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ABSTRACT

Many fear that social media enable more potent influence operations than traditional mass media. This belief is widely shared yet rarely tested. We challenge this emerging wisdom by comparing social media and television as vectors for influence operations targeting Ukraine. This article develops a theoretical framework based on media structure, showing how and why decentralized and centralized media offer distinct opportunities and challenges for conducting influence operations. This framework indicates a relative advantage for television in both dissemination and persuasiveness. We test this framework against the Russo-Ukrainian conflict (before the 2022 escalation), contributing new data from a national survey and a new dataset of Telegram activity. We identify fifteen disinformation narratives, and, using statistical analysis, examine correlations between media consumption, audience exposure to, and agreement with, narratives, and foreign policy preferences. To explore causal mechanisms, we follow up with content analysis. Findings strongly support our theoretical framework. While consuming some partisan social media channels is correlated with narrative exposure, there is no correlation with narrative agreement. Meanwhile, consumption of partisan television channels shows clear and consistent correlation. Finally, agreement with narratives also correlates with foreign policy preferences. However, and importantly, findings indicate the overall limitations of influence operations.

KEYWORDS



Influence operations; disinformation; social media; television; effectiveness; fake news; effects

Many fear that information technology increases the potency of influence operations, posing a significant challenge to the liberal world order (Bennett & Livingston, 2018; Bisen, 2019; Deibert, 2020; Howard, 2020; Warner, 2019). Influence operations in general refer to intelligence operations that pursue active interference in an adversary's affairs (Callanan, 2009, p. 1), and specifically fears have centered on two instruments regularly used in such operations: propaganda and disinformation. Propaganda involves "the dissemination of information intended to manipulate perceptions in support of one's cause or to damage an adversary." (Lowenthal, 2009, p. 180). Disinformation is "non-attributed or falsely attributed communication, written or oral, containing intentionally false, incomplete, or misleading information (frequently combined with true information), which seeks to deceive, misinform, and/or mislead the target" (Shultz & Godson, 1984, p. 38).


These instruments produce political outcomes by influencing public opinion in a targeted state

toward alignment with the interests of the sponsor, typically concerning foreign policy (Andrew & Mitrokhin, 1999, pp. 294–99; Pomerantsev & Weiss, 2014, p. 15). Emerging wisdom expects five key properties of social media to increase the effectiveness of influence operations: 1) openness, (2) anonymity, (3) customizability, (4) algorithmic favoring of polarizing content, and (5) automation.¹ Due to these characteristics, social media influence operations should both reach larger audiences and sway the opinions of a greater audience proportion.

These advantages remain hypothetical, however. Most existing research maps mechanisms and patterns in the dissemination of disinformation (Bradshaw, Howard, Kollanyi, & Neudert, 2020; Lazer et al., 2018; Linnell & Warren, 2020). In contrast to this "supply side" of disinformation, research on the demand side – and in particular, audience effects – is scarcer. Emerging experimental evidence indicates some audience effects (Bauer & von Hohenberg, 2020; Min & Luqiu, 2021;

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Zimmermann & Kohring, 2020). Systematic evidence is lacking, however, and no studies have conducted a side-by-side comparison of different media platforms (Tsfati et al., 2020, p. 168). This paper contributes such a comparison, focusing on television and social media. We develop a theoretical framework linking media structure to distinct opportunities and challenges as vectors for influence operations and present new evidence from Ukraine – a crucial case with near-ideal conditions for effective influence operations. We argue emerging wisdom overestimates the opportunities social media offers while neglecting the challenges involved in implementing influence operations. Contrary to prevailing assumptions, we show that television, the archetypical 20th century mass medium, retains key advantages in content dissemination and persuasiveness.

To test this argument, the article examines how the secrecy, dissemination, and persuasiveness of influence operations via partisan social media channels compares to partisan television channels. This analysis contributes extensive new and original data. Specifically, we measure, across a wide range of media, the correlation between news consumption and exposure to disinformation narratives, the correlation between exposure and agreement with these narratives, as well as the correlation between narrative agreement and foreign policy preferences that align with the sponsor (Russia). We identify a set of 15 Russian-sponsored disinformation narratives and trace their dissemination, audience exposure to and agreement with these narratives across Ukraine's media system via a representative survey of 903 Ukrainians. We then focus the analysis a specific set of partisan television channels and Telegram channels known as major outlets for disinformation. To that end, we build a new dataset of messages posted on anonymous Telegram channels from July to October 2020.

Our findings show social media influence operations facilitate secrecy but struggle to disseminate content at scale. Partisan television channels reach a far wider audience than partisan social media. Survey data indicate partisan television audiences are not only exposed to a higher share of narratives but also agree with a much higher share of these narratives. Consumption of partisan television is

most robustly correlated with exposure to, and agreement with, narratives. Conversely, and contrary to prevailing fears, consumption of partisan social media channels is neither statistically significantly correlated to audience agreement with, nor even to exposure to narratives. Only YouTube channels form a marked exception, yet considering the platform's centralized structure, this exception ultimately provides further support for the theory. In short, findings confirm television retains an advantage both in dissemination and persuasiveness. Hence, we conclude emerging wisdom errs in ascribing superior efficacy to social media influence operations. These findings indicate an urgent need to reassess prevailing fears of social media influence operations.

Influence operations, technology and media structure

Influence operations manipulate public opinion in a target state toward the interests of their sponsor, typically concerning foreign policy (Godson & Shultz, 1985, p. 36; Andrew, 2000, 631–32). Consequently, such operations matter in world politics because, provided they sway a sufficient proportion of citizens, they can affect both domestic and international political outcomes. Political scientists have traditionally dismissed the influence of public opinion on foreign policy, assuming the public is generally ill-informed and susceptible to elite cues (Almond, 1956; Axelrod, 1967). Yet recent work not only shows a clear influence of public opinion on foreign policy, but also a significant impact of mass media on public opinion (Soroka, 2003). These findings confirm the experience of former KGB disinformation operation Vladislav Bittman, who argued the rise of modern mass media, and especially television, increased the potency of influence operations by expanding the scale of the audience that can be reached (Bittman, 1985, p. 49).

Successful influence operations must fulfil three main conditions. First, they must produce narratives that effectively, and persuasively convey the intended message. Second, they must disseminate that message to a sufficiently large audience to affect national-level political decisions. Third, they must persuade a sufficient proportion of that

audience. While mass media offer great opportunities for mass influence, achieving these conditions in practice has been difficult. Specifically, finding a way to manipulate foreign media outlets to produce and/or disseminate content aligned with the interests of the sponsor at sufficient scale to influence significant parts of a population while keeping this influence secret is extremely difficult (Bittman, 1985; Warner, 2019, p. 38).

Consider a television network, where both content production and dissemination is controlled by the station's management and employees. Infiltrating such a centralized organization is hard because it requires placing a human agent in a position capable of manipulating content production and dissemination. They require a cover identity passing the employer's scrutiny (Andrew, 2000, p. 613). Moreover, the agent must hide their identity while pushing out partisan content. Doing so is both challenging and involves significant risks of failure (Bittman, 1985). Consequently, traditional influence operations – like other types of covert operations – tended to be either too small to achieve an impact, or became too large to stay hidden.

Today, an emerging wisdom holds social media alleviate some of these challenges, rendering influence operations even more powerful. Specifically, five properties of social media are presumed to enable these advantages: (1) *openness*, (2) *anonymity*, (3) *customizability*, (4) *algorithmic favoring of polarizing content*, and (5) *automation*. Social media platforms offer unprecedented “openness.” Anyone can open an account easily and for free (Reis, Correia, Murai, Veloso, & Benevenuto, 2019), facilitating the manipulation of narrative production and dissemination. Second, because few social media platforms have strong identity verification practices, operatives can easily obfuscate their identities, allowing them to create inauthentic accounts that look like real people, sharing news through peer groups (Bauer & von Hohenberg, 2020). Importantly, current research indicates social cues from peers shape citizen opinion as much, if not more, as elite cues (Kertzer & Zeitoff, 2017). Inauthentic accounts that emulate peer cues thus plausibly increase persuasiveness. Third, influence operatives can tailor content to audiences at scale, facilitating both dissemination

and persuasiveness (Dunbar, 2021, p. 38). This ability reflects social media's “surveillance capital” business model, surveilling user behavior to model preferences and customize advertisements (Zuboff, 2015). This model also enables the fourth advantage: automated dissemination of polarizing content. To continuously surveil users, platforms must keep users persistently engaged. Users may choose what is *said*, but algorithms choose what is *read*. The more attention-grabbing the content, the greater user engagement tends to be. Hence, algorithms tend to promote polarizing and extreme content (Deibert, 2020, p. 135). Accordingly, there are signs of a fragmentation of the public sphere (Pariser, 2012; Pfetsch, 2018)— facilitating future influence operations targeting such fringe communities. Fifth, automation enables state actors to easily create thousands or even tens of thousands of accounts. These accounts can be centrally controlled with a computer program (a “bot” network) or managed by centrally commanded human users (a “sockpuppet” network). Such *inauthentic coordinated networks*, Owen Jones suggests, can substantively impact discourse (Jones, 2021). Ideally, they combine all of the advantages in production, dissemination, and persuasiveness.

These assumptions are now widely shared, yet rarely tested. While the impact of television on audience perception and policy preferences has long been empirically established (Behr & Iyengar, 1985, p. 39), the reach and effectiveness of social media continue to be primarily presumed rather than proven. A systematic comparison of media types and audience effects is lacking. Moreover, emerging wisdom focuses primarily on opportunities, neglecting the challenges involved in practice.

We argue that the prevailing focus on opportunities opened by technological change risks overshadowing the continuing salience of media structure as a determinant of the effectiveness of influence operations. Traditional mass media are centralized, meaning production and dissemination occur from one central hub. This centralized structure makes infiltration manipulation of these processes harder than in decentralized social media platforms where each node, i.e. user, can produce and disseminate content while emulating peers. However, once that hurdle has been overcome, centralized media – and we focus on television,

the archetypical mass medium of the 20th century – provide significant advantages both in dissemination and persuasiveness.

In practice, social media's advantages in secrecy and persuasiveness primarily translate into efficacy increases at the *individual* level. The ability to hide content provenance that enables the emulation of peer cues provides a distinct advantage, and accordingly some see it as a defining feature of social media disinformation (Martin, Shapiro, & Nedashkovskaya, 2019, p. 2). Elevating this plausible capacity to persuade individuals to a national-level impact requires disseminating content at scale, however. And here centralized media has a key advantage since, contrary to prevailing expectations, scaling up social media operations involves significant efforts. Television stations have an established audience, and once an actor has found a way to manipulate the production and dissemination processes, the actor can reach that entire audience.

In contrast, freshly created social media accounts have no followers. Building up a following takes time and money, requiring users to game algorithms (Deibert, 2020, chap. 2). Meanwhile, efforts at automation have proven easily detectable (DFRLab, 2017). Creating credible accounts at sufficient numbers and with sufficient followers to achieve a national-level impact similarly takes significant efforts and time (Abrahams & Leber, 2021, p. 27). The same applies to content customization. Adjusting content to specific groups requires researching their needs and interests. Meanwhile, social media users cannot alter dissemination algorithms. Hence, dissemination depends on criteria set by algorithm designers, which are typically secret (Lustig et al., 2016). Customized content may thus fail to disseminate widely. Social media campaigns promise inauthentic networks of users to amplify content through sharing and automated dissemination, deceiving authentic users into believing epistemic communities with similar views exist (Martin, Shapiro, & Nedashkovskaya, 2019, p. 15). To achieve this, however, content must achieve sufficient user engagement to be prioritized by algorithms (Just & Latzer, 2017). Achieving these requirements is a non-trivial challenge – there is an entire industry devoted to it (Rival IQ, 2021) and in this attention economy sponsors of influence operations neither have a monopoly, nor superior knowledge of the underlying algorithms. Due to these

challenges, social media influence operations are likely to be relatively small in scale and reach a correspondingly small audience. Within this small audience, the capacity to customize content individually and emulate peer cues may allow for higher persuasion rates individually compared to television that lacks both capacities.

Yet the centralized structure of television not only provides an advantage at disseminating content at scale to its entire audience, but also facilitates persuasiveness. In comparison to social media's emulation of peer cues and content customization, television offers a much cruder mechanism of shaping audience perception through repetition. Yet its efficacy is well-proven. Noelle-Neumann established that the more often people are exposed to television content the more they tend to believe it (Noelle-Neumann, 1993). Since content, once designed, can be repeated endlessly, doing so also requires less added efforts per repetition than social media operations, which required continued adjustments of content to game algorithms.

Finally, the same decentralized structure of social media that facilitates anonymity also tends to undermine credibility, compared to centralized news outlets. Even when sponsors of social media influence operations manage to create accounts with large audiences, these lack the reputation and credibility of established television stations. Accordingly, survey data has consistently shown television to be perceived as more credible news sources than social media (Correspondent, Tom Knowles, Technology, 2023; Mehrabi, Hassan, Sham, & Sham Shahkat Ali, 2009; Salaudeen & Onyechi, 2020). Moreover, previous research indicates social media content is perceived as most credible when picked up by television news (Gearhart & Kang, 2014). This dynamic underlines that social media and traditional media do not exist in separate worlds, but interact both ways – the discussion picks up the implications in more detail. Consequently, influence operations through television are likely to both reach a larger audience *and* to sway the opinion of a larger share of its audience.

Hypotheses

Because we do not have access to the production processes via traditional media vis-à-vis social

media themselves, we examine whether dissemination and persuasiveness of influence operations run through them correspond to the predictions of the theory. Since we focus on influence operations, rather than simply comparing what type of media people consume, we examine specific partisan channels on social and traditional media in Ukraine. We refer to these as partisan because previous research has shown them to be key vectors disseminating Russian-sponsored disinformation narratives – more on this in the methods section below. Accordingly, based on the theory developed above we formulate five main hypotheses.

H1: *The more people agree with narratives, the more likely their foreign policy preferences are to align with the sponsor's interests.*

As discussed, influence operations aim to manipulate public opinion, typically regarding foreign policy and we expect that the more often people are exposed to narratives, the more likely they are to be swayed by them – reflected in their foreign policy preferences.

H2: *Audiences of partisan television channels are more likely to be exposed to narratives than audiences of partisan social media channels.*

Due to the advantages of television in dissemination discussed above, we expect audiences of partisan television channels to be more likely to be exposed to these narratives than audiences of partisan social media channels.

H3: *Audiences of partisan television channels are more likely to agree with narratives than audiences of partisan social media channels.*

Due to the advantages of television in persuasiveness, we expect television audiences to be more likely to be swayed by narratives, and thus expect a greater correlation between exposure and agreement.

H4: *State sponsorship/content origin of influence operations via social media is less likely to be attributable than via television.*

The previous section that social media platforms facilitate anonymity, and identified significant challenges involved in keeping external manipulation of content production secret in television stations. Therefore, we expect the origins of social media influence operations to be less likely to become publicly known than for television stations.

H5: *Partisan television channels are likely to reach a larger audience than partisan social media channels.*

This hypothesis tests the expected dissemination advantage of television compared to social media.

Case study

To test this theory, we conduct a case study of the Russo-Ukrainian conflict since 2013. This conflict offers a most likely case for the expectation that social media increases the potency of influence operations for four main reasons. First, until the invasion this spring it has been the paradigmatic case of “hybrid war,” meaning aggression short of open war empowered by new technology, and especially influence operations (Fitton, 2016). Second, Russia is widely perceived as a “master” of the latter (Hill, 2017; Chivvis, 2017). Finally, Ukraine’s close cultural and linguistic proximity to Russia facilitates the deployment of effective narratives (Robbins, 2021). Fourth, social media have become the preferred news source for a majority of Ukrainians (Internews Ukraine, 2020).

Methodology

We employ mixed-methods, combining quantitative and content analysis to first verify which correlations predicted by our hypotheses are backed by the data before exploring potential causal explanations. We commence by identifying a set of 15 disinformation narratives attributed to based on media monitoring by [author organization]. Its

“Open Source Communications Analytics and Research” project has identified a set of disinformation narratives from monitoring a wide set of Ukrainian media, including print and broadcast media, both traditional and social media. Consequently, we survey a random sample of 903 Ukrainians to track audience media consumption habits, exposure to narratives and agreement with the latter, as well as foreign policy preferences. We contracted the Kyiv International Institute for Sociology to carry out this survey.² Respondents were also asked how often they consumed 36 different media, including all relevant social media platforms (Twitter, Facebook, Vkontakte, WhatsApp, Telegram, Viber, YouTube), TV, newspaper, radio, etc. Additionally, they were asked how often they consumed specific TV channels (1 + 1, Україна, ICTV, СТБ, Інтер, 112 Україна, NewsOne, Прямий, П’ятий канал, Zik) and specific social media channels (Tiomnyi Rytsar, Legitimnyi, Rezydent, and Joker on Telegram; Anatoliy and Olga Shariy, Klymenko Time, Strana.ua, Vitaliy Portnikov, Sergiy Ivanov, and Pavlo Kazarin on YouTube). Respondents were then asked how often they have encountered each of the 15 narratives (to test H2), and separately, how much they agree with each of them (to test H3). Additionally, the survey asked respondents whether or not they agreed with a series of statements about Ukrainian foreign policy (to test H1). Finally, we collected demographic and geographic data. See the [Table 1](#) below for a full list of control variables.

We then ran a series of (*non-causal*) OLS regressions to calculate the residual correlation between key variables of interest after controlling for demographic and geographic covariates. The guiding

intuition of our analysis was that while correlation does not imply causality, *lack of correlation implies lack of causality*. We chose OLS because it counts among the most transparent and best understood regression methods, maximizing the interpretability of our findings across disciplinary boundaries. However, we are aware in Political Science there is a preference for Logit regression for data involving binary indicator variables (such as the survey responses). Accordingly, we re-ran the entire set of regressions using Logit, which did not meaningfully alter results – see regression tables in [online appendix, section 2](#) for reference. In this analysis, after controlling for demographic and geographic variation across rest whether the adoption of each of over a dozen foreign policy preferences, and agreement with each of 15 Russian narratives, correlates with frequent consumption of any of 36 traditional and social media channels.

Consequently, we traced the dissemination of narratives across social media and measure audience reach, building an original dataset of anonymous Telegram content. We include Telegram because emerging research identifies its anonymous channels as key outlets for disinformation (DFRLab, 2020; Osadchuk, 2020) In fact, an investigation by Ukrainian journalists warned of a “Russian invasion of the Ukrainian Telegram segment” because “anonymous channels have become a perfect tool for dissemination of Russian propaganda” (LIGA.net, 2020). A recent analysis by Taxy.ua showed Telegram has become “the most popular social network in Ukraine and one of the most dangerous sources of Russian influence” (Drozdova, Dukach, & Kelm, 2022). Accordingly, we pick the five most popular anonymous channels identified in the sources just mentioned and build a dataset of all messages posted to them in the three months preceding the 2020 local elections (July – October 2020). We chose this timeframe since we would expect influence operations to be most active prior to elections. The resulting sample of 165 messages is hand-coded to identify mentions of narratives. We also track the audience size of each channel, as well as of individual messages (to test H5).

Finally, we compare these findings to three partisan TV channels (“112,” “NewsOne” and “Zik”). These channels constitute the most important

Table 1. Control variables.

Controls (all binary indicators):	%
Ages 30–44	28.5
Ages 45–59	25.5
Ages 60+	28.0
Urban	66.3
Female	54.5
Married/dating	63.2
Postsecondary technical	55.6
Postsecondary academic	20.3
Employed	45.0
Household econ. status avg/above	43.2
Identify as Ukrainian	83.4
Identify as Russian	6.9

television channels known to disseminate disinformation narratives (Lennon, 2021; VoxUkraine, 2020). We track audience size (to test H5), but we were not able to conduct content analysis of the kind above. The reason is simple: there is no available data on content, and we lack the resources to watch and hand-code TV programming over months to generate such data.

Results

Disinformation narratives

From the [author organization] media monitoring project, we identify fifteen distinct disinformation narratives (N1–15) pushed by partisan pundits and disseminated throughout different media. Their content is primarily anti-Western (11 out of 15) rather than pro-Russian (see below):

N1. *The medical reforms of Suprun [former Ukrainian health minister] are against Ukrainians.*

N2. *The Increase of gas prices is a genocide of Ukrainians.*

N3. *The EU uses Ukrainians for low-paid labor.*

N4. *The land reforms [in Ukraine] are driven by Western capitalists who want to buy all Ukrainian land.*

N5. *Ukraine is under external government by Western curators/creditors/“Sorosiated.”*

N6. *Zelenskiy continues Poroshenko policies/is totally dependent on the West.*

N7. *Ukraine and Russia are equally responsible for the war in Donbas.*

N8. *The IMF has enslaved Ukraine for its natural resources.*

N9. *George Soros and the IMF want to exploit Ukrainian lands.*

N10. *EU integration has brought no benefits to Ukraine.*

N11. *Far-right movements/nationalists flourish in Ukraine are a real political threat.*

N12. *The USA curates Ukrainian media/activists/politicians.*

N13. *Anti-corruption reforms are driven by Western capitalists to take over the Ukrainian economy.*

N14. *The West is as corrupt as Ukraine or more.*

N15. *The USA has deployed a network of bio labs in Ukraine.*

Survey findings

We analyzed survey results to test how foreign policy views, and agreement with/exposure to Russian narratives, correlated with media consumption habits, while controlling for demographic and geographic variation. Findings generally supported our hypotheses H1, H2 and H3.

First, survey results support the assumption that influence operations matter in international politics by influencing foreign policy preferences. To test this assumption, codified in H1, we compare the foreign policy preferences of those who agree with narratives versus those who do not. We binarize survey responses for the 15 Russian narratives into agree (1) and disagree (0), and likewise binarize responses for foreign policy preferences (Question 8 in the survey). We then regress the binary agreement variable of each foreign policy statement on the binary agreement variable for each Russian narrative, controlling for demographic and geographic covariates³:

$$\text{agree}_i = \beta_{fp} \cdot \text{foreign_policy_preference}_i + \text{oblast}_i + \beta \cdot \mathbf{X}_i + \varepsilon_i$$

Due to space constraints, we obviously cannot provide regression tables for each of the 120 regressions we ran, but we have provided a sample table in the [online appendix, section 2](#) (as with all of the subsequent regressions). From each of the 120 regressions (15 narratives x 8 foreign policy preferences), we tally up the number of statistically positive, negative, or insignificant relationships, and tabulate them (see [Table 2](#) below). Findings offer clear support for H1. It is evident that agreement with Russian narratives is correlated with foreign policy preferences that (1) favor alignment with Russia or no alignment at all and (2) disfavor alignment with the West.

Next, for each of the 15 Russian narratives, we tested how narrative exposure is correlated with narrative agreement (H2). If we were to find that exposure and agreement were negatively correlated, or not correlated at all, we could conclude immediately that exposure to Russian narratives is relatively harmless, and so Western fears over social media as a dangerous vector of Russian disinformation are overblown.

Table 2. Narrative agreement and foreign policy preferences⁴.

Narrative Correlation Foreign policy preference	Positive correlation	Negative correlation	Insignificant correlation
Ukraine should remain non-aligned	15	0	0
Ukraine and Russia share common heritage	15	0	0
Ukraine should join customs union with Russia	15	0	0
Ukraine and Russian should be closer	15	0	0
Ukraine should join EU	0	12	3
Ukraine should be closer to EU	0	13	2
Ukraine should join NATO	0	14	1
Ukraine should be closer to USA	0	14	1

We regressed a binary indicator for agreement with each Russian narrative on a binary indicator for exposure to that narrative, plus the demographic and geographic controls⁵:

$$agree_i = \beta_{exposed} \cdot exposed_i + oblast_i + \beta \cdot \mathbf{X}_i + \varepsilon_i$$

The fourth column of Table 4 shows the coefficient of interest ($\beta_{exposed}$) for each regression. For all 15 regressions, the coefficients are positive and statistically significant, implying that exposure to narratives is positively correlated with agreement with narratives and thus supporting H2. This finding keeps alive the possibility that exposure causes agreement, but could just as well imply that Ukrainians predisposed to agree with Russian narratives actively seek out pro-Russian media, where they are subsequently exposed to the narratives (agreement causes exposure). Indeed, as columns 2 and 3 of Table 2 indicate, substantially more respondents agreed with the narratives than were ever exposed. In other words, many respondents had never heard these narratives before our survey, but immediately found them plausible. This suggests at the very least that Russian narratives resonate with Ukrainians' predispositions – a finding which complicates any broad claim that Russian influence operations (on social media or otherwise) dupe Ukrainians into changing their beliefs.

Agreement correlates with exposure, but how do agreement and exposure correlate with media consumption? 152 of our respondents (16.8%) reported little to no consumption of *any* of the 36 media we asked about, so we created a *media_consumption* binary variable that took the value 0 for these 152 respondents, and 1 for the rest. Table 3 below lists the results.

For each narrative, we regressed exposure on media consumption, then agreement on media

consumption, again controlling for demographic and geographic dummies⁶:

$$agree_i = \beta_{media} \cdot media_consumption_i + oblast_i + \beta \cdot \mathbf{X}_i + \varepsilon_i$$

$$exposed_i = \beta_{media} \cdot media_consumption_i + oblast_i + \beta \cdot \mathbf{X}_i + \varepsilon_i$$

We present aggregate results of these 30 individual regressions in Table 4 below.

These findings suggest that those who consume some kind of media (social or otherwise) are more likely to be exposed to Russian narratives, but no more likely to agree with those narratives. By implication, there must be specific types of media, or specific channels, that predict agreement, while the rest do not. We now disaggregate media consumption to explore this, beginning by distinguishing audiences of social media versus television⁷:

Table 3. Narrative exposure and agreement.

Narrative	% exposed	% agree	coefficient*
N17	38.4	52.5	0.38***
N9	36.1	56.3	0.33***
N6	29.3	54.5	0.32***
N11	26.5	38.9	0.34***
N1	24	38.3	0.36***
N13	23.7	35.2	0.41***
N14	23.3	39.2	0.28***
N3	21.5	40.6	0.36***
N2	19.9	37.7	0.31***
N15	19.5	37.3	0.35***
N16	17.2	35.3	0.32***
N5	15.5	33.2	0.34***
N10	14.4	32.2	0.35***
N12	11.5	36.4	0.36***
N4	10.6	24.9	0.38***

Table 4. Media consumption and narratives.

	Exposure	Agreement	Disagreement
Media Consumption	9/15	0/15	2/15

$$\begin{aligned} agree_i = & \beta_{media} \cdot media_consumption_i + \beta_{TV} \\ & \cdot TV_consumption_i + \beta_{SM} \\ & \cdot SM_consumption_i + oblast_i + \beta \cdot \mathbf{X}_i + \varepsilon_i \end{aligned}$$

$$\begin{aligned} exposed_i = & \beta_{media} \cdot media_consumption_i + \beta_{TV} \\ & \cdot TV_consumption_i + \beta_{SM} \\ & \cdot SM_consumption_i + oblast_i + \beta \cdot \mathbf{X}_i \\ & + \varepsilon_i \end{aligned}$$

The dataset is well suited to this regression: 58% of respondents consume TV regularly, while 52% regularly consume social media, so there is healthy variation for both variables. Likewise, the overlap in these categories is healthy: among social media consumers, 40% do not consume TV; among TV consumers, 45% do not consume social media. Table 6 presents the aggregate results of these 30 regressions:

The findings in Table 5 that distinguishing by media type (social media versus TV) does not help predict narrative agreement. This finding contradicts any sweeping claim that social media is a more dangerous vector than TV, or vice versa. Evidently the consumption of neither medium, prima facie, is predictive of agreement with Russian narratives. But what if we narrow our focus to consumption of partisan social media and TV channels?

We re-run the regressions, this time including a consumption indicator for the five anonymous Telegram Channels and five YouTube channels mentioned above, and another indicator for consumption of the three television channels controlled by pro-Russian oligarch Viktor Medvedchuk.⁸

$$\begin{aligned} agree_i = & \beta_{media} \cdot media_consumption_i \\ & + \beta_{TV} \cdot TV_consumption_i + \beta_{SM} \cdot SM_consumption_i \end{aligned}$$

Table 5. Media type and agreement.

	Exposure	Agreement	Disagreement
Media Consumption	1/15	0/15	2/15
TV	1/15	2/15	1/15
Social Media	0/15	1/15	0/15

Table 6. Partisan media and narratives.

	Exposure	Agreement	Disagreement
Partisan TV channels	10/15	14/15	0/15
Partisan SM channels	11/15	1/15	0/15
TV consumption	0/15	1/15	5/15
SM consumption	0/15	1/15	0/15
Media consumption	3/15	0/15	2/15

$$\begin{aligned} & + \beta_{medvechuk} \cdot medvechuk_consumption_i \\ & + \beta_{SM_partisan} \cdot SM_partisan_consumption_i \\ & + oblast_i + \beta \cdot \mathbf{X}_i + \varepsilon_i \end{aligned}$$

$$\begin{aligned} exposed_i = & \beta_{media} \cdot media_consumption_i + \beta_{TV} \\ & \cdot TV_consumption_i + \beta_{SM} \\ & \cdot SM_consumption_i + \beta_{medvechuk} \\ & \cdot medvechuk_consumption_i \\ & + \beta_{SM_partisan} \\ & \cdot SM_partisan_consumption_i + oblast_i \\ & + \beta \cdot \mathbf{X}_i + \varepsilon_i \end{aligned}$$

SM_partisan took the value 1 for 114 respondents (12.6%), a number well above the threshold for making credible statistical inference. Table 6 summarizes the findings.

Consistent with H2 and H3, we find that consumption of partisan TV and partisan social media are both highly predictive of exposure to Russian narratives, but only consumption of partisan TV predicts agreement with those narratives. Could it be, however, that the aggregation of partisan channels into a single binary indicator masks variation by platform? To address these, we further disaggregate our regression into separate indicators of Telegram and Telegram partisan consumption, and YouTube and YouTube partisan consumption:

$$\begin{aligned} agree_i = & \beta_{media} \cdot media_consumption_i + \beta_{TV} \cdot TV_consumption_i \\ & + \beta_{SM} \cdot SM_consumption_i + \beta_{medvechuk} \\ & \cdot medvechuk_consumption_i + \beta_{telegram} \\ & \cdot telegram_consumption_i + \beta_{telegram_partisan} \\ & \cdot telegram_partisan_consumption_i + \beta_{youtube} \\ & \cdot youtube_consumption_i + \beta_{youtube_partisan} \\ & \cdot youtube_partisan_consumption_i + \beta_{facebook} \\ & \cdot facebook_consumption_i + oblast_i + \beta \cdot \mathbf{X}_i + \varepsilon_i \end{aligned}$$

$$\begin{aligned} exposed_i = & \beta_{media} \cdot media_consumption_i + \beta_{TV} \\ & \cdot TV_consumption_i + \beta_{SM} \cdot SM_consumption_i \\ & + \beta_{medvechuk} \cdot medvechuk_consumption_i + \beta_{telegram} \\ & \cdot telegram_consumption_i + \beta_{telegram_partisan} \\ & \cdot telegram_partisan_consumption_i + \beta_{youtube} \\ & \cdot youtube_consumption_i + \beta_{youtube_partisan} \\ & \cdot youtube_partisan_consumption_i + \beta_{facebook} \\ & \cdot facebook_consumption_i + oblast_i + \beta \cdot \mathbf{X}_i + \varepsilon_i \end{aligned}$$

Table 7 shows that consumption of partisan TV channels is highly correlated with exposure to and agreement with Russian narratives. In contrast, consuming anonymous Telegram channels does not positively correlate with exposure or agreement, and indeed is mildly predictive of

Table 7. Partisan media and narratives (disaggregated).

	Exposure	Agreement	Disagreement
Partisan TV channels	11/15	14/15	0/15
Telegram (partisan)	0/15	0/15	2/15
Telegram (general)	0/15	0/15	2/15
Youtube (partisan)	10/15	0/15	1/15
Youtube (general)	1/15	0/15	1/15
Facebook (general)	0/15	0/15	5/15

disagreement. These results are broadly congruent with findings for Telegram in general. Audiences of partisan YouTube channels on the other hand exhibit a high rate of exposure to narratives (10 out of 15), and yet they do not show a corresponding rate of agreement (0 out of 15) – raising the possibility, for example, that these channels engage these narratives as a topic of conversation and then debunk or cast doubt upon them. Taken together, these findings run contrary to emergent wisdom that social media is a more effective vector of disinformation than television. While the findings are purely correlative, not causal, they suggest partisan television is if anything the more plausible vector.

Telegram

Anonymous Telegram channels are now widely held to be the most important medium for the dissemination of Russian-sponsored disinformation in Ukraine – yet evidence of Russian sponsorship remains scarce. Until today, only two of the five channels we examined (“The Legitimate” and “Resident”) have been attributed to Russian intelligence by Ukraine’s intelligence service (SBU Exposes Russian Agent Network, 2021). This ambiguity is in line with the expected ease of secrecy in social media influence operations, supporting H4. The limited reach of these channels, contrary to fears of a “Russian invasion,” however, also confirms expectations, in support of H5. Overall, around 13% of survey respondents regularly use Telegram to get their news. However, the five anonymous channels reach a far smaller audience. See Table 8 below for subscriber numbers to the channels tracked in December 2020.

In total, they reach around 428k subscribers – or less than one percent of Ukraine’s population of 44 million.

Table 8. Telegram channel audience.

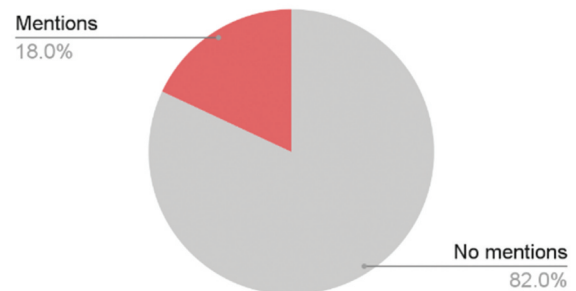
Channel	Subscribers
Legitimate	150,011
Resident	101,098
Dark Knight	72,594
Sorosiata	21,194
Joker	83,307
Total	428,204

When tracing narrative dissemination through these channels, we found a surprisingly low percentage of coverage. As illustrated in Figure 1, only around 18% of the messages disseminated content aligned with the narratives tracked – surprising, considering these are purportedly key disinformation vectors. Further analysis shows that most content pushing narratives (51%) is concentrated within the channel with by far the lowest audience share, “Sorosiata” (17k subscribers). Figure 2 above shows the numbers of mentions per channel. It is especially surprising the two channels attributed to Russian intelligence show such low percentages (9% and 5%, respectively) of mentions. We do not have an immediate explanation, but this finding does correspond to our expectations concerning the challenges of sustained content dissemination and helps explain the lack of systematic correlation between consumption of these channels and narrative exposure and agreement.

Partisan television

The channels “112,” “NewsOne” and ‘Zik’ counted among the most popular news sources for Ukrainians in 2020 with 1 m regular viewers (Television Industry Committee, 2021). Moreover, over 50% of Ukrainians get their news primarily

Aggregate Narrative Mentions Telegram

**Figure 1.** Aggregate mentions of narrative on tracked Telegram channels.

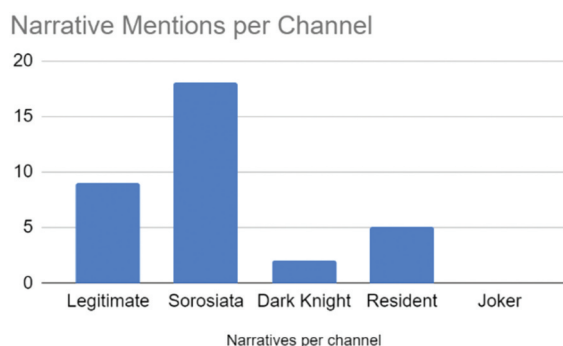


Figure 2. Narrative mentions per Telegram channel tracked.

from one of these three channels (National Council of Television and Radio Broadcasting of Ukraine, 2020). Their superior audience size compared to Telegram channels is in line with H5. In line with this finding, over 20% of respondents to our survey report watching one of these channels regularly. Meanwhile, these channels have a clear and publicly known link to Russia, supporting H1: All three are owned by the oligarch Viktor Medvedchuk, a close ally of Vladimir Putin (Miller, 2016).

Discussion

Findings strongly support our theory, confirming the political relevance of influence operations, television's advantages in dissemination and persuasion compared to social media, as well as the latter's edge in secrecy. Survey analysis showed a clear, statistically significant correlation between narrative exposure, agreement, and foreign policy preferences, in support of H1. These findings do not prove causation. However, the consistent correlation across narratives supports the assumption that influence operations can affect foreign policy preferences. If there was no correlation, the hypothesis would have to be rejected. The rates of statistically significant correlation between consumption of partisan television channels and exposure to narratives was also superior compared to partisan social media channels, supportive of H2. YouTube formed an exception. This exception, however, confirms two key predictions of our framework. YouTube is a centralized platform where videos, once uploaded, can be disseminated to a channel's entire audience, and repeatedly, without added costs. In this respect, it is similar to a traditional television station.

While the difference concerning exposure rates was overall relatively small, findings for narrative agreement were striking. Survey analysis showed a clear and statistically significant correlation between consumption of partisan television channels, exposure to, and agreement with, narratives. In contrast, social media consumption showed either no statistically significant correlation to agreement, or a *negative* correlation. Findings thus strongly support H3, in line with television's expected advantage in persuasion. In short, findings indicate consumption of partisan television channels significantly increases the likelihood audiences agree with narratives and hold corresponding foreign policy preferences, while no such correlation is evident among social media users. Moreover, the absence of any statistically significant correlation between exposure to narratives via YouTube and agreement with these narratives supports another key assumption of our framework: namely, the superior credibility and resulting persuasiveness of television stations compared to social media.

Although our findings do not prove causality, the consistent positive correlations pointed out above suggest a likely causal effect of consuming partisan television on audience foreign policy preferences. Future research is needed to establish the causal relationship. Even if there was a causal effect, however, it is important to consider its limited extent. Regressing foreign policy preference on media consumption shows, for example, that regular watchers of Medvedchuk-controlled TV are only 13% more likely to prefer Ukraine to pursue closer relations to Russia.⁹ Accordingly, despite exposure over multiple years, Ukraine's foreign policy and public opinion have not shifted toward Russia's goals – that is, arguably, why Russia invaded in full force in 2022.

Even today, there is no evidence linking three of the five Telegram channels to Russian state-owned sources. In contrast, there is clear and tangible evidence linking the partisan television channels we focused on to the Kremlin since the owner is a close associate of Vladimir Putin. These findings support H4. As expected, Medvedchuk's TV channels also reach a larger audience than the partisan social media channels we examined, supporting H5.

Before moving on to implications, two alternate explanations and criticisms must be considered.

First, one potential rebuttal of our study would be that narratives themselves are irrelevant compared to techniques of amplification enabled by the structure of social media – foremost, the creation of botnets and what social media platforms call “coordinated inauthentic behavior.” Yet there is no evidence of such patterns at scale in Ukraine (see [online appendix, section 3](#)), while we have shown a clear and measurable effect of narrative exposure on audience perception.

A second criticism would be that the causal mechanism behind the correlation between partisan television exposure and narrative agreement we observe is reversed: citizens select television channels based on their preferences. Our findings indicate this argument is plausible considering narrative agreement substantially outweighs exposure rates among survey respondents – roughly 17.8% of respondents had never/rarely heard narratives yet agreed with them. This finding implies these narratives resonate with the lived experience of many Ukrainians. Hence, it is plausible those Ukrainians gravitate toward consumption of (pro-Russian) media outlets that articulate what they already feel to be true. Even if that is the case, however, it does not explain the lack of the same selection effect and corresponding correlation for audiences of partisan social media channels – especially the two pro-Russian Telegram channels run by Russian military intelligence. Consequently, this reverse causal mechanism may be at play for some respondents concerning some narratives, yet this mechanism alone does not explain the far superior rates of exposure and agreement for television audiences vis-à-vis social media audiences.

Another potential criticism concerns our focus on Telegram, especially considering Facebook and YouTube both have far larger audiences than Telegram—31.8% of survey respondents regular use Facebook, and 30.7% YouTube. Hence, in theory they have a far larger reach and in an ideal world we would have conducted a detailed content analysis. However, in practice this has been impossible for similar reasons as for the partisan television channels discussed above. Content analysis of YouTube videos requires watching and coding by hand – and the six channels we tracked each upload at least 30-60 mins of video per day. Content analysis for all videos on the channels within the same

period as for Telegram has simply been beyond our means. Meanwhile, on Facebook most narratives are shared via groups, many of which are invite-only, and more importantly, once they are known to be disinformation sources, Facebook deletes them (Reuters, 2020). We sent multiple requests to the anti-influence team at Facebook requesting access to their data, yet never received a response. Importantly, while we do not have content analysis, the survey analysis does include both Facebook and YouTube in measuring consumption, narrative exposure and agreement correlations. Finally, Twitter allows automated content analysis, yet it counts among the least relevant news sources in Ukraine. In fact, to make sure we are not missing anything, we built a dataset of tweets containing keywords related to the narratives we tracked during the same timeframe, which underlined the platform’s irrelevance – instead producing some surprising linkages to American right-wing influencers. See the [online appendix, section 3](#) for a detailed discussion.

Finally, there is the possibility television picks up and amplifies social media content. While we focus on direct control over content production, media organizations may pick up and disseminate narratives from other sources by themselves. This interaction is not only plausible, but has been documented by recent research. One study, for example, shows Fox News picking up and amplifying content from Russian state-controlled media (Gabbatt, 2022). Investigating such possible interactions between social media and traditional media by tracing the “genealogy” of narratives is a key topic deserving further research, especially considering it helps alleviate both media types relative disadvantages.

Conclusion

This article has argued that centralized media, and specifically television, retain important advantages over decentralized social media as vectors for influence operations. Evidence garnered from survey and content analysis provided strong support for our theory, showing partisan television channels to be far more influential than partisan social media channels in exposing audiences to disinformation narratives *and* indicating the former to be more

effective in fostering audience agreement with narratives. Findings also supported the assumption that influence operations can shape foreign policy preferences, yet at the same time revealed their limited impact.

Two key implications for world politics follow. First, while we do not dismiss the potential effectiveness of social media in spreading disinformation, findings indicate it is important not to overestimate the threat. Conversely, it is important to consider the continued relevance, and possibly superior effectiveness, of traditional mass media as disinformation vectors. The Ukrainian government's ban imposed on the three partisan television channels we identified as major outlets for disinformation shortly after the conclusion of our study (unrelated to our efforts) provides added support for this conclusion (Office of the President of Ukraine, 2021).¹⁰ So does other emerging research examining the impact of television on audiences (Carter & Carter, 2021).¹¹

Second, apart from the relative effectiveness of different media platforms, our findings indicate the overall limitations of influence operations as instruments of power. Although we saw a positive correlation between exposure and agreement with narratives to foreign policy preferences favorable to Russia, there is no evidence indicating any measurable impact of sustained exposure to disinformation campaigns on Ukraine's foreign policy. Despite a barrage of disinformation targeting Ukrainian audiences over several years, Ukraine's has maintained its pro-EU and overall pro-Western course. Russia's invasion this year attests to the failure of its strategy of getting Ukraine to change course with measures short of war, in which disinformation has been a key element.

Finally, the limitations of the study must be considered. A single case limits generalizability. However, this conflict's characteristics as a crucial case do indicate global relevance of findings. Another caveat is the availability of traditional mass media vulnerable to compromise and co-optation as instruments of disinformation dissemination in Ukraine. Where such vulnerable media platforms are not available, the global reach of most social media platforms offers a key advantage. In other words, social

media allows states to establish influence where traditional media is unavailable. Under what conditions this influence can achieve measurable impacts on foreign policy outcomes remains unclear, however. Importantly, even this paradigmatic case shows no significant impact on foreign policy.

Notes

1. To be discussed in detail in the next section.
2. See [online appendix, section 1](#) for further details.
3. Note, as with all regressions in this paper, we do not ascribe a causal interpretation to the results.
4. Numbers were calculated by regressing an agreement binary (0=disagree, 1=agree) for each of the foreign policy preferences on an agreement binary for each of the Russian narratives, controlling for age, education, gender, marital status, employment status, ethnic identity, liberality, and oblast.
5. See [online appendix, section 2](#) for a sample regression table.
6. See [online appendix, section 2](#) for a sample regression table.
7. See [online appendix, section 2](#) for a sample regression table.
8. See [online appendix, section 2](#) for a sample regression table.
9. Statistically significant positive correlation, coefficient of 13.23.
10. Office of the President of Ukraine, "Ukraine's International Partners Support the Decision of the National Security and Defense Council to Impose Sanctions against a Number of TV Channels – President," Official website of the President of Ukraine, <https://www.president.gov.ua/en/news/mizh-narodni-partneri-ukrayini-pidtrimuyut-rishennya-rnbo-pro-66377>.
11. Carter and Carter, "Questioning More.."

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No potential conflict of interest was reported by the author(s).

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