

What Drives Perceptions of Foreign News Coverage Credibility? A Cross-National Experiment Including Kazakhstan, Russia, and Ukraine

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Abstract

Research on news credibility has overwhelmingly focused on individual and message-level factors explaining why people view some news items as more credible than others. We argue that environmental variables such as the message content's consistency with dominant mainstream narrative can have a powerful explanatory capacity as well. We expect this effect to be particularly pronounced in the domain of international news. Drawing on a sample of 8,568 social media users across three post-Soviet countries, we test this expectation experimentally. Our analyses suggest that consistency with dominant narrative increases the credibility of foreign affairs coverage. We also demonstrate the moderating role of international conflict, government support, and news language in some national contexts but not others. Finally, we report how the effects of these factors on credibility vary according to whether the news items are real or fabricated and discuss the societal implications of our findings.

Keywords: News credibility; International news; Online experiment; Political communication; Strategic narratives; Rally-round-the-flag.

Introduction

Determinants of Message Credibility

In recent years, the extensive scholarly and public concern over the spread of online misinformation and its pernicious societal effects reinvigorated the area of communication research examining the determinants of people's perceptions of information credibility. Credibility is a complex, multi-level construct that can denote individuals' attitudes toward the message source, the content of the message itself, or media in general (Appelman & Sundar 2015). In high-choice digital news environments, it is often a challenge to pin down the original source of the

message, which warrants particular attention to determinants of message credibility other than trust in the source.

Past research on news consumers' perceptions of message credibility tended to focus on two broad groups of factors: individuals' psychological and cognitive dispositions, and features of the message itself (Bryanov & Vziatysheva 2021). Here we argue that environmental, media system-level factors can also affect the perceived credibility of a discrete news message. In other words, the broader information environment might supply a context in which certain messages can be viewed as more or less credible. Specifically, with a variety of politically instrumentalized narratives competing in every national news marketplace, some users may base their credibility judgements on whether they perceive the message to be representative of a certain way of understanding and interpreting social reality. In a departure from the common dichotomy between ideologically congenial and uncongenial directionality of the message that influences the recipient's judgement by triggering the mechanisms of motivated reasoning (Bolsen et al. 2014; Kahan 2012), we suggest that mere familiarity with a narrative that the message represents can serve as a credibility cue. In other words, if a person perceives the news story to be in line with the picture of the world that the majority of mainstream news sources project on the subject, they will be more likely to perceive it as credible. Conversely, encountering a message that represents an unfamiliar or unconventional narrative could decrease perceptions of message credibility. In this study, we put this intuition to the test in the context that is particularly suitable for studying the environmental antecedents of credibility judgements: international news.

Foreign affairs news is the domain of media coverage where information consumers are most likely to be exposed to uniform coverage. Compared to domestic news that are of more immediate interest, people tend to be less motivated and often ill-equipped to learn what is happening abroad

(Bennett et al. 1996). Across a diverse set of national media contexts, foreign affairs coverage is limited in scope and heavily shaped by governments' strategic interests (Aalberg et al. 2013). According to the indexing hypothesis, overreliance on official sources and largely shared interpretations of national interest leads to the international news' tendency to reflect a limited range of opinions (Bennett 1990). Taken together, this evidence leads us to expect international news to be less diverse in terms of presenting political issues and, therefore, an appropriate ground for testing the effects of various narratives on perceptions of message credibility.

Dominant and Alternative Narratives

Studying political actors' discursive practices is a long-established area of international politics scholarship (Milliken 1999). Strategic narratives are discursive frameworks that allow people to connect disparate social phenomena into structured, comprehensible storylines (Freedman 2017; Miskimmon et al. 2014). What makes them "strategic" is that these narratives are crafted by political actors with a view to influencing domestic or international audiences and advance the desired understandings of international relations and potential courses of policy action.

Miskimmon and colleagues note that narratives are conceptually related to discourses and frames, yet what makes a narrative distinct is its temporal and causal dimensions (Miskimmon et al. 2014). Strategic narratives are dynamic storylines that coherently explain a particular area of international affairs and relationships between international actors as they unfold over time. The architects of strategic narratives can incorporate elements of various discourses, while the narratives' components can be framed in different ways. In this sense, both discourses and frames can be regarded as narratives' constituent parts.

Depending on the political context and the degree of power consolidation in each media system, strategic actors can have varying capabilities to shape narratives (Miskimmon et al. 2014);

accordingly, narratives can vary in the degree to which they are “strategic.” As Krebs (2015) notes, narratives related to international politics operate within the boundaries of a broader national culture and incorporate existing identity narratives. Furthermore, narratives are both informed and constrained by the values and worldview of their target audience (Wilkinson & Gow 2017). In sum, there are limits to how much sway the powerful can have over narratives pertaining to international relations and foreign policy. The cases examined in the present study illustrate how far apart these lines can be drawn from one national media system to another. The need to account for cross-national variation in the extent to which political actors exercise control over media narratives renders a comparative approach to studying the effects of such narratives particularly fitting.

From the audience perspective, it is of little relevance whether the narrative shaping news coverage is constructed more “strategically” by political players or “naturally,” emerging from the dominant culture and the public’s shared reactions to ongoing political events. What we do expect to influence people’s assessment of news is whether the narrative that the coverage is representative of aligns with society’s “common sense” regarding the particular aspect of international affairs (Huysmans 1998; Milliken 1999). We, therefore, remain agnostic to the narratives’ strategic quality and instead focus on the dichotomy between dominant and alternative narratives.

By dominant narrative, we understand a coherent system of interpreting international affairs that is prevalent in a given national media system. Clearly, dominant narratives are specific to each national system and can only be described empirically. Accordingly, alternative narratives are those that offer interpretations of international relations demonstrably challenging the dominant, mainstream storylines. Similar to dominant narratives, alternative narratives can either be

constructed strategically to challenge the former or simply represent minority viewpoints that are at odds with mainstream interpretations of international politics.

Case Selection

Here we report the results of a comparative study of the effects of dominant and alternative narratives on foreign affairs news credibility across three post-Soviet nations: Russia, Kazakhstan, and Ukraine. We specifically investigated how news consumers residing in these countries assess the coverage of one of the neighboring countries as a function of the news items' narrative affiliation. This work builds on our previous empirical analyses of the news agendas that inform mutual media representations between Russia and two of its neighbors (*reference anonymized for peer review*). In both research strands, case selection is motivated by the deep interconnectedness of these three nations' histories and cultures, strong cross-border ties, and above all the importance of Russian-Ukrainian and Russian-Kazakhstani relations for both regional and domestic politics in all three nations. This leads to heightened salience of these relationships on the three countries' domestic news agendas and makes neighbors' media representations a potential target for strategic manipulation by political elites.

While the three countries share many similarities, there are also some major differences in both the structure of their media systems and the current state of their bilateral relationships, which can both qualify the effects of news narratives. For one, we expect that these effects may play out differently between Russia and Ukraine compared to Russia and Kazakhstan, owing to the first pair being in a state of intense political confrontation, which is not the case for the latter pair. We are therefore particularly interested in whether and how dominant and alternative narratives shape Russian news users' perceptions of news about both Ukraine and Kazakhstan, and the Ukrainian and Kazakhstani users' perceptions of news about Russia. Since the Ukrainian-Kazakhstani

relations are significantly less charged politically and receive less media attention, in this study we do not examine the effects of news about Ukraine on Kazakhstani users and of news about Kazakhstan on Ukrainian users.

In Russia, the government enjoys consolidated control over much of the legacy mainstream media and a substantive online presence. This combination allows state actors to exercise a considerable degree of control over foreign policy narrative, to the point that the government's strategic narrative largely overlaps with that of the mainstream media, which has become especially conspicuous after the escalation of tensions with Ukraine over Crimea and Donbass in 2014 (Szostek & Hutchings 2015; Szostek 2017).

In contrast, in Ukraine, where the news landscape is more fragmented, no political entity exercises overwhelming control over the dominant narrative around the nation's relationships with its neighbors (Korbut 2021). However, the logic of the ongoing military standoff with pro-Russian forces in the country's eastern regions fuels patriotic consolidation of the public discourse, marked by acute anti-Russian overtones (Szostek 2018). Independently of any single actor's strategic efforts, the mainstream media narrative around foreign policy in Ukraine incorporates a variety of discourses and frames, the majority of which are highly critical of Russia.

A different setup can be observed in Kazakhstan, where the government wields significant influence over the media landscape yet generally refrains from pushing highly implausible messaging and overt propaganda (Schatz 2009). Unlike both Russia and Ukraine, Kazakhstan is not involved in a confrontation with a neighboring country. As we further elaborate below, this can reduce the need for the nation's political elites to heavily invest in strategically shaping the foreign policy narrative.

Hypotheses and Research Questions

People's political views and allegiances dictate what narratives they subscribe to, as well as the direction in which the messages' adherence to a certain worldview moves individual perceptions of this message. At the same time, much of the recent work on online news consumption supports the idea that the majority of online news consumers are not fervent partisans. Rather, most people tend to consume mainstream, politically moderate content (Dubois & Blank 2018; Guess 2021). It is possible that it is not political directionality but narrative familiarity that underlies credibility perceptions of foreign affairs news. These considerations lead us to expect that identifying a news message as representative of the dominant narrative will increase its credibility:

H1: Foreign affairs news items representing a dominant narrative will be perceived as more credible than those representing an alternative narrative across all countries.

While we expect that the effect of dominant narrative on international news' credibility will hold across the board, it is possible that certain contextual variables can amplify or mitigate its influence. Particularly, the presence of an international conflict, especially one involving military confrontation or presenting a credible threat thereof, will magnify the effect of dominant narrative on credibility.

There are two potential mechanisms driving this relationship. One is that conflicting governments intensify their efforts to muster domestic support by strategically manipulating the news agenda and promoting storylines that justify their involvement in the conflict. This can make the government-promoted narrative more salient in the mainstream news space and thus more influential in shaping public opinion. A related yet discrete mechanism that could also be at play here is the "rally-round-the-flag" phenomenon, whereby in times of international crises, both the press and the public tend to more readily accept patriotic rhetoric (Barnett & Roselle 2008; Baum

2002; Groeling & Baum 2008). Given the above considerations, we expect that in the presence of an international conflict domestic audiences will be more likely to rate news stories about the adversary nation as more credible if they align with a dominant narrative:

H2: The effect of narrative type on news credibility will be greater for respondents from countries that are in a state of conflict seeing news about each other's countries, as compared to respondents from countries that are not in conflict seeing news about each other's countries.

As noted above, state actors may exercise varying degrees of control over narratives depending on the particular configuration of the political and media system. In systems with more consolidated state control of the press, such as Russia (Hallin & Mancini 2004; Vartanova 2011), what constitutes the dominant narrative can be expected to significantly overlap with the worldview strategically projected by the government. Thus, it is reasonable to hypothesize that the more an individual supports their government, the more likely they are to perceive news stories conforming to the dominant narrative as credible, and vice versa. In societies with a broader distribution of media power such as Ukraine (Orlova 2016; Ryabinska 2011) or where the government's instrumentalization of the press may be less pronounced, like Kazakhstan (Schatz 2009), the dominant narrative is not necessarily identical to a collection of government-sponsored storylines. Where this is the case, we do not expect to observe government support moderating the relationship between narrative type and news credibility.

H3: Greater government support is associated with a greater effect of narrative type on perceived credibility for Russian respondents, but not for respondents residing in Ukraine or Kazakhstan.

The source of H3, an interaction involving a contrast of narrative, user country, and user's government support, are primarily two specific predictions at the level of simple interactions:

H3a: Greater government support is associated with higher perceived credibility of news items representing a dominant narrative for Russian respondents, but not for respondents residing in Ukraine or Kazakhstan;

and

H3b: Greater government support is associated with lower perceived credibility of news items representing an alternative narrative for Russian respondents, but not for respondents residing in Ukraine or Kazakhstan.

In multiethnic societies where a significant portion of the population is bilingual, the language in which the news is presented can trigger identity heuristics and thus serve as a credibility cue. In our study design, Ukraine-based respondents could elect to receive the news in either Ukrainian or Russian language. Language politics remains a contentious area of the nation's public affairs (Kulyk 2021; Pop-Eleches & Robertson 2018), and the choice to communicate or receive information in one language over another can be seen as highly political. In this regard, this choice might be viewed as a political statement, whereby those who opt for the Ukrainian language may be more likely to embrace the patriotic, anti-Russian stance that is aligned, as we demonstrate in subsequent sections of this paper, with the narrative that dominates mainstream foreign affairs coverage. We, therefore, hypothesize that those who elect to receive the news in the Ukrainian language will be more susceptible to the effect of the dominant narrative:

H4: For Ukrainian respondents, the effect of narrative type on news item credibility is higher if the respondent chooses to read the news in the Ukrainian rather than the Russian language.

With the exception that we expect true news to be rated more credible than fake news, it is difficult to derive theory-driven directional expectations regarding how the veracity of news will interact

with the factors presented in the hypotheses above. Indeed, effects of this kind may critically depend on the participants' knowledge. Therefore, although we expect interactions with news veracity and hope to use it for further theory building, we pose only a broad exploratory research question:

RQ1: To what extent do the effects of narrative type, conflict presence, and language on news credibility differ depending on the veracity of a news item?

Another potential source of variation in credibility judgements related to foreign affairs coverage is the affiliation of its source. Since we do not have a clearly defined directional expectation here, we pose a second exploratory research question:

RQ2: Will news about a foreign country attributed to a domestic source be perceived as more or less credible than the news about a foreign country attributed to a source from this country?

Materials and Methods

Construction of news items

Narrative discovery and operationalization

For each country of our interest, a dominant narrative should manifest itself as a collection of specific themes, frames, and tropes that domestic news media covering a neighboring nation frequently invoke. We assume that these discursive elements can be empirically discovered and described. Methodologically, we build on previous work that relied on a combination of computational and qualitative methods to identify systematic patterns in Russian, Ukrainian, and Kazakhstani mainstream media's coverage of the neighboring nations (Koltsova & Pashakhin 2020). Our research team includes academics specializing in Ukrainian and Kazakhstani media as well as a Russian media researcher with extensive experience as a practicing journalist. We relied

on their expertise to guide the process of narrative discovery and validate each step of the construct's operationalization.

The workflow proceeded as follows. We collected separate corpora of media texts produced by thirty most viewed online publications in each of the three countries of interest referencing the other two countries (in the case of Russia) or Russia (for Ukraine and Kazakhstan) for approximately a one-year period prior to the start of our experiment. Then, guided by topic modeling, we analyzed each corpus to identify sets of topics that dominated the news agenda in Russia, Ukraine, and Kazakhstan regarding each of the target foreign nations. Interpretation of relevant topics was supervised by a respective area media expert, who also suggested additional topics that had not been captured by the automated analysis.

Next, we identified consistent framing patterns that could be representative of either dominant or alternative narratives for each topic. The topics most frequently covered in each country pair were markedly different, as was the tone of coverage. For example, in Kazakhstani media covering Russia and the relationship between the two countries, a discussion of the Eurasian Economic Union, where both Kazakhstan and Russia are founding members, was prominent. The dominant way of framing the state of this economic union was complimentary, stressing the successes in the two nations' economic collaboration and the mutually beneficial character of the relationship, and emphasizing how the two nations' leaders work productively together to craft shared economic policies. The alternative way of talking about the Eurasian Economic Union, occasionally observed in the output produced by Kazakhstani media, was to the effect that Russia benefited from the union, while Kazakhstan did not. Another topic where systematic differences in framing were observed was the discussion of the 2018 presidential election in Russia: While the dominant narrative maintained that Vladimir Putin's victory was legitimate and indisputable, the

alternatively narrated coverage of the issue questioned the election's integrity and thus the legitimacy of the outcome. A largely symmetric coverage of the 2019 presidential election in Kazakhstan was revealed in mainstream Russian media. Overall, the tone of the news coverage on both sides was predominantly reserved, with factual messaging significantly outweighing overtly opinionated content.

The analysis of news coverage of Ukraine by Russian media and of Russia by Ukrainian media revealed much more politically and emotionally charged messaging on both sides, fueled by the ongoing tensions between the two nations. The Ukrainian dominant narrative revolved around the unlawfulness of the Russian takeover of the Crimean Peninsula (with almost every mention of the territory accompanied by adjectives such as "occupied" and "annexed"); criticism of the authoritarianism and overall backwardness of the Russian political system; justifying Ukraine's movement away from Russia and toward closer integration with the European Union; Russian leadership's hostile intentions to forcefully maintain its influence over Ukraine. Against this background, any messages that, short of being favorable of Russia, merely *normalized* it and lacked strong condemnation of its policies toward Ukraine were coded as representing the alternative narrative. The narrative that dominated Russian mainstream media painted Ukraine as a dysfunctional state lacking geopolitical agency and being manipulated by foreign powers into serving their anti-Russian agenda. Ukrainian leadership and political system in general were presented as dysfunctional, dominated by radical nationalists, and committed to oppressing citizens who were open about their pro-Russian sympathies and identity. In this picture, the Ukrainian economy was also represented as struggling, if not crumbling, allegedly illustrating the futility of the nation's newly found pro-Western political orientation. The alternative narrative distinguishable in Russian media in many regards aligned with the major tenets of the Ukrainian

dominant narrative in that it condemned the actions of the Russian government toward Ukraine and cast Ukraine's pro-Western turn in a positive light as a movement toward a more democratic society. In sum, while not always antithetical, elements of dominant and alternative narratives often focused on different facets of the neighboring country's representation.

Item construction

To investigate how news consumers in Russia, Ukraine, and Kazakhstan perceive domestic coverage of their respective neighboring nations, we constructed four sets of items, grouped in two pairs: (1) News about Ukraine shown to the Russian audience and news about Russia shown to the Ukrainian audience; (2) News about Kazakhstan shown to the Russian audience and news about Russia shown to the Kazakhstani audience. As mentioned above, we did not expose respondents in Ukraine and Kazakhstan to the news covering each other's countries. We produced separate sets of news items about Russia for Ukrainian and Kazakhstani users to fit the specific narratives that mainstream news sources in these countries commonly tap into when covering Russian affairs. Each set of news items was represented by 24 items varying in narrative, veracity, source, and, only in the Ukrainian set, news language (see *Supplement A* for examples).

Narrative represented: dominant/alternative. We either collected from real mainstream sources (for real news) or constructed (for fake news - see below for explanation) approximately twice as many news items as we intended to use in the study. We then validated their adherence to either a dominant or an alternative narrative with media experts from Russia, Ukraine, and Kazakhstan, and narrowed down the final selection to 96 news items that the experts deemed the most representative of these respective narratives (see *Supplement A* for examples).

News language. Russia and Kazakhstan are predominantly Russian-speaking countries, thus the news that we showed to the residents of these countries were in Russian only. For Ukraine, where

most people are Ukrainian-Russian bilinguals, we prepared identical news stories available in both Ukrainian and Russian. A native Ukrainian-speaking academic translated original Russian-language stories into Ukrainian, and a Ukrainian media expert then proofread and validated them.

Veracity: true/fake. One of the outcomes that we examined in the larger experiment was individuals' ability to discern authentic news from fabricated news (*reference anonymized for peer review*). We obtained real news from actual media sources and fact-checked them in at least two independent publications. We chose to generate fake news ourselves because it proved impossible to find "real" fakes (such as debunked false news aggregated by dedicated websites) fitting our requirements, especially those that would represent both dominant and alternative narratives. A professional journalist generated fake news items on the topics that we identified as salient in actual coverage at the stage of narrative discovery.

News source. Participants could be exposed to the same news item attributed to either their domestic media (e.g., when Russian respondents see the news about Ukraine from Russian media), or the media of the covered country (e.g., when Russian respondents see the news about Ukraine from Ukrainian media). One of these two labels was assigned to each news item randomly upon exposure. To isolate the effects of the source country from the particular publication label, we chose to present source attribution in a generalized way: each news item was marked as coming "from Russian media", "from Ukrainian media" or "from Kazakhstani media".

Experimental Design and Procedure

We employed a 2x2x2 experimental design where each user received eight news items randomly retrieved from our database with varying truthfulness (true/false), news source origin (user's country/the country covered in the news), and narrative affiliation (dominant/alternative). Each respondent received all eight combinations of news features. Thus, we combine the 2x2x2 within-

subject design with the between-subject design based on respondents' country of residence. Detailed specification of contrasts that we used in hypothesis testing can be found in Appendix A. Since a significant share of exposure to political news occurs via social networking platforms (Newman et al. 2021), we recruited participants from two social networking websites most popular in the post-Soviet region, VK and Facebook. We created two nearly identical user interfaces: a mobile app for VK users and a standalone website for Facebook users. We informed the participants that the test measured their susceptibility to fake news.

The first page of the questionnaire contained a short task description, the link to the "About" page, and a consent checkbox. Next, a user was shown nine consecutive screens, one news item on each, plus a distractor news item. They were asked to evaluate each news item's credibility on a six-point Likert scale ranging from "True" to "Fake." Following the task, participants answered several questionnaires relevant to the larger study. Here we use responses to the questions on government support ("Do you generally approve of the policies of your country's leadership?" 1 – entirely disapprove, 5 – entirely approve) and demographic questions (age, gender, and education [one of five specific categories or "other"]) from the larger study. The questionnaire concluded with returning the user's accuracy score, a humorous one-liner summarizing their ability to tell real news from fake news, and an invitation to see the correct answers.

We recruited study participants using targeted advertisements on two social platforms, VK and Facebook. A detailed account of recruitment procedures, targeting, and sample balancing is presented in Appendix B. Key demographic characteristics of the final sample (N=7,121) can be found in Table 1.

Outcome measure

Message credibility, measured on a scale from 1 to 6 where 1 corresponded to the response “fake,” 2 – “most likely fake,” 3 – “rather fake,” 4 – “rather true,” 5 – “most likely true,” 6 – “true.” Following Appelman and Sundar, we define message credibility as “an individual’s judgment of the veracity of the content of communication” (Appelman & Sundar 2015, p. 5). Note that credibility is not equivalent to the correctness of the response, which is a different variable (1 – correct answer, 0 – otherwise) used in a separate study.

Results

Sample and Credibility-Rating Statistics

Overall, we analyzed 56,968 ratings of 96 news given by 7,121 users from three countries (Kazakhstan, Russia, Ukraine). We included only participants with complete data (i.e., we excluded 1,438 users who did not provide a rating of government support). Descriptive statistics of credibility ratings are presented in Table 1. In each experimental group users on average rated news items representing a dominant narrative as more credible than those affiliated with an alternative narrative. Consistent with our expectations, real news items were reliably perceived as more credible than fabricated ones across the board.

Table 1. Sample statistics (top) and means (M) and standard deviations (SD) of credibility ratings (bottom)

	KZ-RU-RU		RU-KZ-RU		RU-UA-RU		UA-RU-RU		UA-RU-UA	
N of users	1518		1520		1689		1469		1518	
Gender (N)	f: 802	m: 716	f: 765	m: 755	f: 853	m: 836	f: 681	m: 788	f: 425	m: 500
	<i>M</i>	<i>SD</i>								
Age	34.908	10.254	37.843	11.086	38.627	11.549	36.832	11.583	39.813	11.747
Support	2.670	1.460	2.543	1.401	2.456	1.381	2.399	1.321	2.156	1.293
N news seen	1.176	1.594	0.456	1.057	0.777	1.469	1.007	1.739	0.768	1.496
N news checked	0.030	0.113	0.012	0.069	0.016	0.086	0.028	0.120	0.016	0.088
Narrative										
• dominant	3.342	2.090	3.652	2.051	3.741	2.029	3.778	2.076	4.087	2.034
• alternative	3.178	2.085	3.260	2.005	3.232	2.014	3.107	2.072	3.078	2.095
Type of news										
• true	3.490	2.097	3.787	2.014	3.949	1.986	3.773	2.075	3.936	2.072
• fake	3.030	2.055	3.125	2.007	3.025	1.983	3.111	2.075	3.228	2.119
Source of news										
• country of user	3.244	2.086	3.464	2.034	3.461	2.038	3.412	2.103	3.598	2.130
• country of news	3.275	2.092	3.448	2.041	3.512	2.037	3.472	2.099	3.566	2.121

Note. KZ = Kazakhstan, RU = Russia, UA = Ukraine; groups are coded by [user country – news country – news language; UNL]; KZ-RU-RU means Kazakhstani users reading Russian news in the Russian language. For number of participants in different education and age groups see Figure 1B and Supplement Figure S1. Users rated eight of 24 news items constructed for their UNL group; one each in the Narrative (2) x Type of news (2) x Source of news (2) conditions.

Inferential Statistics

Table 2 lists the significant (i.e., z -value > 2.0) fixed-effect terms of the LMM. The complete list of model parameters is provided in *Supplement-B Table S3*. Corresponding estimates are also provided for less complex LMM versions *Supplement-B Table S4* and *Table S5*. The significance of fixed-effect terms did not depend on the complexity of the random-effect structures shown: All three LMMs yielded the same profile of significant fixed effects. Table 2 also provides references to figures and hypotheses for the various interaction terms.

Table 2. Fixed-effect estimates and standard errors (SE) with significant z-values (> 2.0) of LMM

Parameter	Estimate	SE	z-value	Figures	Test
Grand Mean	3.900	0.055	70.72		H1
Narrative	0.318	0.050	6.33		
Truth	0.302	0.050	6.06		
Age	0.0033	0.0008	4.08		
Edu_low	0.039	0.018	2.15		
Seen	0.463	0.024	19.56		
Checked	0.078	0.036	2.17		
UNL1 x Narrative	1.267	0.571	2.22	1A	H2
UNL4 x Narrative	-0.136	0.045	-3.00	1C	H4
UNL3 x Support	-0.130	0.043	-3.04		
Narrative x Support	0.054	0.008	6.82		
Narrative x Age	0.0030	0.0008	3.78	S1A	demographic
Truth x Age	0.0054	0.0007	7.22	S1B	demographic
UNL2 x Age	-0.0138	0.0026	-5.39	S1C	demographic
UNL1 x Seen	-1.060	0.282	-3.76		
UNL2 x Seen	0.163	0.071	2.31		
Truth x Gender	-0.055	0.012	-4.67	A1A	demographic
Truth x Edu_high	0.081	0.016	5.04	A1B	demographic
UNL1 x Narrative x Truth	-1.819	0.566	-3.22	1B	H2
UNL2 x Narrative x Truth	-0.366	0.131	-2.79	1D	H2
UNL1 x Truth x Source	0.214	0.095	2.25		
UNL2 x Truth x Source	0.051	0.024	2.14		
UNL4 x Truth x Source	-0.069	0.027	-2.50		
UNL2 x Narrative x Support ²	0.025	0.009	2.79	2A	H3
UNL3 x Narrative x Support	0.022	0.007	3.00	2B	H3

Note. UNL2 x Narrative x Support²: Significant after adding quadratic term for Support. Figure: reference to figure visualizing the interaction. Test: reference to hypothesis number in text or test of demographic feature.

Hypothesis Testing

We now turn to our main hypotheses and research questions. The analysis revealed a significant main effect for narrative type, such that credibility of news representing a dominant narrative was

significantly higher than of those representing an alternative narrative across all subsamples ($b=0.318$, $SE=0.05$, $z=6.33$, $p < .01$), thus lending support to Hypothesis 1.

A test of Hypothesis 2 is the contrast between respondents who saw the news about a neutral country (Russians about Kazakhstan and Kazakhstani about Russia) and those exposed to the coverage of a nation with which their home country is in a state of political or military confrontation (Ukrainians about Russia and Russians about Ukraine), coded as UNL1 in our analyses and summary tables.

As Figure 1A illustrates, there was a significant overall difference in the effect of narrative between respondents seeing news about neutral versus adversary countries, as conflict appeared to be boosting the credibility of dominant-narrative news and dampening credibility of alternative news ($b=1.27$, $SE=0.57$, $z=2.22$, $p < .01$). Thus, the data supported Hypothesis 2.

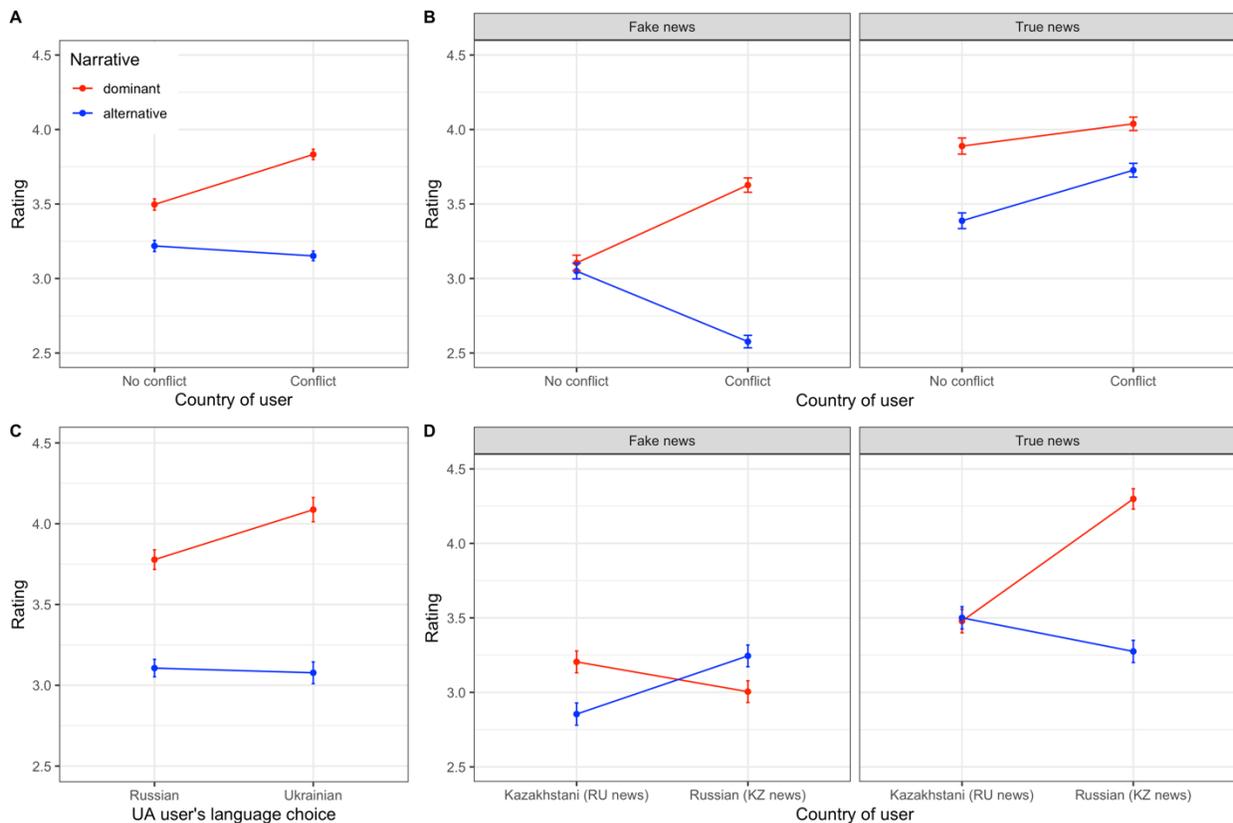


Figure 1. Interactions involving manipulation of narrative with (A) conflict between countries, (B) conflict between countries x veracity of news, (C) language chosen by UA users, and (D) country of users x veracity of news. Error bars are 95% confidence intervals.

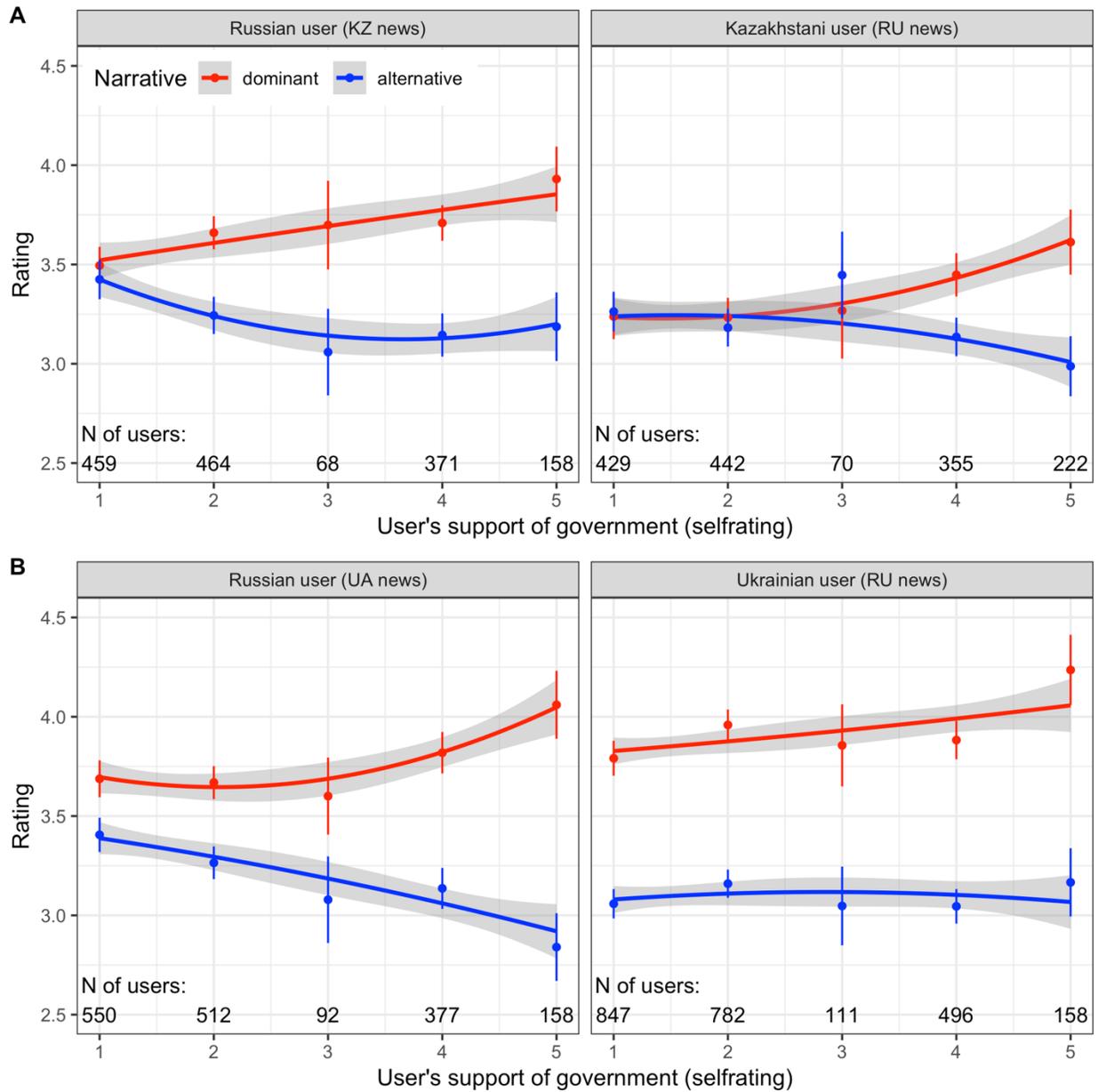
However, when looking at true and fake news separately – following the logic articulated in Research question 1 – a different picture emerges. The relationship between narrative and conflict between countries varied significantly between true and fake news items ($b=-1.82$, $SE=0.57$, $z=-3.22$, $p < .01$). A post-hoc LMM confirmed that narrative had no significant interaction with the contrast between conflict and non-conflict countries for true news ($p= .54$; Figure 1B, right facet), that is the effect visible in the aggregate chart of Figure 1A originates almost entirely from fake news ratings (Figure 1B; left facet). Our analysis revealed virtually no effect of narrative on the credibility of fake news in the no-conflict pair – against the backdrop of a sizable difference between dominant and alternative-narrative fake news in the conflicting pair of countries (Figure 1B, left facet).

Another significant, but qualitatively different interaction involving narrative was obtained when comparing Russian and Kazakhstani respondents who saw the news about each other's countries (Figure 1D); $b=-0.37$, $SE=0.13$, $z=-2.79$, $p < .01$. In this case, Russian respondents perceived true news about Kazakhstan as significantly more credible if they represented the dominant narrative and vice versa for alternative narrative (Figure 1D, right facet). In a post-hoc LMM, the corresponding interaction was not significant for fake news ($p=.17$; Figure 1D, left facet).

Hypothesis 4 also related to the effect of narrative. It predicted that Ukrainian users who preferred to read news in the Ukrainian language would be more susceptible to the effect of narrative. As illustrated in Figure 1C, those users were significantly more likely to rate news representing the dominant narrative as true than their Russian-language peers ($b=-0.14$, $SE=0.05$, $z=-3.00$, $p < .01$). Hypothesis 4 received empirical support.

Hypothesis 3 predicted that respondents' support of their government would moderate the effect of narrative on credibility for Russian respondents but not their Ukrainian and Kazakhstani counterparts. We specified two UNL contrasts to test this hypothesis: UNL2, which pitted Russian users reading news about Kazakhstan against Kazakhstani users reading news about Russia (Figure 2A), and UNL3, comparing Russian users reading news about Ukraine with Ukrainian users reading news about Russia (Figure 2B).

As seen in Figure 2A, for the Russia-Kazakhstan contrast, credibility ratings increase with self-reported government support for the dominant narrative and decrease for the alternative one. Consistent with our expectations, dominant and alternative narratives diverge much more strongly for Russian than Kazakhstani respondents ($b=0.03$, $SE=0.01$, $z=2.79$, $p < .05$). While the patterns are somewhat different in the middle, the extremes of the government support scale behave remarkably similar. In both countries, those the least supportive of their government exhibited no significant difference in credibility assessments of dominant and alternative-narrative news, while those the most supportive reported significantly higher ratings for dominant-narrative news.



For the Russia-Ukraine contrast, again, the relationship between credibility and the users' support of government is stronger (i.e., more positive for dominant narrative and more negative for the alternative one) for Russian than Ukrainian users ($b=0.02$, $SE=0.01$, $z=3.00$, $p < .01$). Indeed, in a post-hoc LMM testing this interaction as nested within each of the four panels, the interaction was not significant for Ukrainian users with Bonferroni adjustment of alpha ($b=.036$, $SE=.015$, $z=2.4$, $p=.01288 > .5/4 = .0125$). Therefore, Hypothesis 3 is partially supported, as the relationship between government support and the effect of narrative on credibility was discovered not only for Russian but also for Kazakhstani respondents. Consistent with our expectations, government support did not moderate this effect in the Ukrainian sample.

It is worth noting that the relationship between the effect of narrative and government support for Ukrainian users is markedly different from those observed in Russian and Kazakhstani samples. As visible in the figure, the difference between reported credibility scores of dominant-narrative and alternative-narrative news reported by Ukrainians is the greatest among all three national subsamples, and it does not vary across levels of government support.

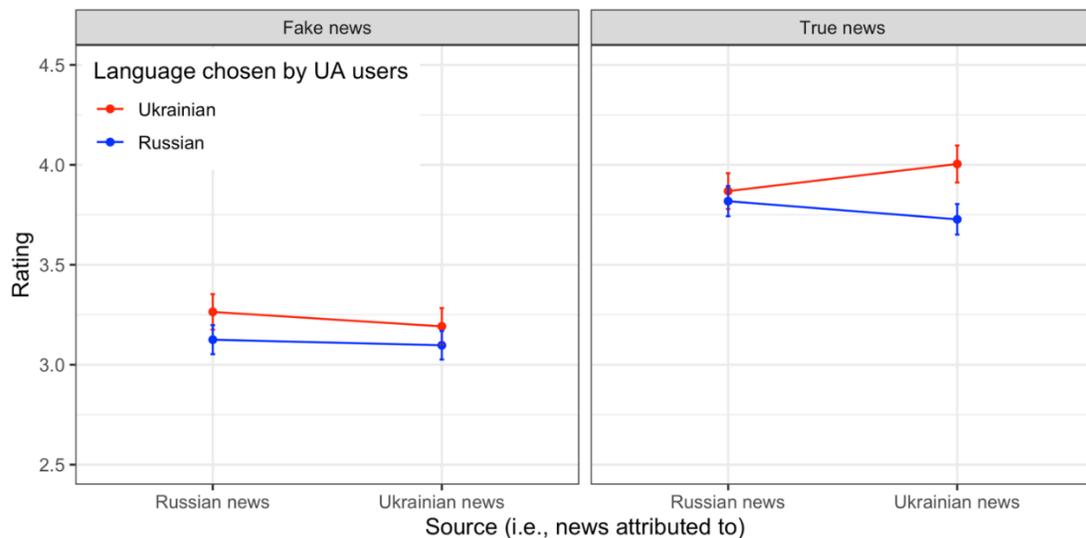


Figure 3. Language of news chosen by Ukrainian users has opposite effect on credibility rating of true news attributed to Ukrainian media. Error bars are 95% confidence intervals.

Addressing RQ2, our analysis revealed no significant main effect for the source of news ($p=.128$), and, with one exception, no significant interactions with the other factors (all p -values $> .39$). The exception was an interaction between source, truth, and the contrast between the two Ukrainian samples ($b=-0.07$, $SE=0.03$, $z=-2.50$, $p < .01$). Ukrainian users who prefer to read news in Ukrainian language rate true news as more credible when they are attributed to a Ukrainian source than when they are attributed to a Russian source (see Figure 3). There is a tendency in the opposite direction for Ukrainian users who prefer the Russian language. The two groups did not differ when true news was attributed to a Russian source. The differential pattern is not visible for fake news.

Discussion

We sought to empirically confirm the intuition that news consumers' judgements about the credibility of foreign affairs news are affected by whether the coverage is representative of the dominant narrative, that is, by whether it adheres to a dominant picture of international relations projected by the majority of the domestic mainstream news media. We also tested our expectations about how various contextual and message-level factors can qualify the relationship between news messages' narrative affiliation and credibility.

Across a sample of over seven thousand residents of three post-Soviet nations, online news consumers tended to perceive news items consistent with the dominant interpretations of international politics as more credible than those challenging these dominant narratives. This effect held regardless of whether the news messages were real or fabricated and manifested across three countries whose political and media systems are characterized by varying degrees of authoritarianism. In such political contexts where institutional checks on the power of political and economic elites tend to be thinner than in established democracies, the mainstream press is often subject to outside pressures mounted by powerful actors seeking to instrumentalize the news

discourse – and often doing so without regard for the citizens’ right to know the real facts. Political actors who manage to gain control over the mainstream news narrative appear to enjoy increased believability of their further messaging once their talking points come to dominate the coverage.

We further hypothesized that international conflict would amplify the effect of dominant narrative for users in adversarial countries exposed to the news about each other. Indeed, the expected effect was revealed, yet only for fabricated news. The contrast between adversaries in our study consisted of Russian users reading news about Ukraine and Ukrainian users reading news about Russia. In both countries, dominant narratives of a respective neighboring nation were fiercely disparaging and often invoked references to various facets of the conflict. Alternative narratives were largely detached from the animosity or could even present some of the neighbor’s stances and policies favorably. Our analysis demonstrated that Ukrainian and Russian news consumers on average were much more likely to trust fake news if it aligned with the dominant narrative, while considerably rating down the credibility of alternative fake news.

This finding is largely consonant with the literature on the “rally-round-the-flag” effect, going with the logic of patriotic consolidation and heightened public support of the nation’s leadership at times of international crisis (Baker & Oneal 2001; Oneal & Bryan 1995). In sum, our study provides evidence that in the presence of an international conflict people can be more susceptible to misinformation casting the adversary in a negative light and less susceptible to misinformation that is more favorable towards the adversary.

Another hypothesized moderator of the narrative’s effect on the credibility of foreign coverage was the user’s level of government support, which we expected to see play out in contexts where the dominant narrative significantly overlapped with the one strategically projected by the authorities (Russia), while being weaker or non-existent in systems where elites exerted less

control over the dominant narrative (Ukraine) or largely refrained from pushing too aggressive messaging (Kazakhstan). Our expectations were confirmed only partially, as the patterns of the moderating role of government support in Kazakhstan were found to be more similar to those in Russia than in Ukraine. Apparently, both Russian and Kazakhstani respondents associated dominant narratives with their governments' agendas, resulting in those with the highest reported levels of government support exhibiting the greatest effects of the dominant narrative on credibility. In Ukraine, expectedly, support of the government was largely unrelated to the effect of narrative, against the backdrop of high credibility reported for dominant-narrative news and low credibility of alternative news across the board.

Furthermore, in Russia and Kazakhstan, our data reveal an even more dramatic effect on the credibility of the news associated with alternative narratives, such that the more an individual supports their government, the less likely they are to trust messages challenging the dominant view of the world. Thus, in these two cases, the discursive power of political elites manifests itself not just in the heightened credibility of information aligned with state-sponsored narratives, but also in government supporters' epistemic resistance to the information that presents an alternative picture of the world. On the flipside, the narrative seems to have little to no effect on those Russian and Kazakhstani news consumers who do not support their governments: Even though they may still confuse real and fake news, whether the message represents dominant or alternative narrative does not influence their credibility appraisals.

Depending on the national context, dominant narratives can tap into both the directly expressed political attitudes (such as the extent of government support) and other features of news consumers' political and cultural identity. Our Hypothesis 4 predicted that Ukrainian respondents who elected to receive the news in the Ukrainian language would be more malleable to the effect

of the narrative. This expectation was supported (Figure 1C) as Ukrainian-language respondents on average perceived the dominant-narrative news items as more credible. We viewed language choice as a proxy for greater political and cultural allegiance to the Ukrainian statehood, and in this light the increased credibility of the dominant-narrative, largely anti-Russian messaging lends credence to our supposition. More generally, this finding speaks to the versatility and conceptual robustness of the dichotomy between dominant and alternative narratives, which retains explanatory capacity across a range of attitudinal variables.

This study has several limitations, most notably related to some of our design choices. While we took all available measures to minimize researcher bias fake-news items, some variance in credibility ratings may be due to unique features of our construction process rather than respondents' biases. Also, with respect to the limited effect of source (see Figure 3), the unspecific labels (e.g., "reported by Russian sources") may have fallen short of eliciting a strong user response. More realistic source manipulation might yield more pervasive evidence of this effect.

Overall, the distinction between dominant and alternative narratives in mainstream news coverage of international affairs offers a useful tool for explaining variation in the public's aggregate news credibility judgments. This approach captures the influence of the uniformity of news coverage, either "organic" or strategically imposed on the public's propensity to trust certain types of messaging, even regardless of its ground truth. The utility of this catch-all concept, however, is limited when it comes to explaining specific mechanisms and sources of news credibility.

Because of the contextual differences between national media and political systems, susceptibility to the dominant narrative can be underpinned by a range of individual-level factors such as, for example, attitudes toward the government (as observed among our Russian and Kazakhstani respondents in our study) or more general aspects of identity and worldview, as was the case with

Ukrainian news users. The effect of media narrative on news credibility emerges from the intricate interplay between the large-scale discursive patterns that dominate the news landscape and individual-level attitudes and predispositions. We suspect that narrative familiarity is one of the main drivers behind this effect, although further research is needed to directly test this supposition.

Whether the distinction between dominant and alternative narratives can be transplanted to domestic news remains to be seen; they are considerably more fragmented in terms of both issue repertoires and user attitudes. Apparently, in some national systems it would be possible to identify and operationalize dominant narratives, but not in others. Future studies may probe the limits of the concept's applicability beyond foreign affairs news and also outside of the post-Soviet space.

Finally, credibility ratings represent a mixture of knowledge and response tendencies to say "yes" or "no". In the current analyses, we used two variables (i.e., ratings of having seen the news and having checked the news) to control for this effect. Such responses, however, occurred very rarely (see Table 1). An alternative approach is to use signal detection theory and obtain measures of sensitivity (i.e., ability to discriminate true and fake news) separated from response bias based on users' credibility ratings.

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Appendix

A. Contrasts Specification

Considering that Ukrainian users could choose to read news about Russia in either Russian or Ukrainian language, a total of four groups of news items were shown to five groups of users, referred to as the between-subject UNL factor with the five levels: (1) KZ-RU-RU, (2) RU-KZ-RU, (3) RU-UA-RU, (4) UA-RU-RU, and (5) UA-RU-UA. The first pair of letters codes the country of the User, the second the country covered in the News, and the third the Language in which the news was presented.

We specified four orthogonal contrasts that in interaction with the other factors afford direct tests of our hypotheses. Specifically, Hypothesis 2 (moderating role of conflict) requires a contrast of the mean of KZ-RU-RU and RU-KZ-RU with the mean of RU-UA-RU, UA-RU-RU, and UA-RU-UA (users in Russia and Kazakhstan seeing news about each other's countries vs. users in Russia and Ukraine seeing news about each other's countries). Tests of Hypothesis 3 (moderating role of government support) rely on separate contrasts between Russian users seeing news about Kazakhstan and Kazakhstani users seeing news about Russia, and between Russian users seeing news about Ukraine and Ukrainian users seeing news about Russia. Hypothesis 4 is tested by contrasting the two subsamples of Ukrainian users.

B. User Samples, Targeting, and Balancing

The most popular social networking platform in both Russia and Kazakhstan is V Kontakte, or VK, currently owned and operated by Russian conglomerate Mail.ru Group. Initially widely popular in Ukraine as well, in 2017 it saw a blanket ban as part of the Ukrainian government's sanctions against Russia. As a result, Facebook became Ukraine's prime social media platform, although some Ukrainians continued accessing VK via VPN services. In order to account for these contextual differences, we targeted audiences of both networks in all three countries. Additionally,

in Ukraine we launched two separate campaigns in Russian and Ukrainian, using two identical sets of news. The Ukrainian-language recruitment effort on VK was predictably unsuccessful.

Despite online social networks providing a useful tool for recruiting academic study respondents, such platforms are not representative of national populations. Yet, in line with our goal of studying social media users' perception of news credibility, we took additional steps to construct samples representative of national audiences on Facebook and VK. Having obtained data on gender, age, and regional composition of these populations via advertisement managing systems of these platforms, we calculated age-gender quotas for each region in each country and targeted each of the demographic groups with separate tailored advertisements. In all, we ran ten advertising campaigns on both platforms yielding over six million impressions and almost 76,000 clicks.

After slightly oversampling each of the quotas, we balanced the sample with a custom algorithm that excluded excess respondents. We discarded incomplete questionnaires, those submitted by underage users, and those from outside of the focal countries. Finally, we removed users without responses to the government support question. As mentioned above, a week-long Ukrainian-language recruitment campaign failed to collect a reasonable number of participants, so we stopped this data collection effort and dropped the obtained questionnaires from further analyses.

The data were collected between March and July 2020. We then cleaned and analyzed the data between September and October 2020. Given that our data collection coincided with the COVID-19 pandemic, we assumed that many users might have expectations of seeing COVID-related news. Therefore, we added a distractor news item about COVID at the beginning of the task.

C. Statistical Analysis

Software

Statistical analysis (preprocessing of data, descriptive statistics, generation of figures) was carried out in the R environment of statistical computing (R Core Team 2021) using the RStudio interactive development environment and the *tidyverse* collection of packages (Wickham et al. 2019); also the *cowplot* package (Wilke 2019). Inferential statistics (i.e., linear mixed model estimation and its post-processing) was initially based on the *lme4* (Bates et al. 2015), *broom.mixed* (Bolker & Robinson 2021), and *sjPlot* packages (Lüdecke 2020), but final LMM selection and estimation was carried out with the speed of the *MixedModels.jl* package available in the *Julia* programming language (Bates et al. 2020). Details about model selection, goodness-of-fit statistics, and lists of parameter estimates for three candidate models are documented in *Supplement B*.

Fixed-effect specification

Statistical significance was assessed with a linear mixed model (LMM) with user (n=7,121) and item (n=96) specified as crossed random factors contributing 56,968 ratings (observations). Experimental effects associated with the design factors narrative, truth status, and source were estimated as differences from the Grand Mean (GM; i.e., they were coded as effect contrasts). For quasi-experimental effects associated with the UNL factor (i.e., the five groups of different users) four orthogonal contrasts were estimated: (1) the difference between users from countries that are in conflict (i.e., Russian users reading Ukrainian news and the two Ukrainian groups) and users from countries that are not conflict (i.e., Russian users reading Kazakhstani news and Kazakhstan users), (2) the difference between users from non-conflict country groups (KZ-RU-RU vs. RU-KZ-RU), (3) the difference between users from countries that are in conflict (RU-UA-RU vs. UA-

RU-RU, UA_RU-UA), and (4) the difference between the two Ukrainian groups (UA-RU-RU vs. UA-RU-UA). The user's self-rated support of their government was included as a continuous covariate (linear trend) centered at the neutral rating of a five-point Likert scale. Quasi-experimental factors of rating the news as "seen" or "checked" were included with effect contrasts. Finally, we included age as a continuous covariate (linear trend) centered at the median of 35 years and gender (male/female) as well as education with effect contrasts. With this specification, the LMM intercept estimated the GM of credibility.

A baseline LMM varying only GM included all third-order interactions between the following five variables in the theoretical focus: UNL, narrative, support, truth status, and source as well as main effects and a subset of simple interactions with the control variables news seen, checked, age, gender, and education. We dropped three of five education contrasts that were never significant, leaving contrasts testing effects of low and high levels of education, respectively. This procedure ensured that all theoretically relevant interactions could be tested and that important sources of variance relating to potentially confounding variables would not be overlooked.

Selection of random-effect structure for linear mixed model

Fixed-effect statistics based on an LMM estimating variance components (VCs) only for subject- and item-related GMs are possibly anti-conservative because within-subject and within-item-related effect VCs and correlation parameters (CPs) are not taken into consideration. Following recommendations by Bates et al. (2018) and Matuschek et al. (2017), we dropped non-significant VCs of all eligible main effects while forcing all CPs to zero in a first step and extended this reduced LMM with all possible CPs in a second step. The resulting parsimonious LMM was supported by the data (i.e., not overparameterized). Both steps led to a highly significant improvement in the goodness of fit (see Supplement B, Table S1). Model selection was carried out

without any knowledge of its impact on the significance of fixed effects, but these statistics were not critically affected by the complexity of the random-effect structure (see *Supplement B* for additional details).

D. Effects of Gender and Education

We would like to highlight two significant effects related to two of respondents' demographic characteristics: gender and education. While the sample is not representative of the target nations' general populations, the large sample size, and weighting procedures that we undertook prior to the analyses support the notion that demographic profiles of our respondents approximate those of VK and Facebook user populations in these countries. We can therefore draw valid inferences about the association between demographic features such as gender, education status, and age on the one hand and susceptibility to online misinformation in these groups on the other.

Female users rated true news as more, and fake news as less credible than male users (Figure 1A). In other words, women, on average, were significantly better at distinguishing between true and fake news messages ($b=-0.055$, $SE=0.012$, $z=-4.67$, $p < .01$).

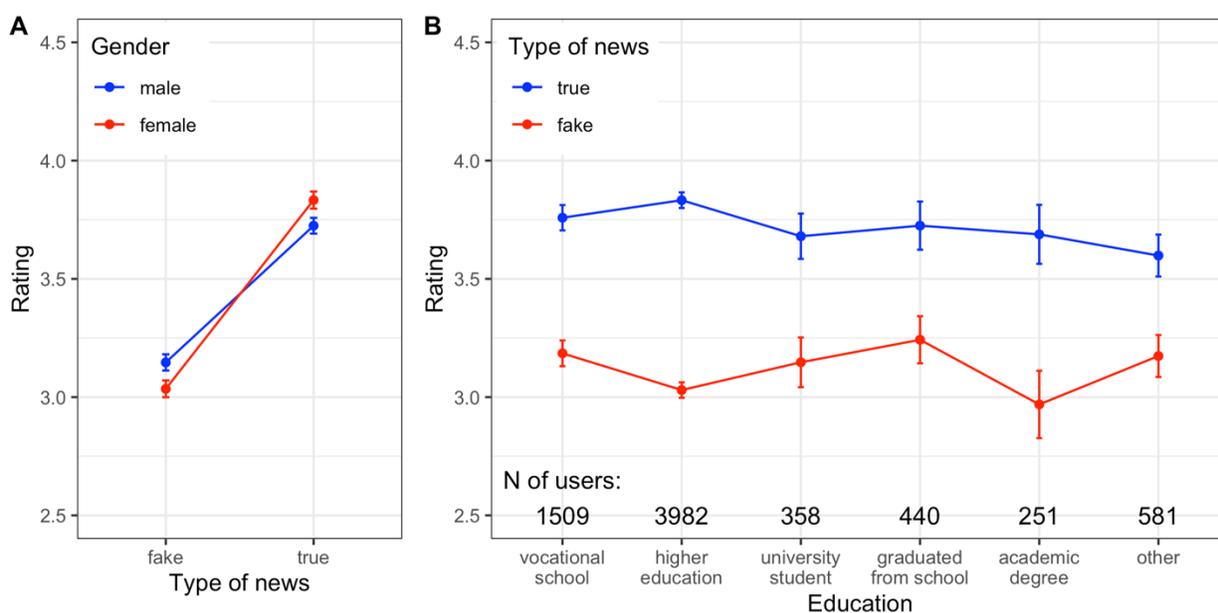


Figure A1. Effects of gender (panel A) and education status (panel B) on the perceived credibility of real and fake news. Error bars are 95% confidence intervals.

Furthermore, the analysis yielded two main effects of education. Respondents with completed vocational and higher education reported higher credibility ratings than the Grand Mean $b=0.039$, $SE=0.018$, $z=2.15$, $p < .05$). In addition, the difference between perceived credibility of true and fake news (i.e., truth discernment) was larger for users with higher education than for the overall average (Figure 1B; $b=-0.081$, $SE=0.016$, $z=5.04$, $p < .01$). Note that a truth effect of similar magnitude was obtained for users with an academic degree but, due to the comparatively small number of users, this contrast was not significant. Finally, there was also a significant increase of credibility ratings with age for conditions with high (above 3.5) credibility means, but not for conditions when credibility was below this value (see *Supplement-C Figure S1* for three significant interactions of age with narrative, truth status of news, and the UNL2 contrast).