



Effects of Conspiracy Thinking Style, Framing and Political Interest on Accuracy of Fake News Recognition by Social Media Users: Evidence from Russia, Kazakhstan and Ukraine

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Abstract. This study examines the effect of specific factors (including user features, such as propensity for conspiracy thinking, and news item features, such as news frame and news source) on the accuracy of social media users in fake news recognition. Being a part of a larger research on fake news perception, this study uses the data from an online experiment that asks social media users from three countries (Russia, Ukraine and Kazakhstan) to evaluate a set of news items constructed with specific conditions. Namely, the users receive true and fake news about the neighboring countries framed differently and ascribed to either domestic or foreign sources. We then assess users' accuracy in detecting fake news. The results of the study confirm the important role of conspiracy thinking style in false news recognition (leading to a decrease in accuracy) and users' capability for deliberation on social media more broadly. However, the influence of contextual factors is mixed. While news sources exhibit no influence on the accuracy of fake or true news detection, dominant framing tends to increase the accuracy of true news only. More predictors of news recognition accuracy are discussed in the paper. As a result, this research contributes to the theory of fake news susceptibility by revealing a rich set of individual factors and interaction effects that influence human judgment about news truthfulness and impact deliberation possibilities in socially mediated environments.

Keywords: Fake news · Accuracy · Conspiracy mentality · Frame · Thinking style

1 Introduction

The development and diffusion of digital technologies has transformed the informational environment by creating the possibility of quick dissemination of false news in social networks. Recent studies have identified several factors affecting the accuracy of fake news recognition by social media users. These factors include individual thinking styles,

news sources, reader attitudes, and social influence, among others. We argue that the concept of fake news detection should be divided into two related, but separate concepts. The first concept is associated with an individual's assessment of news truthfulness based on their cognitive abilities [1]. The second concerns the degree of trust towards a news item [2], based on certain cues (such as news sources or news framing) whose trustworthiness is transferred to the news item [3, 4]. These concepts are related as the usage of cues is likely to depend on individual thinking styles.

However, each concept is not only associated more closely with one group of predictors than the other (user features, including cognitive abilities, vs news features, including cues of trustworthiness). In fact, each concept constitutes a distinct phenomenon that should be measured in its own way. While news trust, or news item credibility, is the inclination to view a given news item as truthful, the accuracy of fake news detection is the ability to classify a news item correctly. Accuracy is thus higher when the trust in true news is also higher, but the trust in fakes is simultaneously lower. In this paper, we focus on the investigation of the factors influencing accuracy, although both aforementioned groups of factors are studied. News credibility is not a part of the present paper.

In our pilot study based on a sample of students [5], we discovered that conspiracy thinking affected the likelihood of false news recognition. News framing and such attitudinal factors as political views, attitude to the current government, and conflict perception were some of the other important factors. In this paper, we seek to further examine the effects of these factors based on a much broader sample from three countries: Russia, Kazakhstan and Ukraine.

1.1 Theoretical Framework

Our theoretical framework is based on the key factors that affect the accuracy of fake news recognition by social media users. First, we consider the scholarship on cognitive factors such as thinking style and conspiracy thinking, associated with an individual's assessment of news truthfulness based on their cognitive abilities. Second, we review the literature on news item features. Although they have been mostly studied as predictors of news item credibility, they matter as possible factors influencing the accuracy of fake news recognition. We begin our review by reviewing the growing literature on fake news as a concept.

Fake News

Although the concept of “fake news” has gained widespread popularity in recent years, our analysis of relevant scholarship indicates that the issue of false, inaccurate or incomplete information and its dissemination is not new [6]. The concept can be traced back to a long history of related phenomena, such as propaganda, which can be defined as information aimed at supporting certain political or ideological decisions or at denying alternative ideas [7, 8]. Propaganda usually achieves its aims through distorting information (i.e., through fake news dissemination), selective information provision and focusing attention on certain aspects of an issue (i.e., framing) [9]. Another related concept is unintentionally misleading or inaccurate information that is spread organically

[10] which is outside of the scope of our study. Our experiment, therefore, focuses on fake news as information that is deliberately created to be false [11].

Thinking Styles and Conspiracy Thinking

An analysis of the relevant scholarship reveals that one of the most important factors in determining the accuracy of fake news detection is the style of thinking. Studies by Bronstein and colleagues have shown that rational thinking largely determines the ability of fake news detection [12]. On the other hand, dogmatism and belief in various extrasensory phenomena reduce people's ability to differentiate between truth and lies [12–14]. For instance, Coe found that magical thinking heightens the susceptibility of a person towards fake news [15].

Having examined the literature related to thinking patterns and people's abilities to evaluate the credibility of information, we propose to include the concept of conspiracy thinking as one of the possible factors impacting detection accuracy. It has recently attracted considerable attention from political scientists, psychologists and sociologists [16]. In 2018, an entire issue of the *European Journal of Social Psychology* was devoted to the concept of conspiracy theory and its impact on decision-making processes [17]. Several studies have demonstrated the influence of conspiracy thinking on decision-making mechanisms during elections [18]; shown a negative relationship between belief in conspiracies and interpersonal trust or trust in the police [19–21]; or revealed a connection between conspiracy and authoritarian thinking [22]. Our study thus includes several variables related to social media users' cognitive abilities and thinking styles, and specific questions measuring conspiracy thinking.

News Framing

The scholarship on news framing and agenda setting is an established area in media studies, with research exploring the limits of journalistic objectivity as well as the possible impact of agenda setting and framing on public opinion [23]. The agenda-setting function refers to the media's capability to direct audience attention to a specific set of themes or issues [24], as well as to influence the audience's awareness of particular subjects or their salience. The concept of media framing [25] is related to agenda setting and is generally defined as a particular way of interpreting a particular news agenda or topic or of presenting the news item in a specific light. News framing and the construction of media frames have garnered substantial scholarly attention [9, 23, 25, 26]. Relevant scholarship has identified key factors influencing frame formation, including dominant social and political views [27] and the structure of the media industry in a given geopolitical context [28].

Our research considered a broad spectrum of approaches to frame operationalization proposed in a number of empirical studies [29, 30], as well as various methodological approaches to frame identification [31–35], their limitations and applications. Importantly, scholars have found that perceptions of news issue frame believability [36] can affect sharing intention, especially in politically polarized contexts where disinformation is known to proliferate. Because frames tend to emphasize specific “potentially relevant considerations” [37, p. 672], they can lead social media audiences to adhere to certain

beliefs when forming attitudes or making judgments [38, 39]. However, there has been no research on the influence of framing on the accuracy of fake news recognition.

News Source and Related Cues

Recent studies have identified the credibility of the news source as one of several factors affecting the accuracy of fake news recognition by social network users [40, 41]. On the other hand, the potential effect of news source credibility perception on news recognition accuracy is often compounded by other relevant factors, such as prior exposure to news items or sources [13], the construction and structure of the news title and text [42], as well as a user's level of political loyalty or partisan orientation [15].

In addition, a number of factors have been found to affect fake news detection accuracy in the context of trust-based actions, including alignment of political orientation of the news author/source with that of the reader [15]; the presence of comments connected to the news story [43, 44]; the presence of hyperlinks in the news text [45]; recommendations by opinion leaders [46], as well as levels of generalized trust in other people. Our study controls for generalized trust among other variables, and includes variable conditions with regard to news frame, news source and news truthfulness.

1.2 Hypotheses

The above overview of relevant literature coupled with an analysis of experimental research on fake news perception [12, 15, 43, 44, 47, 48] and experimental studies of trust in social media networks [40, 46, 49, 50] indicate that the design of our own experimental research study would benefit from incorporating both elements that would allow us to examine factors of accuracy in news recognition and elements that would permit us to study cognitive factors of fake news detection. Combining both approaches allows for a more robust design that accounts for the complex process of fake news recognition and the multiple combinations of factors that might impact on the success of fake detection.

Based on the overview of scholarship presented in the preceding section, we formulate the following hypotheses that account for both the potential impact of thinking styles, and conspiracy thinking in particular, and the impact of news-related cues such as framing and news source, on accuracy of fake news recognition.

Thinking Styles/Conspiracy Thinking

We expect that individuals prone to thinking styles characterized by conspiracy thinking will exhibit less accuracy in recognizing fake news stories. This expectation is grounded in prior research on the connections between conspiracy thinking and trust in authority, as well as interpersonal trust, and the impact of conspiracy thinking on decision-making. We therefore formulate our first hypothesis as:

H1. Conspiracy thinking decreases the accuracy of news recognition.

News Framing

As news framing has been found to influence belief adherence, it is unlikely to influence accuracy directly – rather, it can be expected to increase believability if this frame is familiar to a user or contains the values she shares, while having an opposite effect if

this framing is unfamiliar or far from a user's values. In our research, we single out two types of framing: dominant, meaning the one prevalent in the user's country, and therefore familiar and likely shared, and alternative, which is rare and thus less familiar and less likely to be shared by users. Given the aforementioned reasoning, dominant framing should increase believability of both true and fake news, while alternative should have the opposite influence; thus the influence of both on accuracy depends on the type of news the user is dealing with – either true or false. Therefore, our second hypothesis is as follows:

H2. The influence of news framing on the accuracy of news recognition is moderated by the type of news – either true or fake.

News Sources

Likewise, we discriminate between two types of news sources: sources from the country of the user and sources from the country covered in the news (as we deal only with international news). Here, however, we have a slightly different expectation. First, we assume that a foreign news source would be treated by most users with more suspicion and thus make them alert which can potentially contribute to accuracy. Domestic sources are thus expected to make the readers more relaxed and less attentive, which is why our next hypothesis is as follows:

H3. Domestic news source decreases the accuracy of fake news recognition.

2 Methodology

2.1 Research Design

This paper uses the data from a broader project on fake news perception published in a series of related papers. To collect these data, we invited users to take part in our online experiment through targeted ads on Facebook and VKontakte. From April 13, 2020 to June 23, 2020, 10,380 people from three countries (Russia, Ukraine and Kazakhstan) participated in our study. This resulted in 8,559 completed surveys, representing the population of users from three countries (across both SNSs) in eight subsamples (approx. 900 respondents in each subsample). For more details about data collection and participants' churn rate see [57]).

We used a $2 \times 2 \times 2$ design for the experiment. Participants were offered eight news items that varied by the following conditions: frame (dominant or alternative); publication source – from the country of respondent or not; news truthfulness – whether the news was true or false. Respondents were asked to evaluate their perception of each news item on a 6-level Likert scale (from “False” to “True”).

The control variables were: gender, age, level of education, news consumption preferences, generalized trust, and political interests. To evaluate political orientation we used the following question: “To what extent do you generally agree with the policy of your country's leadership?”. Respondents' perception of the relationship between countries was measured by a question about bilateral relations between countries. To measure conspiracy thinking style, we used two questions adapted from the Conspiracy Mentality Scale [21]. To assess the validity of adaptation of the Conspiracy Mentality Scale, we tested the factor structure, and calculated its Cronbach reliability coefficient.

Next, we carried out nested and generalized linear regression analyses with mixed effects to analyze the influence of each independent variable on the overall accuracy of news recognition, the accuracy of recognition of false news and truthful news separately, and the accuracy of recognition for each news item.

2.2 News Selection

The content presented to the participants included a set of news items selected to fulfil a number of conditions. First, the news items had to correspond to the empirically justified frames for each country, while remaining realistic regardless of their true or false nature. In order to address the comparative objectives of the study, two pairs of news item sets were created: 1) a) containing news stories about Ukraine for users from Russia; b) containing news stories about Russia for users from Ukraine; 2) a) containing news stories about Kazakhstan for users from Russia; b) containing news stories about Russia for users from Kazakhstan. Each set included 24 news items and had equal numbers of combinations of false and real news stories with dominant or alternative frames. In addition, each set included an additional control news item related to the coronavirus pandemic. Thus, the total volume of stimulus materials included 100 news texts [51]).

The real news items were selected from actual media outlets with additional verification to ensure they were factually correct, whereas the fake news items were constructed by the researchers. We conducted a news agenda analysis using a substantial news data set to understand each country's news agenda regarding the other country (e.g. Russian news about Kazakhstan) in each comparative pairing (for more details see [52, 53]). We then used the results of this analysis to finalize the selection of news.

The following conditions were used as additional criteria for news item selection: 1) the news item covers a single event which is discernibly verifiable as true or false; 2) the news item can be attributed to a source from either of the two countries without contradictions; 3) the news item contains a frame (dominant or alternative) which is typical for the news agenda of the respondent's native country.

2.3 Sampling

As a result of advertisements displayed online, a total of 44,600 users from both SNSs (Facebook and VKontakte) clicked through to the app or the experiment website. Of these, 30,702 users began participation in the study, while 10,830 users participated in the post-experiment survey. It is worth noting that some demographic groups were over-represented in the sample, so after data collection, the subset of valid survey responses was additionally rebalanced so that each subsample corresponded to its general population in terms of age, gender and audience region in the SNSs. For balancing, consolidated regions were used: seven federal districts in Russia and four consolidated regions each in Ukraine and Kazakhstan based on the relevant scholarly literature. In Ukraine, Crimea, Donetsk and Luhansk regions were excluded for both technical and methodological reasons.

As a result, the number of completed surveys was reduced from 10,380 to 8,559, excluding containing incomplete information (due to database errors caused by disconnection of mobile internet) or containing discrepancies in answers to questions (e.g.,

a respondent stating they were 36 years old and then selecting “I am a school pupil” category). In the filtered and balanced dataset, each sample of users from each SNS in each country contains data from over 500 participants (see Table 1). From here on, unless stated otherwise, the paper refers to the sample of 8,559 respondents, refined and reflecting the distribution of VKontakte and Facebook users by region, age, and gender of the audience in Russia, Ukraine and Kazakhstan.

Table 1. Balanced sample sizes for each country and SNS.

Country and SNS	Number	Percentage
Facebook (Kazakhstan)	904	10.56%
VKontakte (Kazakhstan)	913	10.67%
Facebook (Russia)	2076	24.26%
VKontakte (Russia)	1810	21.15%
Facebook (Ukraine)	2286	26.71%
VKontakte (Ukraine)	570*	6.66%

*The VKontakte social network is blocked for users in Ukraine (though still available via VPNs), which results in a lower respondent rate in this region

2.4 Variables

Accuracy

In the experimental part we asked participants to evaluate the truthfulness of the presented news item. This allowed us to measure respondents’ accuracy in identifying a particular news item (descriptive statistics presented in Appendix 1 Table A1). The largest proportion of respondents (26.67%) were able to correctly recognize five news items as either true or false. Accurate recognition of four news items was demonstrated by 24.4% of participants, and of six news items – by 18.62%. The numbers differed from country to country, but without significant anomalies. The analysis of individual participants’ accuracy for specific news items recognition demonstrated that the accuracy varied from 28.35% to 86.93%. This is why we decided to use linear mixed effect models to analyze the impact of each possible factor, taking into account accuracy variance related to the content of a news item.

The accuracy of recognition of dominant and alternative news frames was similar (56.62% and 59.1% respectively). The accuracy for true news stories was slightly lower (56.83%) than for fake ones (58.89%). Participants, on average, were equally accurate in deciphering news attributed to their own (57.78%) or to a foreign country (57.94%). Since the results do not take into account the variability of accuracy in news item recognition,

we cannot use them to either confirm or reject H2 and H3. At the same time, we expect that these hypotheses will be rejected in further, more refined analysis.

Conspiracy Thinking

Conspiracy thinking was measured by using two questions adapted from the Conspiracy Mentality Scale [21]: “The alternative explanations for important societal events are closer to the truth than the official story” and “The government or covert organizations are responsible for events that are unusual or unexplained.” The conspiracy thinking scale showed good reliability in almost all samples with the exception of the Ukraine Facebook sample, where the scale’s reliability was lower than the usual threshold of 0.70 (0.63). The sample from VKontakte in Russia demonstrated the lowest conspiracy mentality (Mean = 3.14) and the highest average was in the Ukraine Facebook sample (Mean = 3.72). However, because of the low reliability of the scale in the Ukraine Facebook sample, this result should be regarded with caution. Descriptive statistics are presented in Appendix 1 Table A2.

Double-Checking of Information

Since we administered the questionnaire online, we could not prevent our participants from using the internet to double-check the news. To account for that, for each news item, we asked participants whether they had checked this news during the experiment. Based on this information, we created the “News checked” variable. Notably, the majority of participants (7,767 – 90.75%) did not check a single news item. One story was checked by 446 respondents (5.44%), two by 101 (1.18%), three by 79 (0.92%), four by 55 (0.64%) and between five and eight news items by 36 (0.37%), and all nine news items were checked by 30 respondents (0.35%).

Table 2. Frequency distribution for “News checked” and “News seen” variables.

Number of news	News seen	News seen%	News checked	News checked%
0	5558	64.94	7767	90.75
1	1,301	15.2	466	5.44
2	599	7	101	1.18
3	466	5.44	79	0.92
4	324	3.79	55	0.64
5	159	1.86	30	0.35
6	65	0.76	15	0.18
7	33	0.39	10	0.12
8	10	0.12	6	0.07
9	44	0.51	30	0.35

All the true news stories selected for the experiment originated from publicly available sources and these news had been in circulation for a while, so it was possible that

they had already been seen by our respondents. For each news item, we asked participants whether they had already seen this information. Based on these data, we created the “News seen” variable. Notably, the majority of participants (5,558 or 64.94%) indicated that they had never seen a single news item prior to the experiment (Table 2).

Although the false stories were specifically created for the purpose of the experiment and we double-checked that they did not appear on the web, 1,415 (16.53%) participants indicated that they had already seen them before. As for the true stories, they were indicated as previously seen by 1,719 (20.08%) participants. This high level of recognition of fake news may be explained by the fact that this variable measures the perception of participants that they have already encountered this information, and not the actual encounter with a news item.

News Consumption

The question about news consumption included the following answer options: TV, Print newspapers and journals, Radio, SNSs and Forums, Bloggers, News sites and News aggregators, Friends, Other. Participants were asked to indicate their top three choices. All options were recorded as individual dummy variables. Descriptive statistics are presented in Appendix 1 Table A3.

The top three sources of information for participants in our study were: SNSs and forums – 70.51%, news sites and aggregators – 46.64%, and TV – 42.70%. While Russian and Kazakhstani respondents were similar in their patterns of news consumption, Ukrainian respondents were slightly different: while SNSs were in first place (74.92%), television was second (46.91%), and news aggregators – third (36.37%). The rest of the sources received no more than 25% each. The majority of respondents (47.80%) indicated that they used three sources (the respondent could choose no more than three sources), only one source was used by 29.68%, and two sources by 22.52%.

General Trust

Prior research indicates that news perception may be related to the level of general trust in people. To measure general trust, we used three questions adapted from the World Values Survey: “Most of the time people try to be helpful”, “People can be trusted”, “Most people would try to take advantage of you if they got a chance” [54]. The results of combining three questions into a single scale showed low psychometric characteristics (α -Cronbach = 0.48). Therefore, during the analysis, we considered these questions separately (descriptive statistics are presented in Appendix 1 Table A4).

2.5 Strategy of Analysis

First, we conducted a correlation analysis of the variables. We then compared generalized linear regression models with the news ids as dummy variables with linear mixed models with news ids as random variables [55]. The performance of generalized linear mixed models was higher ($BIC = 87187$ vs $BIC = 87732$), and the analysis of intraclass correlation ($ICC = 0.118$) suggested the use of mixed generalized linear models. Thus, we decided to continue with linear mixed models in which we used recognition of each news item as a trial (with properties: truthfulness, frame, source); thus for each participant we had eight trials. The analysis of the ids of participants as a random variable was not

Table 3. Generalized linear mixed effect model for accuracy of news item recognition

<i>Predictors</i>		Accuracy			
		<i>Odds Ratios</i>	<i>std. Beta</i>	<i>p</i>	<i>std. p</i>
(Intercept)		1.48	1.28	0.039	0.178
Dominant news frame		1.23	1.23	0.430	0.428
True news items		0.55	0.55	<0.001	<0.001
News about [Russia]		1.58	1.58	0.025	0.025
News about [Ukraine]		1.68	1.68	0.028	0.028
Age		1.05	1.05	<0.001	<0.001
Male gender		1.09	1.09	<0.001	<0.001
Higher education		1.08	1.08	<0.001	<0.001
Time for news item (log)		0.95	0.97	<0.001	<0.001
News item seen before		1.19	1.05	<0.001	<0.001
Domestic news source		0.99	1.00	0.676	0.676
SNS [VK]		0.96	0.96	0.031	0.031
TV (one from main sources)		0.94	0.97	0.001	0.001
Newsaggregators (one from main sources)		1.05	1.02	0.009	0.009
Conspiracy mentality scale		0.95	0.95	<0.001	<0.001
Politics interest		0.95	0.95	<0.001	<0.001
Dominant frame * True items		2.71	2.71	<0.001	<0.001
Dominant frame * News about [Russia]		0.35	0.35	<0.001	<0.001
Dominant frame * News about [Ukraine]		0.42	0.42	0.009	0.009
Random Effects					
σ^2	3.29	ICC		0.09	
$\tau_{00 \text{ news_jid}}$	0.33	N _{news_jid}		96	
Observations		65744			
Marginal R ² / Conditional R ²		0.037 / 0.123			

possible due to the large size of the sample (8,559) and did not converge. Analysis of the random effect associated with participants on country and SNS subsamples showed no need to use random models associated with participants (e.g. for subsample Russia VKontakte ICC = 0.009).

Next, we analyzed the effect of each of the suggested variables separately by adding them to a linear mixed effect model to see if they had a significant impact on the accuracy of fake news recognition. We found that 22 variables had significant effects (see Appendix 1 Table A5). Next we included all significant variables in one model (Marginal $R^2 = 0.01$, Conditional $R^2 = 0.127$, see Appendix 1 Table A4). Only several variables found to be significant at the first step showed significance in the joint model. They were: social network, age, gender, education, conspiracy mentality, do participants recall this news item (news seen); do participants mention news aggregators as one of three most important news courses; time spent on assessing the news item (logarithm), interest in politics.

The next model included only significant variables from the previous step (Marginal $R^2 = 0.006$, Conditional $R^2 = 0.124$, see Appendix 1, Table A5). The observed reduction in Marginal R^2 indicates that there may be an important interactional effect that we miss in this model. We expected that news frame and truth might interact as well as frame and news object country (the country which the news item is about). Adding these two interactional effects increases Marginal R^2 to 0.037 (see Table 3). We also tested the interaction of the source of the news with frame, truthfulness, and country, but found no interaction effects.

3 Results

The results of the GLM mixed regression modeling for accuracy are given in Table 3. They show significant influence of many unexpected predictors, while some of the expected predictors have proven to be insignificant. Thus, age (Std. Odds Ratios = 1.05), male gender (Std. Odds Ratios = 1.09), and using news aggregators (Std. Odds Ratios = 1.02) increased the odds of higher accuracy. TV as one of the primary news sources (Std. Odds Ratios = 0.97), inclination to conspiracy thinking (Std. Odds Ratios = 0.97), the use of VKontakte SNS (Std. Odds Ratios = 0.96) and, surprisingly, interest in politics (Std. Odds Ratios = 0.95) were significant in lowering the accuracy. These results confirm hypothesis H1: “Conspiracy thinking decreases the accuracy of news recognition”.

When participants indicated that they had already seen a certain news item, this also increased the accuracy of news recognition (Std. Odds Ratios = 1.05). At the same time, we know from prior analysis that this perception was also observed when participants viewed fake news items created for the study. On the one hand, this could be the result of the “illusory truth effect”, and some of the news items with similar properties could affect participants’ perception. At the same time, this heuristic (as it increases accuracy) is ecologically rational [56].

While “news checked” was a significant predictor during the first step of the analysis, it became insignificant after adding control variables and the “news seen” variable. This supports the important role of heuristics in fake news recognition and participants’

feeling that they have already seen certain news items before is more important than the fact-checking. Still, this effect may be less universal as it may depend on the levels of education or digital literacy training. Similarly, the effect of trust which is significant at the early steps of modeling disappears at the later stages.

We observe two significant interactions in the resulting model. The first and expected one is between the news frame and the truthfulness of the news item. While news frame alone predictably has no effect on the accuracy of news recognition, and while true news items have lower chances of being recognized correctly than fake stories (Std. Odds Ratios = 0.55), the dominant framing of true stories drastically increases their odds of being recognized correctly (Std. Odds Ratios = 2.71). We can explain this by stipulating that dominant framing increases believability and, in the case of the true news stories, increases accuracy. For fake news the interactions works in the opposite direction: alternative frame decreases the believability of a fake news item and this contributes to the increase of accuracy, while the dominant frame contributes to its decrease. Thus, we also confirm H2 “The influence of news framing on the accuracy of news recognition is moderated by the type of news – either true or fake”. However, the influence of the frame on believability or on trust in news needs to be tested in further studies.

The second significant interaction observed was between dominant framing and the country featured in the news item. We found that news about Ukraine and Russia are recognized better than those about Kazakhstan (Std. Odds Ratios = 1.58 for news about Russia and 1.68 for news about Ukraine). Given that Russia and Ukraine are involved in an ongoing conflict, it would be logical to expect the opposite: namely, that users from both countries would be more prone to fakes that might be more intensively produced by the media of the conflicting countries. However, when packaged in the dominant framing, news about these two countries obtain much lower odds of being recognized correctly than those about Kazakhstan (Std. Odds Ratios = 0.35 for news about Russia and 0.42 for news about Ukraine). This suggests that the recognition of news about Ukraine and Russia owes its overall high accuracy to correct classification of alternatively framed news which is hard to confirm and to interpret without further in-depth research.

The results of our research do not support hypothesis H3 “Domestic news sources decrease the accuracy of fake news recognition”. The news source was not significant in the regression model. One reason for this may be that the source type behaves in a way similar to that of framing: domestic sources may increase the trust in both true and fake news, while foreign sources may affect the trust in the opposite direction.

Limitations

Our analysis of how users from the two most popular social networks (VKontakte and Facebook) in Russia, Ukraine and Kazakhstan engage with news shows the importance of both socio-demographic and behavioral factors. At the same time, there may be significant differences between VKontakte and Facebook in how their users engage with news. These differences need to be explored in future research.

To further analyze the dynamics that influence fake news recognition, it is important to separate the analysis of fake and true news items when assessing accuracy. This would allow us to see whether thinking style or heuristics cues affect participants’ recognition of true and fake stories differently. Furthermore, the analysis of news recognition accuracy

should be combined with the analysis of news item credibility, as both these concepts and the factors influencing them are closely related, though not identical.

4 Conclusion

The results of the study confirm the important role of conspiracy thinking style in false news recognition (decreasing accuracy) and its impact on social media users' deliberation capabilities. Another significant factor is the number of news items already seen by participants (increasing accuracy). This is in line with previous research on the "illusory truth effect" [13]. We also found that generalized trust does not play an important role and becomes insignificant when other contextual factors are introduced. The role of news consumption, with TV as the main source of information, decreases accuracy, whereas news consumption primarily through news aggregators increases accuracy.

In our analysis we observe two significant interactions between news frame and truthfulness, and news frame and the country featured in the news item. Both of these interactions provide evidence that the role of news frames in fake news recognition is closely connected to the context of news. It is interesting that the perceived interest in politics decreases the level of accuracy. We associate this finding with the subjectivity of assessment, which is not necessarily related to participants' actual knowledge about politics. Higher levels of education contribute to greater accuracy, which is in line with the previous studies on the role of analytical thinking [14, 15]. It is worth mentioning that SNSs remain significant predictors of accuracy even in the presence of such control variables as age and education. It is plausible that the users of different SNSs have distinct news consumption habits. This is partially confirmed by the results of our study, which indicate that Facebook users demonstrate better ability to recognize fake news than VKontakte users.

To summarize, the main contribution of this paper is in examining the impact of different thinking styles, as well as various contextual features of the news (cues for heuristics) on the accuracy of fake news detection. Our findings also have implications for understanding how fake news susceptibility impacts user capabilities for online deliberation in the context of news consumption.

Acknowledgements. The research was implemented in the framework of the Russian Scientific Fund Grant № 19–18–00206 at the National Research University Higher School of Economics (HSE) in 2021.

The authors acknowledge the research and data collection assistance by Maxim Terpilowski, Yadviga Sinyawskaia, and Victoria Vziatysheva.

Compliance with Ethical Standards. The authors declare that they have no conflict of interest. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee (National Research University Higher School of Economics Institution Research Board decision, 23.04.2020).

Appendix 1. Supplementary Material

Supplementary tables associated with this article can be found, in the online version, at https://fakenewsproject.org/HCI2021/Appendix_1.pdf.

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