in the field of debunking.

4. Research methodology

The primary goal of the presented study is to discover the current state of practical implementation of debunking, which is used by the media in the Slovak Republic in order to refute fake news. Secondly, we also notice what new elements are brought by selected web media to this specific field. To achieve the above goals, we decided to use qualitative content analysis, or discursive analysis. Using the mentioned research method, we discover how selected Slovak web media notify about detected disinformation and hoaxes. Following on from the authors mentioned in the theoretical part of the work, specifically J. Cook, S. Lewandowsky and A. Reid, we note how domestic journalists follow the "rules" of debunking. We monitor specifically the "the familiarity backfire effect" (i.e., whether they mention the "original" untruths in the texts or in the titles of the presented texts, or present only new facts with which they try to orientate readers in the issue), "the overkill backfire effect" (whether they write short or reasonably large and comprehensible texts), and "the worldview backfire effect" (i.e., whether they publish disinformation, which they immediately deny or refute).

In connection with the method of qualitative content analysis, which always includes the determination of selected analytical categories, we map the following:

- authorship of the text—downloaded agency text/author's text;

- character of the title—informs/does not notify about disinformation;

- character of perex—informs/does not notify about disinformation;

- the nature of the opening attached image—evokes/does not evoke disinformation;

- placement of arguments refuting the disinformation (first/second half of the text);

- indication of the most relevant (key, most important) information (first/second half of the text);

- indication of the context of disseminated disinformation (yes/no);

- warning of disinformation, if it is in the text (yes/no);

- maintaining the objectivity of the text in terms of focusing on the event itself and not the subject, as well as maintaining the positivity of the journalistic speech;

- using the story and visualizations as tools to illustrate published facts;

- intelligibility of the text (simple language and clear formatting);

- accompanying visual and audiovisual material.

We perform the analysis using an encryption key composed of two numerical categories. Category 1 indicates that the text follows the given rule of debunking, while category 2 concerns journalistic speech that does not correspond to the expected creation rules. Within a certain research area, we subsequently create the median, when generalizing the facts from the analyzed coding units.

- Type of information in the perex: 1—it is not mentioned that it is disinformation; 2—it is mentioned that it is disinformation;

- Introductory image material: 1—does not evoke disinformation, 2—evokes disinformation;

- Refutation of disinformation: 1—in the second half of the text; 2—in the first half of the text;

- Location of the most important fact within the correct information—point with respect to key information: 1—beginning of the text (title, perex, first paragraph); 2—rest of the text (second part of the text);

- Using the story as a tool to explain: 1—yes; 2—no;

- Disinformation context: an explanation of what was introduced, or why: 1—yes; 2—no;

- Warning of misleading information if it appears in the text: 1—yes, 2—no;

- Data visualization: 1—yes; 2—no;

- Emphasis on the event itself, not on the entity that disseminates it: 1—event; 2—subject;

- Presence of positivity in the text, which presupposes the rejection of defamation of the other party's opinion, ridicule, etc.: 1—yes (preservation of objectivity, i.e., both parties were given space); 2—no.

However, we also focus our attention on analytical categories, which cannot be explicitly included in the encryption key. These are as follows:

- Stylistic level and comprehensibility of the text;

- Other accompanying visual/audiovisual material included—videos, photo galleries, photos, etc.;

- Description of the sequence of information in the text (in paragraphs), while the publication of truthful information must be in chronological order to create a universal formula for the implementation of debunking in the Slovak media space;

- Data concerning the number of mentioned disinformation in the text and the amount of sources used (with the aim of creating a comprehensive picture of the problem addressed).

When following the chosen research method, we ask ourselves the following research questions:

RQ 1: How is the debunking method implemented in the Slovak media space?

RQ 2: In what sequence does the Slovak media configure information in debunking?

RQ 3: How does the Slovak media use complementary journalistic methods of debunking, which are story, visualization and comprehensibility of the text?

RQ 4: Does the Slovak media observe objectivity in the form of debunking, in the form of focusing on the event itself, and on positivity of the text?

The selected research material represents the 10 most read portals in the Slovak Republic (according to the IAB Slovakia system as at 18 July 2020), from each of which we chose by random a selection of five journalistic texts reflecting the issue of disinformation published in connection with the coronavirus pandemic. Among the most widely read serious portals at present are, highest read first: Aktuality.sk, Pluska.sk, Topky.sk, Čas.sk, Sme.sk, Pravda.sk (but this online medium did not address hoaxes), Tvnoviny.sk, Hnonline.sk, Dennikn.sk, Dnes24.sk and Startitup.sk (as an alternative to Pravda.sk, which also did not deal with the issue of disinformation). Together, we analyzed 50 texts and, based on our findings, drew conclusions about notifying the general public about published and disseminated disinformation.

5. Result interpretation and main outcomes of the research

In the following part of the text, we present the results of the discursive analysis of the selected (the five most visited) web media, focusing on the nature of debunking and compliance with debunking rules. Each analysis represents an

evaluation of the approach of the work of each medium and is a summary/synopsis of the analysis of five journalistic texts. Data related to medians are given in parentheses, e.g. (), (2).

Aktuality.sk is the most read web medium in Slovakia. While one of the analyzed texts is the author's, the rest of the journalistic speeches come from press agencies (three times TASR, once AFP). In most cases, the headline, perex, and introductory visualization clearly refer to disinformation, reducing the chance of attracting the attention of readers with differing views. In total, the texts on the Aktuality.sk portal are assessed as follows: title (median 2), illustrative photography (median 2), perex (median 2), while disinformation is refuted in the introductory parts of the text (median 2). As for the principles of debunking mentioned in the theoretical part of the study, in all five cases the headlines of the articles make it clear that this is disinformation (a term mentioned in the headlines four times), misleading information or falsehood. Subsequently, in three cases, the illustrative photograph consists of the inscription FAKE NEWS (twice) or HOAX (once). The remaining two speeches are complemented by an illustrative shot that does not evoke the spread of untruths. The most essential information is usually published in the texts at the beginning, resp. in the first half of the text (1), which we evaluate positively. We also perceive positively the fact that the authors also state the context of the observed phenomenon (1) and present their ideas with appropriate arguments (1). We negatively assess the fact that the monitored portal does not mention the story (2) and in most texts or visualizations (2) in notifying about disinformation, which means that the reader loses the opportunity to better and more quickly orientate themself in the problem. The language of the articles is clear, without unnecessary or duplicate information, the formal editing of texts is clear. Overall, however, it cannot be stated that the theory is compatible with practice. Articles are divided into paragraphs, in some speeches with the use of subtitles, which means longer texts. Only in one of the examined examples is other accompanying material attached in addition to the illustrative image. Disinformation is mentioned in the text on average six times, while the average number of sources used is 5.4. With the sequence of information in the text, the authors of the Aktuality.sk portal work in most cases as follows: disinformation—refutation of disinformation—key information—argumentation.

The Pluska.sk web site is characterized by its tabloid format. All selected articles are of a news character and are taken from the TASR news agency, which deals with the debunking of disinformation in cooperation with the AFP agency. Captions are made up in tabloid style, there are words written in capital letters, punctuation, questions or exclamation sentences, but also colloquial expressions in order to attract the recipient, or to evoke emotion in the reader. Each caption indicates that the fact is a hoax (2). This trend continues in the perexes (2) of selected texts, which develop disinformation, and also it is refuted in this part of the text. Three out of five photographs emphasize that the articles concern unsubstantiated or misleading information (2). The location of the key fact (2), which is the most important of the truthful facts, is also problematic. This point appears to a large extent only in the final part of the text. On the other hand, it must be said that the authors of the articles managed to illustrate the context of the disinformation very well (1), by stating the facts explaining the real circumstances of the event. In two cases, the text even clarifies how the disinformation was verified. In one of them, the author explains how the Google Patents database works so that the reader can better understand the allocation of patents in connection with the production of viruses, and in the other, the creators explain the inVID reverse video search tool. We find these steps very useful because the creators of the articles explain how disinformers actually work. However, they do not draw attention to the presence

of disinformation, or mention it only after interpreting it. The texts on the Pluska.sk portal do not have an offensive impact and usually focus on the phenomenon and event itself, not on the subject (1), in which the authors also succeeded in using journalistic speech and in which the source of disinformation was a scientist. The positivity of the article is thus preserved (1). None of the texts contains a real story (2) illustrating the issue, nor is any visualization (2) used for better understanding. The language of the texts, as the articles are taken from news agencies, is neutral. However, due to the medical theme, they contain technical terms or abbreviations that not every reader understands and is of definitional character. Speeches are divided into sections without subtitles, and as for longer articles the content is divided into several pages, which makes the text more difficult. As for the supplementary material, one journalistic statement is supplemented by a video on how to recognize the symptoms of coronavirus; the other contains a gallery of more than 50 photographs taken during the pandemic in various parts of the world. However, images and video do not dominate in the analyzed texts. One article contains disinformation on average 3.6 times, which is not a desirable phenomenon. In addition, the authors use an average of four sources, which are not only based on other media, most often news agencies, but also on the opinions of respected institutions and offices, professional publications and experts in the field. Within the sequence of information in the text, we can state that it is not followed in the correct order, as in general the information is presented in the following sequence: disinformation—refutation—disinformation—information on disinformation spreaders—arguments—key information.

Topky.sk is also a tabloid news site that has a wide range of themes, among other things it also discusses agency news related to debunking. The authorship of the texts is unclear, as neither the authors nor the news agency is mentioned. Topky.sk, like other tabloid media, uses capital letters in the headlines, but no punctuation is used in connection with the articles we have selected. However, editors and authors in the headlines define that the topic is a hoax (2) and point out its spread via the Internet. As an example, we mention the caption "CORONAVIRUS HOAX video is spreading in Slovakia: Its author simply does not believe there is a pandemic!" At the same time, this is the kind of headline that is not completely unambiguous, and therefore does not contain information forcing the recipient to read the whole speech. Even the perexies of articles on Topky.sk applying the debunking method are in the spirit of disinformation (2), which they divide and interpret into about three sentences, such as: "ROME—Vaccination is unnecessary or even dangerous, Bill Gates has a plan to depopulate the planet and because of vaccines, people in developing countries can become paralyzed or die. These are just some of the false or unsubstantiated claims made in the Italian Parliament on 15 May in a speech by Sarah Cunial." In all cases, the introductory image material (2) contains a large red and white inscription HOAX, which may discourage readers who believe in hoaxing as part of debunking. The refutation of disinformation (2) is found directly in the perex, where both false information and reality are presented in the same way. On the other hand, key information (2) is in the background and the gradual publication of arguments culminates in the most important fact. The context (1) is based on selected evidence, which contributes very well to the individual parts of the disinformation, even if it is a far too noticeably a counterargument. In two perexes, we map the author's warning to published disinformation in connection with the current situation. We also encounter warnings (1) in the text, but their use depends on the topic of the particular article (e.g., the author refers to authority in the speech, in words such as "intentionally," or "manipulates" or by marking individual statements as "false or untrue"). In terms of maintaining objectivity, the texts adhere to the description of the event (1) and are also

conceived positively (1). However, the authors do not use the full opportunities of story (2) and visualization (2) to explain the issue at all. The tabloid website applies simple sentences and a clear division of the text in the form of paragraphs, subtitles and highlighting essential information in bold. The language of journalistic expression is of a layperson's level. The constant use of citations by authors can seem cumbersome and sometimes too professional and incomprehensible. The texts contain illustrative photographs as well as visuals of the disinformation spread, while it is the videos or photographs of the falsehoods presented that contribute to their credibility. Creators publish misleading information in the text an average of 4.4 times and use an average of 3.2 sources per speech. Regarding the arrangement of information within the debunking on the Topky.sk portal, we can summarize it as follows: disinformation—refutation—information on disinformation spreaders—arguments—key information.

The tabloid online portal **Čas.sk** mainly focuses on themes and information about celebrities, scandals and various interesting topics. All texts using the debunking method are, again, taken from the TASR news agency (in one case in collaboration with a specific author writing under the abbreviation "pkr"). We negatively evaluate the confusing labeling of authorship—this information is only beneath the ads below the article, and many users may not notice it. Almost every headline points out that the fact is hoax (2). On the other hand, it should be noted that, unlike other tabloid media, they work with "softer" subtitles—they do not emphasize the term "hoax" in capital letters or a different font color. The only exception is writing on the diagnosis of COVID-19, which, however, is used in this capital form in most media. While perex includes direct information about falsehood (2), the preview image is chosen differently; in most cases, the text only complements the illustrative image without a negative undertone (1). The disinformation is refuted at the end (1), with key information at the beginning of the journalistic speech (1). The authors base individual claims on strong arguments and use relevant sources. We negatively evaluate the fact that the authors do not draw the attention of the reader to the interpreted disinformation in advance. On the other hand, their efforts not to attack opponents, not to ridicule and not to shame should be emphasized (1). Like most of the monitored media, Čas.sk does not use story (2) or visualization (2) to interpret disinformation. They do not apply subtitles in their texts, they only divide them by means of paragraphs, but they make greater use of working in bold, with which they emphasize the supporting information. Overall, their work with the text is typical for tabloid media—i.e., the presence of simple, comprehensible information, colloquial words; absence of technical terms; relatively short texts and relatively long subtitles with many punctuation marks; use of citations (often marked in bold). It is a surprising finding that the supplementary material appears in the monitored articles in only one case out of five (it is an attached Internet link to a CNN video, from which footage creating disinformation is taken, thus increasing the credibility of the text). False facts in the text are mentioned by the authors on average 5.6 times, while in one article they quote an average of almost four sources. In simple terms, the scheme of the sequence of inclusion of information in the texts can be summarized as follows: disinformation—key information—refutation of disinformation—argumentation.

SME.sk is an Internet version of the printed daily SME, which has a long tradition in Slovakia. Most of the articles analyzed come from news agencies, two are from authors. The construction of the text is based on headlines containing the information that it is a hoax or a false message or states that the fact is "not true" (2). The only positive example is the headline "State inspectors deny that ibuprofen promotes coronavirus proliferation," which does not immediately imply disinformation. Perexes of texts on the SME.sk portal are mostly made up of one sentence

and again emphasize that the main topic of the text is false information (2). In the headlines and perexes, the creators refer to authorities such as: "The State Institute for Drug Control emphasizes that it is a hoax." The opening image is mostly illustrative; it does not have a significant effect on emotions (1). They then proceed to the very refutation of the disinformation (2). In this case, refuting the untruth is a continuous process running through several parts of the text. On the other hand, the key information (1) that can explain the debunking is usually found in the introductory lines of the first or second paragraph. For example, in an article denying that a map shared on social networks shows the spread of coronavirus, the author explains in the perex that these are air routes and not the effect of the virus. The text concerning the refutation of information about the town of Žiar nad Hronom, where students tested positive for coronavirus, in turn confirmed with the authorities, who confirmed that the town has no such cases. The context of disinformation (1) is respected, as the authors of the texts work with sources such as authorities (mayors, school principals, police). These are local sources found in the author's texts, which increase the credibility of the article. The translated texts also cooperate with professional studies and their authors and also refer to factcheckers from other media (BBC). The authors of SME.sk do not provide warnings (2) when distributing disinformation. One positive example, however, is found: "The City Arena shopping center in Trnava is facing fake news about an allegedly infected person in a food vendor, which is spreading on social networks" the hoax being already mentioned in the title or perex. When manipulating image material, they explain how they adapt disinformation media for their purposes. We do not find elements of negativity in the analyzed articles of the SME.sk web media (1)—the authors always try to solve the given event and do not focus on the subject with regard to the spreader of the disinformation (1). Nor do they use stories (2) to "illustrate" an event (except for one article, which was based on the story of a person returning from abroad). In this context, it should be noted that newsrooms should not only expect these types of reports, but should proactively look for stories about real people, which is not difficult especially given the topic of coronavirus. The authors also do not apply visualizations to the given topics (2). The articles are relatively short and concise; they have news character, which can be assessed positively, as they can explain the essence of the facts in a relatively short text, albeit using a smaller number of sources. The language of the researched journalistic expressions used in this online portal is neutral and simple, it does not contain, mainly due to the choice of topics, much foreign and professional expressions or jargon. Overall, disinformation occurs on average 3.6 times in the text and two sources are used per article, which is due to the shortness of the texts. Regarding the organization of the information, the universal formula is as follows: disinformation—refutation—key information—arguments.

6. Discussion and conclusion

Based on not only the above findings, but also on findings from unpublished discursive analyzes of the remaining five mentioned web portals, we can state that the implementation of debunking within the Slovak media environment does not reach the required level. This is mainly due to the fact that a considerable amount of information is acquired from press agencies. At the same time, much of this information does not even go through the minimum editorial changes [24]. Even in ideal cases, only minor corrections are made, mainly concerning modification of the title, subtitles and perexes, or modification or addition of the accompanying visual or audiovisual material [25]. As an example, we can mention the misleading

infographics on the Aktuality.sk and Startitup.sk portals publishing the numbers of victims of the Covid-19 virus in comparison with other diseases. While the headline on Aktuality.sk reads "Coronavirus: Infographics comparing COVID-19 with other causes of death is misleading," Startitup.sk has it worded as follows: "Thousands of Slovaks shared an infographic that is a misleading hoax." In both cases, however, the authors ("incorrect"), immediately in the title, point out the disinformation. The perex and the subtitles used are also changed (two are used in both cases). From our experience with the analyzed texts, we can say that the more the author's intervention in the article, the better the text is in terms of fulfilling the principles of debunking.

The most widespread problem in newsrooms is the work of journalists with headlines and perexes [26]. Although the intention of the editors to publish and identify disinformation at the very beginning of the article is sufficient, as they want to draw attention to often dangerous lies, it is not so effective. The disinformation is refuted in the first paragraphs of the press text, which is also not in line with the worldview backfire effect, and is without the desired effect. In addition, the examples studied use incorrect terminology and disinformation is called hoaxes. Therefore, they apply the opposite procedure to debunking to that which is recommended. In general, the process is as follows: disinformation—a key fact—argumentation—refutation of disinformation. If we start with the analytical categories we chose, which reflect the findings from professional literature related to the issue of debunking, we must negatively evaluate the constant interpretation of disinformation in the texts (on average 5.24 times). These alternate between arguments and facts, while their authors draw on various authorities, experts, institutions (on average 4.46 times). This is an incorrect procedure within the implementation of the debunking method, the essence of which is the logical placement of various types of information. However, when it comes to setting the context, it is necessary that authors rely on relevant sources explaining the real situation regarding the topic of debunking. In many cases, the authors also unnecessarily explain where and through what media the disinformation spreads and also how many times it was shared. We also noticed that if the author works with only one argument, the text does not seem entirely plausible.

On the positive side, up to half of the articles contained key information in the introductory paragraphs of the speech, which is a desirable persuasive technique in debunking. With a few exceptions, there are no stories in the texts on the basis of which the negative consequences of the spread of disinformation in the field of health could be suitably illustrated. There are also no visualizations in the form of graphs, tables or infographics, suitably illustrating the issue with exact statistics. We also consider positively the preservation of the objectivity of the media, in terms of notification about the event, not the subjects. This fact assumes that the analyzed articles have retained a certain degree of positivity. Journalists thus avoid insulting and publicly criticizing the so-called "opposite camp," which could discourage the reading of the corrected type of news by the most important target group, namely people who tend to trust disinformation. As far as the formal and linguistic aspects of the texts are concerned, they were mostly news texts; the authors tried to write clearly without using complicated sentences. Unfortunately, the topic of coronavirus also requires the application of technical terms from medicine or pharmacy. However, they are not explained in more detail in the argument. In addition, the journalistic texts discussed do not include videos or photographs, and in many cases it is only text that is appropriately divided by subtitles or paragraphs, and this strategy is based on the rules of the formal editing of articles on websites. If we were to look at the level of debunking in the Slovak media environment, according to the average values of the median of individual analytical categories, we could

state that the Slovak online media adhere to the work with the introductory cover photo (1), appropriately state the context (1), put emphasis on the event and not on the subject (1) and maintain positivity (1). The median therefore reaches 1.5. The headline, perex, refutation of disinformation, warnings about fake news, work with the story and visualization received the median number 2. Based on the facts obtained, we can answer the research questions:

RQ 1: How is the debunking method implemented in the Slovak media space?

The research shows that the Slovak media generally do not follow the recommended principles of effective debunking. The editors include mentions of the falseness of the information right in the introductory parts of the text (title, perex, preview image), which clearly do not reflect the presented theoretical knowledge. We also perceive negatively the fact that the interpretation of disinformation in the form of stories is used by the authors of texts only very sporadically. Likewise, the authors do not draw the attention of their recipients to the upcoming publication of disinformation, nor do they use visualizations (in the form of clear graphs, infographics, and tables), which can quickly orientate the user regarding the problem. It can also be concluded that the editorial offices do not use offensive language, thanks to which, in our opinion, they are be able to address wider groups of readers. On the other hand, the use of a number of credible sources, adherence to the objectivity of the text, sufficient argumentation, appropriate placement of the event in context and focusing the creator's attention on the event itself, not on the disseminator of disinformation, should be emphasized.

RQ 2: In what sequence does the Slovak media arrange information in debunking?

In most of the analyzed media, the sequence of configuration of information was similar, and therefore: disinformation—key fact—argument—refutation of disinformation. In the title, the editors usually state their awareness of the hoax. The same procedure applies in the case of perex, while the preview images have a different character (they fluctuate between title images with depictions of disinformation to illustrative shots that do not evoke disinformation). Subsequently, the journalistic texts present key facts, which they immediately substantiate with appropriate arguments (drawn from relevant sources). In the end, the author usually refutes the disinformation (often in the form of a quote or paraphrase from a recognized expert familiar with the presented issues).

RQ 3: How does the Slovak media use complementary journalistic methods of debunking, which are story, visualization and comprehensibility of the text?

The findings evidently suggest that the selected Slovak media do not use the story as a method of explanation of disinformation. The presence of narration can be observed in journalistic texts only if it follows on from the context of the given topic. The examined text also frequently lacks visualization in the form of graphs or tables, which would be able to clearly supplement the necessary facts and arguments. However, the articles are written clearly, while the analyzed media adhere to the regularity frequency, in terms of their publication, the adequate scope of paragraphs and their work with subtitles. In many cases, the language of selected journalistic expressions suits the lay audience, but in some places technical terms or abbreviations also appear, which cannot be replaced by colloquial synonyms.

RQ 4: Does the Slovak media observe objectivity in the form of debunking, regarding focusing on the event itself, and the positivity of the text?

In their journalistic texts, selected web media try to maintain objectivity and do not significantly attack opponents who spread disinformation or half-truths. They mention them only in the context of spreading disinformation, mostly on or via social networks. Even if the media criticizes scientific authorities or other entities for publishing lies, a degree of decency via argument is maintained.

Thanks to the knowledge earned from theoretical reflection and from the subsequent empirical research, we were able to define several fundamental problems that the Slovak web media have in connection with the implementation of debunking. Recognizing the importance of truthful information, which is the basis for a realistic picture of individuals or of society as a whole about what is happening in the world and also for their advancement in various areas of human activity, we propose a number of suitable solutions for journalists and for entire newsrooms:

1. Journalists or editorial staff should also devote themselves to debunking from an author's point of view and not simply acquire content from press agencies. Although it is time-consuming and costly for the editors to draw attention to all disinformation themselves, the individual departments within the news, could identify the key topics they would like to address in the area of debunking. The texts from press agencies are written schematically [27], and the editorial staff should adapt this content to the target group and also to the basic rules of debunking methodology. As we stated in the introductory chapters, this is a formula or a template into which the required information can be inserted in such manner so as to increase the impact. Subsequently, it is also possible to convert press releases into the form required by the false detection method.

2. Editors should receive training on how to implement debunking. As this is a very straightforward and simple procedure, training should not be time consuming. Once they (for example, one of the members of the editorial board) are able to master the technique, on the basis of an understanding of the appropriate literature, they can in turn train other competent journalists.

3. We also consider it desirable to limit information on the volume and route of disinformation disseminated through various channels and also to stop emphasizing which specific media or authorities shared the false information. This method of disclosing facts is not relevant in the context of debunking, as it may give too much weight to the fake news, and instead should focus primarily on verified and truthful information.

4. An appropriate way to draw attention to disinformation is, for example, in the form of a subtitle clearly referring to the most recent lie. Mentioning it in the sentence just before the disinformation, which points to the possible lie, is also considered an adequate technique. We must not forget to choose appropriate language, and thus avoid expressions such as "lying," "false," "hoax," "lie" and rather focus on words and phrases as "not very relevant," "fictitious," "wrong," and so on.

5. However, if it is necessary to mention disinformation in the text, journalists should focus more on the story, or link it to the real experience of the participants in the event, which draws attention to the irrelevance of the fake news. This procedure is especially appropriate concerning health issues.

6. The average reader does not understand technical or pharmaceutical technical terms. It is therefore ideal to omit these words and phrases as mentioned by the press. However, if the author is forced (due to context) to use these terms, it would be appropriate to explain them in more detail (for example in parentheses or visually).

7. There are several useful tools for the above-mentioned visualization of information that can efficiently process different types of data. These include, for example, quadrigram.com, datamatic.com or datavisu.al and many others.

8. When implementing debunking, it is necessary to focus on the scope of the article. It is not possible to explicitly quantify how long the text should be, as each topic requires a different argument. On the other hand, research shows that only 10–20% of users actually read a complicated (online) journalistic text [28]. Therefore, this motto must be followed: All the essentials must be mentioned, and nothing more.

9. At the same time, the texts need to be created with a clear structure, which the reader will get used to and in which they will be able to orientate quickly. Therefore, we recommend that the editors choose a uniform formal arrangement of journalistic texts published on one page and avoid dividing the articles, via hyperlinks, into several pages.

10. Within the content of a published text, journalists should not focus exclusively on relevant sources, but should also explain the reasons why someone is spreading a chosen lie and what the consequences may be of this act. It is also a good idea for the authors to clarify exactly how the disinformation arose, as it is often a matter of modifying the truth and real facts or manipulating photographs, recordings, audiovisual content and also a subjective selection of information from the context.

11. We believe that it would be helpful for editorial offices to regularly include hyperlinks in their texts, which appeared only rarely in the articles we analyzed. They have a credible effect on readers, enabling them to search for and verify the interpreted information, often also from primary sources (since in many cases the editors worked only with agency sources, i.e., secondary sources—in the form of quotations or paraphrases selected by the agency).

12. In connection with the correct reference to sources and the publication of statements by experts, we do not recommend the media to refer primarily to their own texts, but rather to facts from other media or sources. People who believe conspiracies, often believing in various theories and condemning of certain types of media, may perceive work with such resources as self-serving.

13. Whether a person who believes in some disinformation receives a message that applies the debunking method also depends on the nature of the caption, the perex, and the appropriate introductory photograph. If the headline, perex or photograph suggests that the article refutes a previously published lie, the recipient's acceptance level of the newly published information is reduced. Therefore, it is appropriate to choose a neutral headline stating the key facts and resulting from a range of arguments in support of the truth, which should later be followed by the perex itself. When choosing a cover photo, it is necessary to choose illustrative shots, ideally those that show people, because they are more believable to the average recipient. Last but not least, it is essential to implement the debunking method quickly, including in the context of information sharing on social networks.

Acknowledgements

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