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Understanding susceptibility to Russian propaganda: a Baltic comparison

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ABSTRACT

This study examines susceptibility to Russian propaganda in Estonia, Latvia, and Lithuania using survey data ($N = 1218$). Susceptibility was measured through agreement with 20 statements representing 10 narratives. Multi-factor ANOVA models identify how demographic and information-environment factors relate to this continuous score. Across countries, linguistic identity and trust in Russian-oriented or alternative platforms increase susceptibility, whereas trust in mainstream news, experts, and science has protective effects. Emotional reactions to social media and perceived online influence also play meaningful roles. Clustering identifies four audience profiles, showing that vulnerability reflects intersecting patterns of identity, information access, and media engagement.

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1. Introduction

Russia's strategic activities in the Baltics have extended beyond conventional warfare, with an increasing focus on the use of digital platforms to disseminate information and influence public opinion (Shuker and Topor 2021). These efforts are part of what is often called hybrid warfare, where military, political, economic, and information tools are used together to influence or weaken other countries without direct conflict (Lanoszka 2016; Pynnöniemi 2019). This approach allows Russia to exploit societal vulnerabilities, undermine confidence in objective information, and influence public opinion in target countries (Giles 2016). Prominent examples of this strategy include the 2008 war in Georgia (Deibert, Rohozinski, and Crete-Nishihata 2012), the 2014 annexation of Crimea (Jaitner and Mattsson 2015; Sazonov and Kristiina 2017), and the ongoing full-scale invasion of Ukraine since 2022 (Bachmann, Sascha-Dominik, and Duczynski 2023), all of which were accompanied by coordinated media manipulation, cyberattacks, and disinformation efforts that extended beyond the traditional battlefield.

Despite a growing body of research on Russian disinformation tactics and media ecosystems in Eastern Europe, systematic comparative analyses of individual-level

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susceptibility to propaganda remain limited. In particular, existing work has rarely examined how media trust patterns and psychological responses to social media shape belief in foreign propaganda, especially in societies historically exposed to Russian influence. Moreover, while the Baltic states are frequently cited as key targets in hybrid warfare (Nyemann 2021; Radin 2017), there is a shortage of comparative empirical research that jointly analyzes Estonia, Latvia, and Lithuania to uncover both shared susceptibility patterns and country-specific differences.

To address these gaps, this study develops a comparative, individual-level analysis of susceptibility to Russian propaganda narratives across the Baltic region. Examining all three Baltic states jointly allows us to leverage their shared historical and geopolitical context while capturing meaningful variation in language composition, media systems, and institutional trust. The study operationalizes susceptibility at the level of specific propaganda narratives rather than general misinformation belief, and combines regression modelling with clustering techniques to identify how configurations of trust, identity, and information environments give rise to distinct audience profiles and susceptibility pathways. In doing so, the study provides a conceptually grounded and empirically derived typology of propaganda susceptibility that complements vulnerability-based approaches and informs more targeted resilience-building strategies.

Building on this approach, we examine susceptibility to Russian propaganda narratives in the Baltic region by quantifying individual-level endorsement of propaganda-aligned themes and identifying the social and informational conditions that explain variation in these susceptibilities. In the context of hybrid warfare, understanding which individuals are most susceptible to Russian propaganda is a critical concern, not only because disinformation complements military and political pressure, but also because it directly undermines public trust and unity from within (Colomina et al. 2021). The Baltic States represent a particularly relevant setting for this analysis. As EU and NATO member states that were once part of the Soviet Union and have sizable Russian-speaking minorities, they are frequent targets of Russian influence campaigns. Russian-speaking communities in Estonia and Latvia differ not only in media exposure but also in political representation, shaping their varying responses to state narratives and propaganda efforts (Chereson and Estes 2023; Vihalemm and Juzefovičs 2022). Findings from this region not only support local resilience-building but also offer transferable insights for other democratic societies navigating similar threats. To address this aim, we pose the following research questions:

RQ1: Which demographic and informational factors are most strongly associated with individual susceptibility to Russian propaganda narratives across the Baltic States?

RQ2: Can distinct audience profiles be identified based on these susceptibility-related traits, and how do these types differ in their susceptibility to propaganda?

In the broader literature on information disorders, a distinction is commonly made between *misinformation*, *disinformation*, and *propaganda*. *Misinformation* refers to false or misleading information that is shared without the intent to deceive, whereas *disinformation* refers to deliberately created or disseminated false or misleading information intended to manipulate audiences Wardle and Derakhshan (2017). In this study, *disinformation narratives* are understood as strategic, recurring thematic framings propagated

by the Russian state or its affiliates that distort facts, mislead audiences, or manipulate emotions to advance geopolitical objectives (Hellman 2024). These narratives often function as specific content components within broader influence campaigns. For *propaganda*, we adopt the definition by Jowett and O'donnell (2019), who describe it as the deliberate, systematic attempt to shape perceptions, manipulate cognitions, and direct behavior in order to achieve a response that furthers the intent of the propagandist. In this sense, propaganda represents the broader strategic communication framework, within which disinformation narratives may operate as one of the mechanisms used to influence audiences. Accordingly, the present study focuses on susceptibility to propaganda-aligned disinformation narratives circulating in the Baltic information environment.

A key conceptual distinction underlying this study concerns the difference between *vulnerability* and *susceptibility* to disinformation. In sociological and political-science research on information disorders, *vulnerability* is typically understood as a structural condition characterised by a deficit or lack of capacity: an inability to cope with, adapt to, or respond effectively to manipulative content (Balčytienė, Dāvidsone, and Siibak 2025). Vulnerability frameworks direct attention to what individuals or communities lack (resources, literacy, institutional access, or social capital) that leaves them exposed to harm. Such approaches have been productive in identifying at-risk populations, but they tend to emphasise structural risk factors over the active interpretive processes through which individuals engage with misleading content (Buckingham 2019; Seo et al. 2021). In contrast, we conceptualise *susceptibility* as an active dispositional property: the degree to which an individual's existing configuration of beliefs, trust orientations, emotional engagement patterns, and informational contexts predisposes them to endorse the persuasive content of propaganda narratives. Susceptibility, in this framing, is not reducible to a lack of something; it reflects how people's cognitive and affective resources are organised in relation to the information environment they inhabit. This configural understanding draws on dual-process models of persuasion, particularly the Elaboration Likelihood Model (Petty and Cacioppo 1986), which holds that message acceptance is determined by an interaction between the individual's processing motivation and ability on the one hand, and characteristics of the message and its context on the other. When motivation or ability for careful elaboration is low due to cognitive overload, emotional arousal, or limited informational diversity, individuals are more likely to rely on peripheral cues such as source familiarity or social endorsement, which propaganda narratives are specifically designed to exploit (Ecker et al. 2022; Petty and Cacioppo 1986). Recent meta-analytic work further supports this view by establishing susceptibility to misinformation as a measurable psychological property shaped by the interplay of demographic, cognitive, and contextual factors (Sultan et al. 2024).

We recognise that susceptibility is, in its fullest sense, a process-oriented characteristic: individuals become more or less susceptible over time as their media environments shift, as trust is built or eroded, and as emotional and cognitive resources fluctuate (Van Der Linden 2022). However, the cross-sectional design of the present study captures susceptibility as a dispositional state at a given point in time, a snapshot of the belief configurations that reflect the cumulative result of individuals' ongoing engagement with their information environments. This operationalisation is particularly appropriate in the Baltic context, where populations have been exposed to sustained, long-term Russian

information campaigns rather than isolated, event-driven interventions (Helmus et al. 2018; Malts 2025). Under such conditions of chronic exposure, present-day belief endorsement can reasonably be interpreted as reflecting stabilised dispositional tendencies shaped by years of informational pressure, even though it does not capture the dynamic trajectory of those tendencies over time. By measuring agreement with 20 propaganda-aligned narrative statements, we thus operationalise susceptibility as the degree of current cognitive openness to these narratives, on the premise that expressed endorsement indicates a predispositional receptivity that is a product of past informational experiences and that correlates with downstream engagement behaviours such as sharing misleading content (Osmundsen et al. 2021; Van Der Linden 2022).

The susceptibility lens offers analytical advantages that complement vulnerability-based approaches. Where vulnerability analysis identifies who is at risk on the basis of structural deficits, susceptibility analysis reveals how different configurations of trust, identity, emotional engagement, and informational context combine to produce endorsement of specific narrative content. This configural perspective can uncover susceptibility pathways that deficit-based frameworks would miss – for instance, among individuals whose trust is channelled through information ecosystems where Kremlin-aligned framings circulate alongside everyday Russian-language content (Treyger, Cheravitch, and Cohen 2022; Ventsel et al. 2021). To capture these dynamics empirically, we draw on web survey data from Estonia ($N = 409$), Latvia ($N = 404$), and Lithuania ($N = 405$) and construct a composite susceptibility score based on agreement with narrative-themed items. We then model this score using demographic and information-environment variables to identify key predictors of endorsement, and apply clustering techniques to examine how these factors combine into distinct audience profiles with different susceptibility pathways. By linking these profiles to levels of susceptibility, the analysis provides a grounded Baltic typology of Russian propaganda susceptibility that can inform targeted interventions and communication strategies in the region.

This study is organized into five main sections. Section 1 introduces the research problem and provides background on Russian disinformation in the Baltic States. Section 2 describes the data and survey design. Section 3 presents the regression analyses linking demographic and information-environment variables to susceptibility. Section 4 develops audience typologies based on trust patterns and susceptibility profiles. Section 5 interprets the findings in relation to the broader literature, while Section 6 outlines the study's limitations. Finally, Section 7 summarizes the main findings and their implications for resilience against disinformation in the Baltic region.

1.1. Information environment

The information environment refers to the context in which individuals access, interpret, and interact with information. According to the Röttger and Vedres (2020), drawing on Floridi (2010), information is defined as well-formed and meaningful data (data that is syntactically and semantically valid). The information environment, therefore, encompasses the physical, social, and digital surroundings of an individual, particularly those aspects that influence behavior and cognition (Röttger and Vedres 2020). Disinformation actors exploit the participatory and emotional dynamics of the modern information environment by embedding themselves in online communities, using personalized

narratives and emotionally charged content to build trust and engagement (Wardle and AbdAllah 2023). Unlike official communicators who rely on traditional top-down messaging, disinformation agents leverage the affordances of digital platforms, such as algorithmic amplification (Fernandez, Bellogín, and Cantador 2024) and visual storytelling (Dan et al. 2021), to spread misleading content more effectively across borders and networks. Psychological and cognitive dynamics within the information environment concern how individuals process information based on mental shortcuts, prior beliefs, and cognitive biases such as confirmation bias or motivated reasoning (Canan and Warren 2018). These dynamics influence how disinformation narratives are accepted or rejected, especially when individuals face conflicting or complex information. These psychological patterns are shaped by social context: people tend to trust information shared by those in their own networks Sherchan, Nepal, and Paris (2013). This idea of social embeddedness refers to the information consumption and opinion formation are deeply situated within individuals' interpersonal networks and social affiliations (Sohn and Choi 2019). A strong social embeddedness can lead to informational echo chambers which are, according to Nguyen (2020), social epistemic structures from which other relevant voices have been actively excluded and discredited. Such systems often lead to potential emotional strain (Wollebæk et al. 2019) and radicalization on social media (Wolfowicz, Weisburd, and Hasisi 2023).

1.2. Russian disinformation on social media

The Russia-Ukraine war has prompted extensive research into how Russian disinformation spreads across social media platforms. Several studies have examined platform-specific dynamics during the early stages of the 2022 invasion. For example, Pierri et al. (2023) analyzed Facebook and Twitter, finding that while the volume of state-linked content in Russia decreased after platform interventions and sanctions, moderation remained only partially effective. In particular, a small number of influential, right-leaning, and often verified accounts were responsible for most of the disinformation circulation. Complementing this, Geissler et al. (2023) analyzed over 349,000 pro-Russian tweets, uncovering a heavy reliance on bot activity, particularly in countries such as India, South Africa, and Pakistan. These bots did not generate new content, but instead amplified human tweets to enhance visibility and simulate grassroots support.

The success of disinformation is often tied not just to platform structures, but also to the psychological drivers of user engagement. Drolsbach and Pröllochs (2023) found that the believability of misleading posts significantly increased their virality on Twitter, whereas perceived harmfulness tended to reduce sharing. Relatedly, Robertson et al. (2023) showed that negativity plays a critical role in media consumption: each additional negative word in a news headline boosted click-through rates by 2.3%. Given that Russian disinformation frequently leverages fear (Etudo et al. 2023), outrage (McLoughlin et al. 2024), and uncertainty (Markelov 2025) (particularly around crisises), it likely benefits from these underlying emotional dynamics. These findings suggest that social media environments often amplify emotionally salient content, which can make them particularly conducive to the spread of polarizing or misleading narratives (McLoughlin et al. 2024).

Linguistic and regional variation also shape how Russian narratives spread globally. Lai, Toriumi, and Yoshida (2024) examined pro-Russian misinformation in six languages on

Twitter during the early weeks of the invasion. They identified recurring misinformation themes, such as claims about bioweapons in Ukraine and Western political corruption. Surprisingly, Japanese and Spanish users showed higher engagement, and English language content served as a key bridge across linguistic communities, especially to Japanese users.

Russia's informational strategy is shaped by a decentralized, adaptive, and high-volume approach. According to Treyger, Cheravitch, and Cohen (2022), the Kremlin's disinformation efforts do not follow a strict hierarchical model, but instead operate through a loosely coordinated network of state, semi-state, and non-state actors. These actors aim to flood the information space with contradictory or sensational content to confuse audiences, polarize societies, and erode trust. Strategies include deploying fake personas, hijacking hashtags, promoting actors, manipulating SEO, and microtargeting across platforms like YouTube, Instagram, VKontakte, Reddit, and even obscure file-sharing sites.

1.3. Russian disinformation in Eastern Europe

While much of Eastern Europe (including the Baltics) is protected under NATO's security umbrella, this does not shield the region from Russian influence in the information space. On the contrary, the post-Soviet states remain especially vulnerable to disinformation, particularly those with substantial Russian-speaking populations and historical exposure as part of the former Soviet Union (Bērziņš 2024). Russian information operations often exploit emotional and symbolic narratives that frame Russia as both powerful and morally victimized, using ambiguity, denial, and mirror projection to foster confusion and fear (Ventsel et al. 2021). This enables Russian narratives to resonate more easily with segments of these societies, sometimes blurring the line between legitimate dissent and foreign influence. A notable recent case is the 2024 Romanian presidential elections, where the first-round results were influenced by widespread disinformation operations traced back to Russian actors on platforms such as TikTok (Press Associated 2025; Staff 2025). These actions were reported to influence public perceptions and voting behavior using micro-targeted political messages, such as anti-establishment content aimed at the diaspora and religious narratives targeting the elderly (Staˇnescu 2024). Beyond the issue of foreign interference, however, deeper structural dynamics also played a role. As Rogozanu (2025) notes, the electoral shift in Romania was shaped not only by disinformation but by longstanding class tensions and social exclusion. He argues that many voters in Romania, especially those from poorer and more unstable backgrounds, were drawn to anti-establishment messages spread on social media. According to this view, people's belief in disinformation is closely tied to deeper social problems, like inequality and feeling ignored by elites. This perspective also applies to the Baltic region, where similar divides in language, trust, and access to reliable information can make some groups more vulnerable to foreign influence than others (Bērziņš 2024). These conditions provide fertile ground for Russian narratives, especially in communities with cultural ties to Russia (Pomerantsev and Weiss 2014) or low trust in national institutions (Kols 2022). Although these countries are firmly integrated into NATO and the EU, they continue to face ongoing influence campaigns (large-scale campaigns that seek to shift public opinion) aimed at weakening democratic cohesion and trust in governance (Helmus et al. 2018).

Recent comparative research by Voltri (2022) underscores that while all three Baltic governments acknowledge the threat posed by hostile information operations and have enhanced their strategic communication capacities, their countermeasures differ. Estonia takes a more liberal and hands-off approach, emphasizing societal cohesion and psychological resilience rather than direct content control. In contrast, Latvia and Lithuania have pursued more interventionist strategies by blocking Russian media outlets and investing in national media production. Yet, Kõuts-Klemm, Rožukalne, and Jastramskis (2022) argue, the implementation of media policy alone does not guarantee long-term media system resilience, particularly in small countries where public service media face persistent challenges such as funding gaps, shrinking audiences, and declining trust. Flanagan et al. (2019) emphasizes the importance of embedding strategic communications and psychological defense, which involves protecting public morale, trust, and social cohesion, into national security strategies. Their assessment underscores how all three Baltic states are incorporating the principle of information resilience, defined as the capacity to resist and recover from disinformation and other hostile information operations, into broader total defense strategies. Total defense refers to a whole-of-society approach that brings together military and civilian efforts to deter, resist, and recover from various forms of aggression, including hybrid threats and occupation. Estonia stands out for its advanced resistance planning (Ministry of Defence of the Republic of Estonia 2021), Latvia is investing in expanding its national guard (LSM.lv Editorial Team 2025), while Lithuania is prioritizing public education to enhance awareness and resistance to manipulation (Ministry of National Defence of the Republic of Lithuania 2022). Both Estonia and Latvia have also taken steps to implement media literacy education courses into their national high school curriculum (Andersone and Helmane 2019; National Library of Estonia RaRa 2023). However, Estonia still continues to struggle with embedding critical media habits in everyday life (Malts 2025).

Recent empirical research highlights the social and psychological factors that shape vulnerability to propaganda. Forte Forum (2024) used surveys in Estonia and Lithuania to explore what drives belief in Russian narratives. While consumption of Russian language media showed a moderate link to higher susceptibility, political attitudes were the strongest predictors. In particular, belief in propaganda was most closely tied to trust in national defense, perceptions of minority treatment, and views of the Soviet past. The study also found that Russian narratives have more traction in Estonia than in Lithuania, despite both countries having strong national language media environments. Malts (2025) adds that in Estonia, Russian disinformation often draws on historical grievances and institutional distrust, promoting familiar themes such as Soviet nostalgia, doubts about the digital voting system, and false reports of Estonian military actions in Ukraine.

Beyond these findings, a broader body of audience research has examined how Baltic populations, and Russophone minorities in particular, navigate competing information environments. Vihalemm and Juzefovičs (2021) show that Baltic Russian-speakers interpret political news through geopolitically shaped lenses, even when exposed to diverse media sources. Vihalemm, Juzefovičs, and Leppik (2019) argue against the uniform view that Russian-speakers are entirely under the influence of Russian media, finding instead that their media repertoires increasingly include local sources (Kaprāns and Jānis 2019) further challenge media-centric explanations by showing that support for Kremlin narratives among Latvian Russian-speakers cannot be reduced to media consumption alone, as

political attitudes and identity play important mediating roles (Hoyle et al. 2024). experimentally tested the effects of Sputnik Latvia's Russophobia narratives on Russian-speaker identity in Latvia, finding that exposure strengthened in-group identification. At the cross-national level (Ekman 2024), analyzed public opinion across all three Baltic states, documenting persistent ethnic differences in political support, Soviet nostalgia, and geopolitical orientations (Kaprāns and Mierin¸a 2019). similarly documented ideological polarization patterns across Baltic societies. These studies demonstrate that audience responses to Russian narratives are shaped by a complex interplay of identity, political attitudes, and media environments. However, even where cross-national comparisons exist (e.g. (Ekman 2024; Kaprāns and Mierin¸a 2019)), the focus tends to be on general political attitudes, geopolitical orientations, or ideological polarization. Where susceptibility to specific propaganda narratives has been measured directly((Forte Forum 2024)), the scope has been limited to two countries. The present study aims to complement this literature by extending the analysis across all three Baltic states, modelling susceptibility using both demographic and information-environment predictors, and identifying how these factors combine into distinct audience profiles.

1.4. The Baltic context

Estonia, Latvia, and Lithuania share a common history as former Soviet republics that regained independence in 1991 and have since integrated into both the European Union and NATO. Despite these shared trajectories, the three countries differ in ways that are directly relevant to understanding susceptibility to Russian propaganda.

The most consequential difference concerns the size and integration of Russian-speaking minorities. In Estonia, ethnic Russians make up approximately 21% of the population (in 2025), concentrated primarily in the capital Tallinn and the northeastern Ida-Viru county, where they form a local majority (Statistics Estonia 2024). Latvia has the largest Russian-speaking population in relative terms, with ethnic Russians constituting roughly 23% of the population, and Russian spoken at home by approximately 38% of residents (in 2022) (Central Statistical Bureau of Latvia 2024). Lithuania, by contrast, has a much smaller Russian minority of around 5%, with Poles forming the larger minority group at approximately 6% (in 2021) (Official Statistics Portal of Lithuania 2024). This demographic asymmetry has shaped both the media landscape and political dynamics in each country. In Estonia and Latvia, the question of Russian-speaking minority rights, citizenship, and political representation has been a persistent source of tension, whereas in Lithuania, where all residents received citizenship upon independence regardless of ethnicity, inter-ethnic relations have been comparatively less politicized (Chereson and Estes 2023; Ekman 2024).

These demographic patterns are closely linked to divergent media landscapes. In Estonia and Latvia, substantial Russian-speaking populations have historically sustained demand for Russian-language media, including both locally produced content and rebroadcast Russian state television. Estonia responded by launching the Russian-language public broadcasting channel ETV+ in 2015, and more recently by funding Russian-language newsrooms within major outlets such as Postimees to provide locally produced alternatives to Russian state media (Voltri 2022). Latvia has similarly hosted independent Russian-language media, notably serving as the base for the exiled Russian

news outlet Meduza, though tensions around Russian-language broadcasting remain visible, as illustrated by the revocation of TV Rain's broadcasting license in 2022 on national security grounds (Kõuts-Klemm, Rožukalne, and Jastramskis 2022). Latvia and Lithuania have both pursued more interventionist strategies than Estonia, blocking or suspending Russian state-controlled channels such as RTR Planeta while investing in national media production (Kõuts-Klemm, Rožukalne, and Jastramskis 2022). Lithuania, with its smaller Russian-speaking minority, has faced less domestic demand for Russian-language alternatives but has nonetheless repeatedly suspended Russian state channels and prioritized public education and media literacy as its primary line of defence against hostile narratives (Ministry of National Defence of the Republic of Lithuania 2022; Voltri 2022). Despite these efforts across all three countries, Russian-language social media platforms such as VKontakte, Odnoklassniki, and Telegram remain accessible and widely used among Russian-speaking communities, creating parallel information environments that operate largely outside the editorial oversight of Baltic mainstream media (Vihalemm and Juzefovičs 2022).

Institutional trust also varies across the three countries. Eurobarometer data from 2025 shows that trust in the EU is highest in Lithuania (66%), followed by Latvia (55%) and Estonia (52%). Trust in national governments, however, is notably higher in Estonia (36%) than in Latvia (31%), with Lithuania falling between the two. Lithuania also stands out for its exceptionally high perception that EU membership has been beneficial (92%), compared to Estonia (82%) and Latvia (69%) (European Commission 2025). These patterns suggest that while all three countries broadly support their Western institutional alignment, the depth of this trust differs, particularly at the national level, which may shape how effectively domestic institutions can serve as counterweights to foreign propaganda narratives.

Geopolitical orientations similarly diverge along ethno-linguistic lines. Ekman (2024) documents that across all three Baltic states, Russian-speaking populations tend to express greater nostalgia for the Soviet past and lower satisfaction with current political systems compared to national-language speakers. In Latvia, where the Russian-speaking minority is proportionally largest, as many as 19% of respondents favoured an orientation toward Russia over the EU in 2021, compared to 8% in Estonia and 11% in Lithuania. These attitudinal differences reflect not only media consumption patterns but also deeper questions of belonging, identity, and historical memory that structure how different segments of the population interpret political information (Kaprāns and Mierin̦a 2019).

Together, these contextual differences help explain why susceptibility to Russian propaganda may vary not only between individuals but also between countries. The size of the Russian-speaking minority, the structure of the media landscape, the availability of Russian-language alternatives, and the depth of institutional trust all create distinct conditions under which propaganda narratives may gain or lose traction.

1.5. Individual-level susceptibility to Russian propaganda

While much of the existing literature on disinformation focuses on macro-level determinants such as information ecosystem structures, media ownership, and state-led countermeasures, individual-level audience research has also grown considerably. Studies increasingly examine how people receive and respond to disinformation in

the Baltics and beyond. However, most of this work addresses misinformation in general rather than susceptibility to specific state-sponsored propaganda narratives. Work that combines predictor modelling with audience typology construction also remains limited, particularly across all three Baltic states simultaneously. We outline empirical findings on predictors of propaganda susceptibility to motivate our selection of these features.

Cognitive processing styles have consistently emerged as strong predictors of propaganda susceptibility. Individuals with higher analytical thinking skills and greater cognitive reflection are better equipped to distinguish between true and false claims (Bryanov and Vziatysheva 2021; Sultan et al. 2024). Conversely, lower analytical thinking is associated with intuitive, emotion-driven processing that increases susceptibility to misinformation and propaganda. Similarly, procedural news knowledge (understanding how journalism and media verification operate), enhances individuals' ability to assess credibility and resist manipulative content. These findings justify including cognitive processing indicators in models of propaganda susceptibility.

Education level consistently predicts lower belief in misinformation and propaganda (Ecker et al. 2022). Higher education fosters critical evaluation skills, familiarity with diverse information sources, and awareness of persuasive tactics, all of which buffer against manipulation. Moreover, education often correlates with socioeconomic status, which shapes access to reliable media, time resources for information verification, and trust in institutional knowledge systems (Sewell, Haller, and Portes 2018). On the basis of this, we include education and socio-economical indicators into our models of propaganda susceptibility.

Linguistic and cultural identity shape the informational boundaries within which people interpret propaganda narratives. Language is not only a means of communication but a gateway to distinct media ecosystems and epistemic communities. As Wagnsson, Östervall, and Angwald (2025) note, linguistic and cultural alignment influences how individuals engage with media environments and perceive information credibility. Consequently, linguistic identity channels attention, trust, and exposure across competing information spheres. When propaganda is perceived as coming from an external outgroup, citizens' sense of collective identity and trust in national information sources strengthen. Conversely, linguistic or cultural alignment with the propagating state, as in Russian-language media spheres within the Baltic region, may lower psychological distance from disinformation narratives and heighten openness to their framing. Accordingly, mother-tongue functions as both an exposure proxy and a psychological boundary between in-group and out-group information spaces.

The structure of trust networks shapes how individuals process and evaluate information. Trust in traditional media, experts, and scientific institutions acts as a protective factor, offering authoritative counter-narratives that can counterbalance propaganda (Ecker et al. 2022). In contrast, higher trust in digital- and peer-based information channels, such as social-media platforms, has been associated with the proliferation of echo-chamber dynamics and unfiltered news flows, where scientific authority is weakly anchored, and false or ideologically-tainted content can spread unchecked (Csepeli et al. 2020). These differences in trust orientation highlight the importance of including both institutional and alternative trust measures when modelling susceptibility, as they represent divergent pathways of information acquisition and belief formation.

Propaganda operates not only through cognition but also through emotion. Affective responses such as fear, outrage, and uncertainty can lower individuals' motivation or capacity to engage in analytical processing, thereby increasing their susceptibility to emotionally charged content (Ecker et al. 2022). Individuals reporting negative emotional experiences on social media or perceiving online radicalization within their environment may thus exhibit higher vulnerability to propaganda that exploits such emotions for mobilization or polarization purposes. At the same time, media literacy and awareness of manipulative or biased information environments can mitigate such affective influence by reinforcing reflective evaluation and critical scrutiny (Maksl, Ashley, and Craft 2015). These cognitive and emotional dynamics highlight emotional regulation and media awareness in shaping susceptibility.

2. Data

This study involved a total sample of 1218 voluntary and anonymous participants, recruited by the local research agency SolidData. Recruitment was conducted through online panels stratified by gender, education, and age across the three Baltic States: Estonia, Latvia, and Lithuania. Ethics of data collection is explained in the sec:ethics section. Participants were evenly distributed across Estonia ($N = 409$), Latvia ($N = 404$), and Lithuania ($N = 405$). Aspects most relevant for interpretation include the high share of Russian-speaking respondents in Estonia (26%) and Latvia (29%), compared to only 1.5% in Lithuania. This linguistic divide is central to understanding cross-national differences in propaganda susceptibility. Additionally, over 90% of participants reported secondary or higher education, which may limit generalizability to lower-educated populations known to be more vulnerable to disinformation. A full overview of participant demographic distribution is presented in Table 1. The full coded survey questions are provided in Appendix A (see Table A1).

Table 1. Participant characteristics by gender, age, mother tongue and educational level.

Category	Group	Estonia	Latvia	Lithuania	Total	% of total
		409	**404**	**405**	**1218**	**100%**
Gender	Female	216	209	209	634	52.1%
	Male	190	192	189	571	46.9%
	Other / Prefer not to say	3	3	7	13	1.1%
Age Group	18–25	61	57	63	181	14.9%
	26–35	91	83	88	262	21.5%
	36–45	72	82	74	228	18.7%
	46–55	78	93	87	258	21.2%
	56–65	68	62	53	183	15.0%
	65+	39	27	40	106	8.7%
Mother Tongue	National language	286	263	391	940	77.2%
	Russian	107	117	6	230	18.9%
	Other	16	24	8	48	3.9%
Education Level	Primary or lower	41	29	28	98	8.0%
	Secondary	180	149	103	432	35.5%
	Higher (non-university)	60	58	120	238	19.5%
	Higher (university)	128	168	154	450	36.9%

3. Modelling analysis

3.1. Dependent variable – susceptibility measure

We define a susceptibility measure to Russian propaganda narratives as the dependent variable of our modelling analysis. As previously outlined, susceptibility refers to an individual's cognitive openness or predisposition to endorse the core messages embedded in Russian propaganda, independent of exposure. In this study, susceptibility to Russian propaganda narratives was operationalized through agreement with 20 statements rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). In order to more reliably assess respondents' views on 10 core propaganda narratives, each narrative was represented by two thematically related statements. These pairs were designed to capture key frames such as distrust in national institutions, defamation of the armed forces, and propaganda about the war in Ukraine. A full list of themes, corresponding statements, and theme-wise Cronbach's alpha values is provided in Appendix B (see Table A2).

We conceptualize this measure as the degree of belief endorsement in propagandistic narratives, on the premise that expressed agreement indicates cognitive openness to their persuasive content. In environments characterized by sustained exposure to propaganda, such as the Baltic States, current belief alignment can thus serve as a valid indicator of susceptibility, as individuals' present acceptance of propaganda narratives is shaped by, and in turn reinforces, their predispositional receptivity to these messages (Van Der Linden 2022). This conceptual link provides the rationale for using belief endorsement as an operational proxy for susceptibility, while recognizing that the cross-sectional design captures a present belief state rather than longitudinal vulnerability.

To construct the measure of susceptibility to propaganda narratives, a composite agreement score was calculated for each respondent as the arithmetic mean of all 20 statement responses:

$$\text{Susceptibility Score}_i = \frac{1}{20}\sum_{j=1}^{20} x_{ij}$$

where x_{ij} represents the response of individual i to statement j.

This continuous score ranges from 1 to 5, with higher values indicating a greater susceptibility to falling victim to propaganda narratives. Cronbach's alpha value for the composite score was 0.937, indicating a strong internal consistency for the score. We use this susceptibility score as our dependent variable.

3.2. Explanatory variables

To explain variation in susceptibility scores, two sets of explanatory variables were employed: demographic characteristics and information environment factors. This separation enables a clearer understanding of whether susceptibility to propaganda is more rooted in structural personal attributes or in the media and informational contexts individuals inhabit.

3.2.1. Demographic predictors

Demographic predictors (such as age group, gender, education level, mother tongue, occupation, income, marital status, and urban or rural location) can capture baseline characteristics that shape individuals' informational environments and cognitive predispositions. Age and gender influence media exposure patterns, digital literacy, trust orientations, and information-verification habits, making them important controls in understanding how people encounter and interpret propaganda (Gondwe et al. 2025). Education is a well-established buffer against misinformation, strengthening critical evaluation skills and shaping access to reliable information through its link with socioeconomic status (Ecker et al. 2022; Sewell, Haller, and Portes 2018). Linguistic identity similarly channels exposure and trust toward specific media ecosystems, as language functions as a gateway to distinct information spheres (Naseer and Lipka 2024). In the Baltic context, linguistic and cultural alignment with Russian-language media can reduce psychological distance from Kremlin-aligned narratives, whereas perceiving propaganda as originating from an external outgroup strengthens reliance on domestic information sources (Wagnsson, Östervall, and Angwald 2025). Accordingly, we include age (Q3.1), gender (Q3.2), education (Q3.3), mother tongue (Q3.4) and socio-economic indicators (Q3.5 to Q3.8) as potential predictors of propaganda susceptibility.

3.2.2. Information environment predictors

The information environment shapes how individuals evaluate, internalize, and emotionally respond to media content. Trust structures, emotional climate, and cognitive self-awareness together define the pathways through which propaganda can either be resisted or absorbed.

Trust in information sources was assessed across traditional media, recognized experts, scientific institutions, personal networks, and digital platforms (Q1.11; Q1.3). Institutional trust supports analytical evaluation and reliance on evidence-based knowledge, whereas greater confidence in peer or platform-based channels may expose individuals to unverified or ideologically filtered information (Csepeli et al. 2020; Ecker et al. 2022).

Emotional dynamics can further influence susceptibility to propaganda. Respondents who reported negative emotional experiences while using social media (Q1.16) or perceived tendencies toward radicalization in their online environment (Q1.18) may exhibit lower reflective engagement and heightened affective resonance with polarizing narratives (Ecker et al. 2022).

Finally, cognitive awareness and perceived informational resilience capture individuals' ability to recognize and evaluate manipulative content. Confidence in one's capacity to assess information critically (Q1.20), awareness of echo-chamber dynamics in media environments (Q1.17), and the tendency to seek confirming opinions (Q1.21) together reflect meta-cognitive literacy and the recognition of bias within digital ecosystems (Bryanov and Vziatysheva 2021; Sultan et al. 2024).

Together, these indicators characterize the informational and psychological conditions that modulate how individuals encounter and process propagandistic content in information environments.

3.3. Modelling approach

To assess demographic and informational influences on susceptibility to propaganda, models were estimated separately for Estonia, Latvia, and Lithuania. The demographic models follow a multi-factor ANOVA structure, while the information-environment models use numeric and binary predictors treated as standard regression variables.

(1) Demographic Models – included demographic predictors such as age, gender, education, income, and mother tongue.
(2) Information Environment Models – captures cognitive, affective, and trust-based aspects of susceptibility, emphasizing media literacy, emotional engagement with social media, and differing orientations of trust toward information sources.

The multi-factor ANOVA models were evaluated against the core assumptions underlying linear model – based ANOVA. Multicollinearity among predictors was assessed using the Variance Inflation Factor (VIF). All predictors showed VIF values well below the conventional threshold of 5, with most values approximating 0–1, indicating no evidence of problematic multicollinearity. Full VIF tables are provided in Appendix C (see Table A3). Importantly, because the interpretation in this study relies on ANOVA-based effect sizes (η^2 and partial η^2) rather than individual regression coefficients, multicollinearity does not compromise the validity of the substantive conclusions and VIF diagnostics are reported for transparency but were not used as criteria for excluding predictors. Homoscedasticity was assessed using the Breusch – Pagan test. Estonia and Latvia showed statistically significant heteroskedasticity (Estonia: $p = 0.002$; Latvia: $p = 0.017$), while Lithuania did not exhibit strong evidence of non-constant variance ($p = 0.091$). To ensure valid inference despite these violations, all coefficient tests and pairwise contrasts were computed using heteroskedasticity-consistent HC3 standard errors. Normality of residuals was evaluated with the Shapiro – Wilk and Jarque – Bera tests, supplemented by Q – Q plots (see Appendix D). Estonia and Latvia showed no evidence of non-normality (Estonia: Shapiro – Wilk $p = 0.308$, Jarque – Bera $p = 0.459$; Latvia: Shapiro – Wilk $p = 0.136$, Jarque – Bera $p = 0.633$). Lithuania displayed mild deviations from normality (Shapiro – Wilk $p < 0.001$, Jarque – Bera $p = 0.005$), although the large sample size ($n = 405$) makes the ANOVA F-tests robust to such departures. These diagnostics suggest that the substantive conclusions are unlikely to be affected.

In the information environment models, the diagnostic pattern was broadly similar. Homoscedasticity held in Estonia ($p = 0.591$) and Lithuania ($p = 0.403$), while Latvia again showed evidence of heteroskedasticity ($p = 0.026$). Normality of residuals was acceptable in Estonia and Latvia (Estonia: Shapiro – Wilk $p = 0.151$, Jarque – Bera $p = 0.296$; Latvia: Shapiro – Wilk $p = 0.161$, Jarque – Bera $p = 0.466$), with Lithuania showing mild positive skew (Shapiro – Wilk $p = 0.004$, Jarque – Bera $p = 0.021$). Multicollinearity was moderate but not severe, with VIF values for platform-trust and literacy items typically ranging from 4 to 10, reflecting expected correlations among conceptually related information-environment indicators (e.g. trust in different social media platforms). As with the demographic model, the analytic focus on ANOVA effect sizes (η^2 and partial η^2), which are not distorted by multicollinearity, means that these VIF levels do not threaten validity. Given the large samples and use of HC3 robust standard errors, inference from the information-environment model is reliable and the effect-size patterns are robust.

3.4. Modelling results

3.4.1. Demographic model

For the demographic models, Table 2 presents the partial effect sizes ($\eta^2_{partial}$), the corresponding factor-level *p*-values, as well as the category-specific regression coefficients and their *p*-values, together with overall model fit statistics. In the demographic model, several predictors (e.g. age, education, income) are multi-level categorical

Table 2. Multi-way ANOVA estimates for demographic predictors of susceptibility to Russian propaganda beliefs across Estonia, Latvia, and Lithuania.

	Estonia			Latvia			Lithuania		
Predictor category	$\eta^2_{partial}$	coef	*p*	$\eta^2_{partial}$	coef	*p*	$\eta^2_{partial}$	coef	*p*
Q3_1: Age group	**0.020**		**0.178**	**0.012**		**0.469**	**0.023**		**0.116**
18–25 (ref)		0.000	–		0.000	–		0.000	–
26–35		0.230	0.081		−0.321	0.045*		0.177	0.349
36–45		0.185	0.206		−0.160	0.338		0.134	0.532
46–55		0.184	0.220		−0.276	0.076		−0.182	0.348
56–65		0.072	0.660		−0.276	0.136		−0.181	0.435
65+		0.482	0.049*					0.132	0.632
Q3_2: Gender	**0.001**		**0.772**	**0.001**		**0.762**	**0.003**		**0.529**
Male (ref)		0.000	–		0.000	–		0.000	–
Female		0.014	0.875		0.035	0.708		0.089	0.427
Q3_3: Education level	**0.024**		**0.027***	**0.023**		**0.03**	**0.009**		**0.323**
Primary or lower (ref)		0.000	–		0.000	–		0.000	–
Secondary		−0.393	0.007**		−0.271	0.252		−0.137	0.545
Higher non-university		−0.341	0.080		−0.277	0.286		−0.109	0.640
Higher university		−0.491	0.00*		−0.534	0.038*		−0.319	0.203
Q3_4: Mother tongue	**0.132**		**0.000*****	**0.128**		**0.000*****	**0.021**		**0.251**
Estonian (ref for EE)		0.000	–						
Latvian (ref for LV)					0.000	–			
Lithuanian (ref for LT)								0.000	–
Russian		0.535	0.000***		0.519	0.000***			
Q3_5: Occupational status	**0.021**		**0.335**	**0.031**		**0.109**	**0.011**		**0.784**
Highest, middle-level manager (ref)		0.000	–		0.000	–		0.000	–
Specialist, office worker		−0.044	0.823		−0.031	0.850		0.122	0.539
Worker, technical staff		0.134	0.543		−0.059	0.758		0.165	0.470
Unemployed		0.206	0.431		−0.174	0.525		0.262	0.382
Retiree		0.025	0.928		0.373	0.267		0.209	0.472
Q3_6: Monthly net income	**0.004**		**0.957**	**0.032**		**0.058**	**0.049**		**0.00***
Up to 500 EUR (ref)		0.000	–		0.000	–		0.000	–
501–1000 EUR		0.029	0.856		−0.223	0.182		−0.605	0.003**
1001–1500 EUR		−0.005	0.978		−0.203	0.278		−0.607	0.009**
1501–2000 EUR		−0.074	0.678		−0.334	0.138		−0.676	0.005**
2001–3000 EUR		−0.091	0.657		−0.614	0.005**		−0.874	0.00*
Q3_7: Marital and family status	**0.023**		**0.01**	**0.003**		**0.549**	**0.001**		**0.899**
Single, not married (ref)		0.000	–		0.000	–		0.000	–
Married / partnership		0.278	0.003**		−0.112	0.306		0.035	0.787
Other		0.249	0.128		−0.043	0.823		0.077	0.673
Q3_8: Location	**0.005**		**0.358**	**0.003**		**0.597**	**0.000**		**0.911**
Major cities (ref)		0.000	–		0.000	–		0.000	–
Other cities / regional center		0.082	0.470		−0.121	0.304		0.039	0.777
Rural areas		0.154	0.182		−0.048	0.685		−0.017	0.902
Model fit statistics									
R^2		0.156			0.199			0.141	
Adjusted R^2		0.089			0.130			0.069	
F-statistic		2.330			2.887			1.968	
F *p*-value		0.000***			0.000***			0.02*	

Coefficients and *p*-values are shown only for predictor categories with sample size $n > 30$.
Significance levels: *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

variables. $\eta^2_{partial}$ is therefore reported once per factor, while category-specific coefficients show deviations from the reference group. We emphasise predictors with statistically significant $\eta^2_{partial}$ values, as these capture the adjusted contribution of the full factor, whereas category-level coefficients reflect only specific deviations within that factor. The overall explanatory power of the demographic models are relatively limited (Adjusted R^2 values ranging from 0.069 to 0.130). Susceptibility to propaganda is likely influenced by a wide range of psychological, social, and contextual factors that are difficult to fully capture through basic demographic variables alone. Nonetheless, the demographic models show consistent cross-country patterns that offer a useful starting point for understanding vulnerability.

Amongst Estonian respondents, three predictors reached statistical significance with regards to explaining variance in our susceptibility index: education level ($p < 0.05$), mother tongue ($p < 0.001$) and marital status ($p < 0.05$). The mother tongue amongst them explains 12.2% of variance, indicating its importance in predicting susceptibility. In the Latvian sample, mother tongue also showed a moderate effect in explaining 11.7% of susceptibility variance ($p < 0.001$), and 1.9% of variance was explained by education level ($p < 0.05$). Amongst Lithuanian respondents, only monthly income showed significance is explaining 4.6% of susceptibility variance ($p < 0.01$), while other predictors fell under reasonable significance thresholds.

The consistent significance ($p < 0.001$) and strong effect ($\eta^2_{\text{partial}} > 0.12$) of the feature *mother tongue* across two of the three countries suggests that language plays a role in shaping Baltic susceptibility to Russian propaganda narratives. In samples from Estonia and Latvia, individuals whose first language is Russian are more likely to endorse such narratives, even after controlling for other demographic factors. This is further supported by Figure 1, which shows that Russian-speaking respondents in Latvia and Estonia have higher estimated marginal mean susceptibility scores ($p < 0.001$). A similar pattern may be present among Lithuanian respondents whose mother tongue is Russian; however, due to the relatively small number of such respondents in the Lithuanian sample, this result should be interpreted with caution and cannot be considered conclusive.

Education level showed statistically meaningful differences in both Estonia and Latvia, as indicated by the significant factor-level η^2_{partial} values. Because 'primary or lower education' serves as the reference category, the coefficients reflect how each educational group deviates from that baseline. In Estonia, both secondary education (−0.393, $p = 0.007$) and higher university education (−0.491, $p = 0.004$) were associated with lower belief scores relative to the primary-education group. Latvia shows a similar pattern, with higher university education significantly lower than the reference group (−0.534, $p = 0.038$). Overall, in both countries, individuals with more advanced formal education tend to report lower susceptibility scores compared to those with only primary education.

Given the significance of the feature, we include *mother tongue* and *education level* as dimensions in the clustering analysis and role construction that follow later.

3.4.2. Information environment model

For the information-environment models, Table 3 reports partial effect sizes, ANOVA p_{η^2} values, and HC3-robust regression coefficients with their corresponding p_{coef} values. The results show substantial cross-country variation but also several consistent patterns across

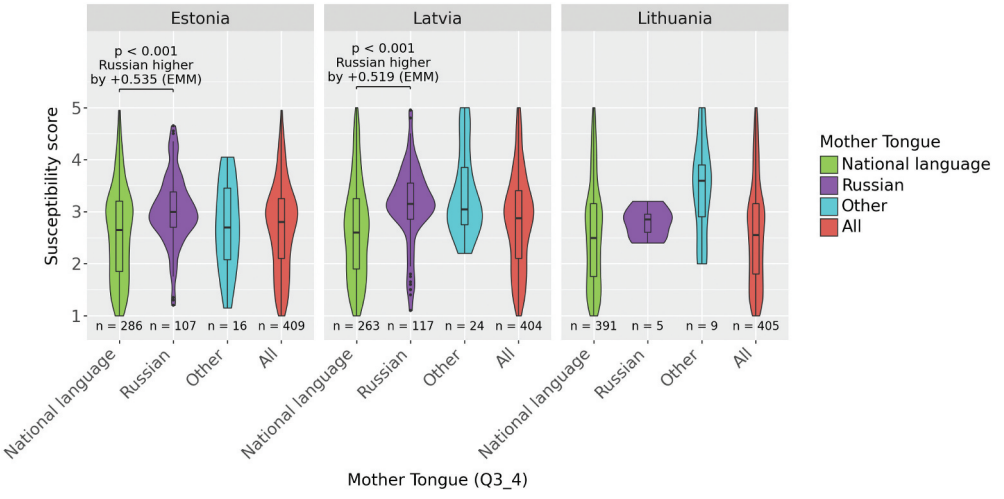

Figure 1. Violin plots of susceptibility scores across mother tongue, with *p*-values and adjusted mean differences (EMM) between Russian- and national-language respondents shown for Estonia and Latviafig.

Estonia, Latvia, and Lithuania. Model fit is considerably stronger than in the demographic models, with adjusted R^2 values ranging from 0.23 to 0.37. This indicates that information-environment predictors, such as trust orientations, emotional responses to social media, and perceived media literacy, explain notably more variance in susceptibility to propaganda narratives. This effect is particularly strong in Lithuania, where information-environment indicators account for more than one-third of the total variance.

Across Estonian respondents, several information-environment predictors accounted for statistically significant portions of variance in susceptibility scores, with effects that are both sizable and substantively meaningful. Trust in traditional media ($p < 0.001$) and trust in recognized experts ($p < 0.001$) showed the strongest statistical evidence of explaining variance, and both coefficients were negative, indicating that higher trust in authoritative or institutional sources is associated with lower susceptibility to propaganda. Self-perceived radicalization also exhibited a robust positive association ($p < 0.001$), suggesting that individuals who view themselves as more ideologically extreme tend to show higher belief in propaganda narratives. Smaller yet statistically detectable contributions emerged from trust in Odnoklassniki ($p < 0.05$), whose positive coefficient implies higher susceptibility among users of this platform.

In Latvia, trust in traditional media ($p < 0.001$) explained the largest share of variance and was again accompanied by a strong negative coefficient, indicating lower susceptibility among individuals who trust mainstream news. Several platform-specific trust measures also contributed meaningfully: trust in Odnoklassniki ($p < 0.01$) and trust in VKontakte ($p < 0.01$) both showed positive coefficients, suggesting these platforms correlate with increased susceptibility. Trust in family and friends ($p < 0.05$) likewise displayed a positive association, hinting that reliance on interpersonal networks for information may introduce unverified or emotionally charged content into decision-making. Confirmatory opinion-seeking ($p < 0.05$) increased susceptibility, while higher informational resilience

Table 3. Multi-way ANOVA estimates for information environment predictors of susceptibility to Russian propaganda beliefs across Estonia, Latvia, and Lithuania.

	Estonia				Latvia				Lithuania			
Predictor	$\eta^2_{partial}$	p_{η^2}	coef	p_{coef}	$\eta^2_{partial}$	p_{η^2}	coef	p_{coef}	$\eta^2_{partial}$	p_{η^2}	coef	p_{coef}
Q1_3: Trust in social media platforms												
Q1_3_01: Trust in Telegram	0.003	0.251	0.042	0.250	0.017	0.010*	0.100	0.01	0.014	0.019*	0.078	0.023*
Q1_3_02: Trust in Facebook	0.001	0.608	0.020	0.631	0.000	0.832	−0.008	0.833	0.001	0.556	−0.020	0.598
Q1_3_03: Trust in VKontakte	0.001	0.610	−0.030	0.646	0.016	0.01	0.140	0.007**	0.008	0.087	0.087	0.098
Q1_3_04: Trust in Odnoklassniki	0.017	0.011*	0.157	0.031*	0.024	0.00*	0.163	0.006**	0.001	0.461	−0.027	0.492
Q1_3_05: Trust in Instagram	0.000	0.826	0.008	0.837	0.000	0.902	0.005	0.906	0.008	0.074	0.098	0.149
Q1_3_06: Trust in X/Twitter	0.000	0.965	−0.002	0.968	0.006	0.140	−0.063	0.134	0.021	0.005**	−0.105	0.010*
Q1_3_07: Trust in TikTok	0.008	0.079	0.069	0.089	0.010	0.056	0.077	0.059	0.000	0.936	−0.004	0.934
Q1_3_08: Trust in Threads	0.001	0.597	−0.026	0.635	0.000	0.670	−0.021	0.641	0.011	0.039*	0.082	0.059
Q1_3_09: Trust in Snapchat	0.006	0.133	−0.076	0.197	0.004	0.212	−0.061	0.220	0.012	0.03	−0.139	0.031*
Q1_3_10: Trust in Pinterest	0.006	0.136	−0.052	0.160	0.020	0.006**	−0.105	0.00*	0.001	0.627	0.023	0.696
Q1_11: Trust in information sources												
Q1_11_01: Trust in traditional media	0.061	0.000***	−0.419	0.000***	0.055	0.000***	−0.418	0.000***	0.067	0.000***	−0.450	0.000***
Q1_11_02: Trust in social networks	0.000	0.724	0.019	0.732	0.000	0.717	−0.022	0.748	0.001	0.523	−0.035	0.531
Q1_11_03: Trust in friends and family	0.001	0.455	0.020	0.470	0.017	0.011*	0.085	0.018*	0.034	0.000***	0.110	0.001***
Q1_11_04: Trust in recognized experts	0.040	0.000***	−0.082	0.000***	0.006	0.117	−0.036	0.103	0.032	0.001***	−0.082	0.001***
Q1_11_05: Trust in media influencers	0.002	0.371	0.081	0.525	0.000	0.957	−0.004	0.972	0.003	0.298	−0.035	0.266
Q1_11_06: Trust in science	0.002	0.368	−0.013	0.359	0.004	0.198	−0.019	0.199	0.033	0.000***	−0.054	0.001***
Q1_11_07: Trust in other sources	0.009	0.067	0.051	0.135	0.000	0.706	0.008	0.711	0.004	0.233	0.028	0.219
Q1_16–Q1_21: Perceived effects and information literacy												
Q1_16: Negative effect from social media	0.001	0.464	0.026	0.506	0.000	0.665	0.015	0.689	0.026	0.00*	0.118	0.00*
Q1_17: Awareness of echo chambers	0.000	0.990	0.000	0.992	0.010	0.053	−0.071	0.073	0.003	0.320	0.037	0.390
Q1_18: Self-perceived radicalization	0.037	0.000***	0.117	0.000***	0.008	0.084	0.055	0.141	0.035	0.000***	0.133	0.001***
Q1_20: Self-confidence in info resilience	0.008	0.074	0.067	0.110	0.015	0.018*	0.083	0.030*	0.004	0.238	0.042	0.293
Q1_21: Seeks confirming opinions	0.003	0.298	−0.043	0.327	0.016	0.01	0.093	0.023*	0.002	0.369	0.034	0.452
Model fit statistics												
R^2	0.273				0.295				0.399			
Adjusted R^2	0.232				0.255				0.365			
F-statistic	6.605				7.255				11.565			
F p-value	0.000***				0.000***				0.000***			

Significance levels: *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

($p < 0.05$) reduced it, aligning with evidence that media-literacy skills can be protective (Maksl, Ashley, and Craft 2015). Trust in Pinterest ($p < 0.05$), although a smaller effect, also carried a positive coefficient, illustrating that even less promine nt platforms may play a role.

Among Lithuanian respondents, the information-environment predictors formed the strongest and most diverse set of significant effects. Trust in traditional media ($p < 0.001$), trust in recognized experts ($p < 0.001$), and trust in science ($p < 0.001$) all had negative coefficients, again illustrating a consistent protective pattern whereby confidence in institutional or evidence-based sources corresponds to lower susceptibility. Conversely, several platform-specific and psychosocial indicators were positively associated with susceptibility. Trust in X/Twitter ($p < 0.05$), trust in Snapchat ($p < 0.05$), and trust in Telegram ($p < 0.01$) each exhibited positive coefficients, indicating higher susceptibility among users of these platforms. Trust in family and friends ($p < 0.001$) also predicted greater susceptibility, potentially reflecting the influence of unverified peer-to-peer information flows. Negative effects from social media ($p < 0.01$) and self-perceived radicalization ($p < 0.001$) further amplified susceptibility.

Our findings suggest that the information environment plays a role in shaping susceptibility to Russian propaganda. Across countries, one of the strongest protective factors is trust in traditional media, experts, and science. People who trust these sources are consistently less likely to believe in false or misleading narratives. In contrast, trust in less regulated or alternative platforms, which in this study refer to social media environments operating largely outside the Baltic mainstream media ecosystem and where editorial oversight or moderation is comparatively limited, especially certain Russian-language platforms such as Telegram, Odnoklassniki, and VKontakte, is associated with higher susceptibility to Russian propaganda. We can also see this in Figure 2, where those using Russian social media platforms rank almost consistently higher when it comes to believing each narrative statement.

Another common pattern is the association between self-perceived radicalization and susceptibility to Russian propaganda. Individuals who report higher levels of feeling radicalized as a result of social media use tend to show higher susceptibility scores. This pattern is visible in the distribution of susceptibility across self-perceived radicalization in Figure 3, where increasing self-perceived radicalization is associated with higher susceptibility towards Russian narratives. Russian propaganda frequently circulates through

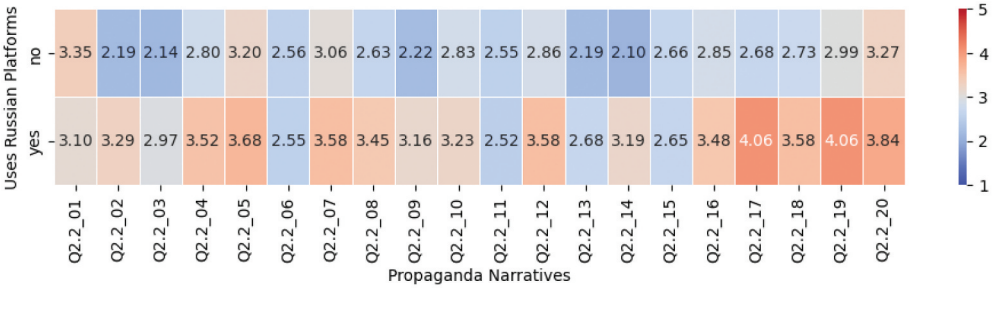

Figure 2. Average susceptibility score per Russian narrative statement grouped by if they use Russian social media platforms (VKontakte, Odnoklassniki or Telegram).

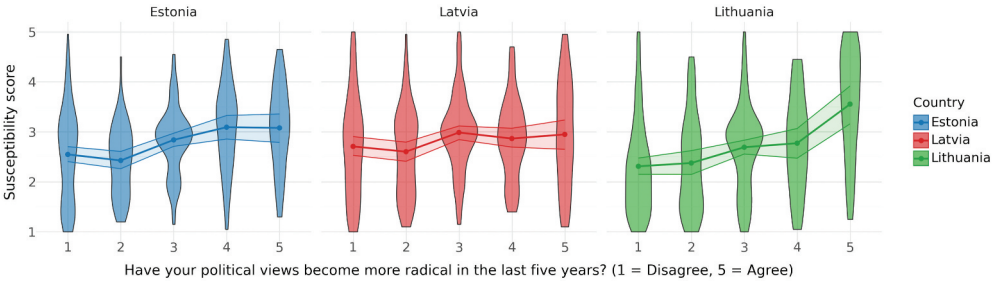

Figure 3. Average susceptibility by self-perceived radicalization level, with dots marking mean scores and bootstrapped 95% CIs.

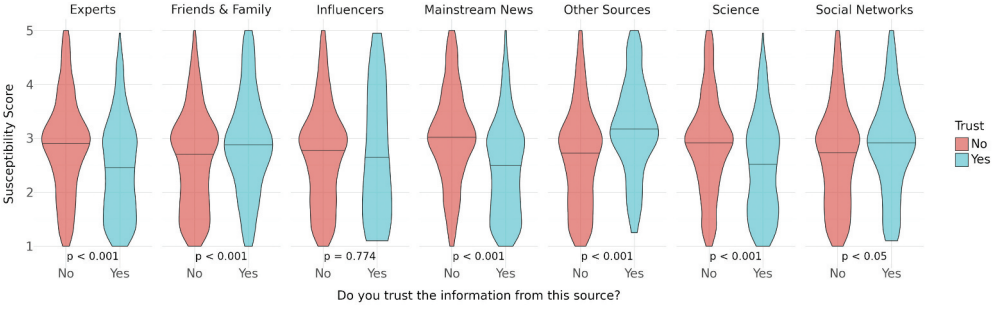

Figure 4. Violin plots showing the distribution of susceptibility scores for individuals who do or do not trust each information source, with differences formally tested using Welch's two-sample t-tests comparing the mean scores between trust and no-trust groups.

emotionally charged online environments marked by anger, frustration, or moral outrage, even when messages appear neutral on the surface (Murauskaite et al. 2024). For this reason, the observed association should be interpreted with care, as radicalization-related experiences may interact with multiple other psychological and contextual factors that are not captured in this model.

The role of personal networks (as seen in Figure 4) also appears important. Trusting friends and family for information, while usually seen as a positive trait, is in some cases associated with higher susceptibility to Russian propaganda. This may be because false information can easily circulate within close social circles, especially when people are not critically evaluating the content they receive. Similarly, a tendency to seek out opinions that match one's existing views is linked to stronger susceptibility to Russian propaganda narratives (Marwick 2018).

4. Cluster-based type creation

To derive audience typologies of susceptibility to Russian propaganda narratives, we restrict the clustering input to the predictors that showed statistically significant associations ($p < 0.05$) in at least two out of the three Baltic countries: education level (Q3_3), mother tongue (Q3_4), trust in Telegram (Q1_3_01), trust in Odnoklassniki (Q1_3_04), trust in traditional media (Q1_11_01), trust in friends and family (Q1_11_03), trust in

recognized experts (Q1_11_04), and self-perceived radicalization (Q1_18). These variables mix categorical, ordinal (Likert), and binary formats, making Euclidean distance inappropriate because it would overweight numeric scales and distort similarity relationships.

To address this, we compute Gower dissimilarities, which provide a theoretically grounded way to compare observations across heterogeneous variable types without requiring transformations, dummy expansion, or forcing ordinal variables into linear numeric spaces. Gower distance standardizes each variable to a [0,1] range, handles categorical mismatches directly, and preserves the natural structure of ordinal responses. This yields a more interpretable and methodologically appropriate similarity structure for social-science variables.

Using the resulting dissimilarity matrix, we employ PAM (k-medoids) clustering, which is specifically designed for non-Euclidean distances and is less sensitive to outliers and skewed distributions than k-means. We evaluate candidate solutions for $k = 2$ through $k = 9$ using the two indicators plotted in Figure 5: the Calinski – Harabasz (CH) Index, which assesses between-cluster separation relative to within-cluster cohesion, and the PAM objective function, which tracks the total within-cluster dissimilarity.

Both curves show a characteristic elbow-like pattern. The CH Index declines steeply from $k = 2$ to $k = 4$, after which the rate of decrease slows substantially. Similarly, the PAM objective improves rapidly up to $k = 4$, but subsequent improvements become progressively smaller. This convergence of signals marks $k = 4$ as the point beyond which additional clusters no longer provide meaningful gains in separation or compactness, relative to the complexity they introduce. Based on this, we adopt the 4-cluster configuration as the final typology, balancing explanatory adequacy with interpretability.

We classify the four audience types into resilient and vulnerable categories by comparing each cluster's mean susceptibility score to the overall sample average of 2.71. Type 1, with an average of 2.16, falls below the overall mean and is therefore classified as resilient,

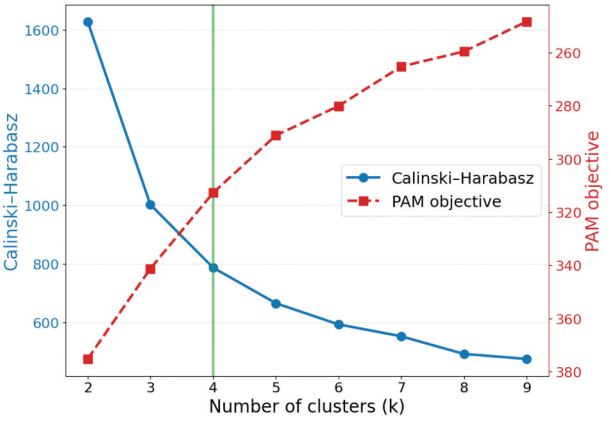

Figure 5. Comparison of Calinski–harabasz separation and PAM compactness across cluster counts (k = 2 to 9). The blue line shows the Calinski–harabasz index, which captures how well the clusters are separated relative to their internal cohesion. The red dashed line plots the PAM objective function, where lower values indicate tighter within-cluster grouping. The vertical line at $k = 4$ marks the elbow point at which improvements in both metrics begin to diminish, suggesting that additional clusters add complexity without meaningful gains in structure.

showing a low inclination to accept Russian propaganda narratives. Type 2, scoring 2.68, also remains just below the population average and is thus considered resilient, though its position is closer to the threshold. Type 3, with a mean of 3.07, emerges as the most vulnerable group and reflects a distinctly elevated susceptibility relative to the rest of the sample. Type 4, averaging 2.93, is likewise categorized as vulnerable, exhibiting heightened susceptibility though to a somewhat lesser degree than Type 3.

We call the first resilient type Mainstream-Aligned Skeptics (Type 1). This type consists of individuals who place strong trust in traditional media and experts (as shown in Figure 6) while showing minimal reliance on high-risk alternative platforms such as Telegram and Odnoklassniki. Their information patterns are primarily associated with higher levels of trust in institutional sources such as traditional media and experts, and comparatively lower reliance on interpersonal sources or alternative platforms. Linguistically, the group spans Lithuanian, Latvian, Estonian, and Russian speakers, and includes a sizable share of highly educated respondents, contributing to a more stable and diversified information environment. Taken together, these features reflect a cautious yet grounded orientation toward information that aligns with their low susceptibility to propaganda.

We call the second resilient type Socially Anchored Realists (Type 2). Its defining characteristic is a strong and consistent reliance on traditional mainstream media, which serves as the group's primary informational anchor even though trust in experts remains comparatively low. This trust pattern is accompanied by moderate trust in friends and family as information sources, producing a profile in which both institutional and interpersonal channels appear relevant within the group's information environment. Members of this type are concentrated in secondary and higher non-university education levels, producing a middle-stratum composition typically associated with practical, experience-driven reasoning (education levels are illustrated in Figure 7). Their linguistic background is mixed, and they tend to avoid high-risk platforms, further supporting their generally resilient stance.

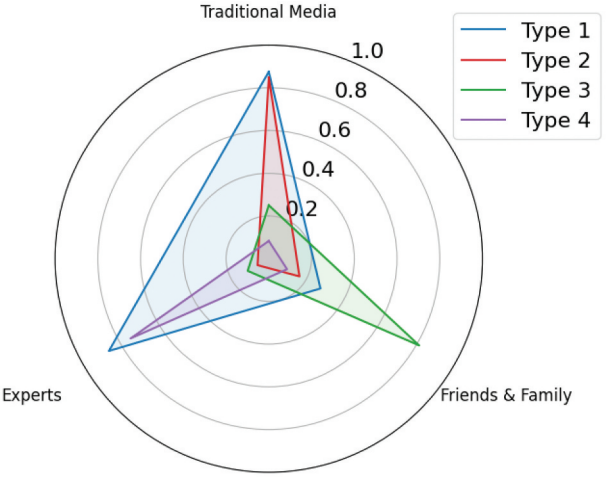

Figure 6. Radar plot showing, for each type, the share of members who trust traditional media, experts, and family/friends.

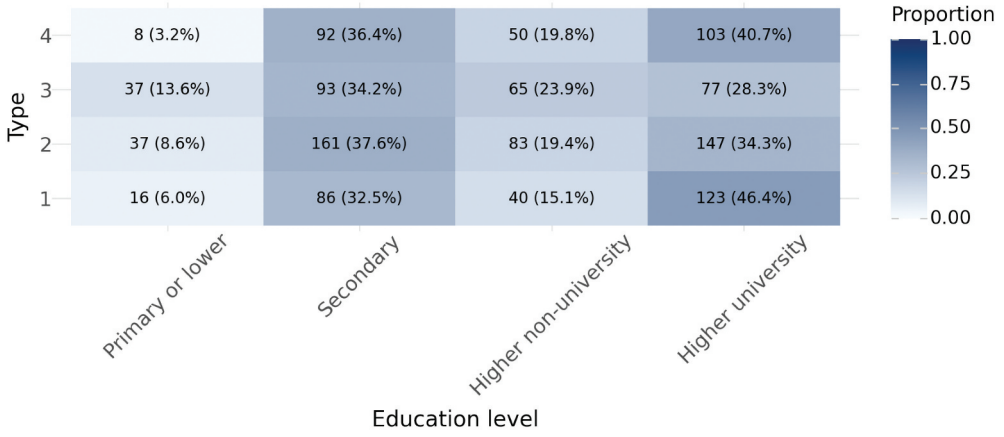

Figure 7. Education-level distribution across the four audience types. Each cell shows the count and percentage within the type, with darker shading indicating higher proportions. The figure highlights clear differences in educational composition among the groups.

We call the first vulnerable type the Community-Driven Vulnerables (Type 3). This type is characterised by high dependence on interpersonal information networks and elevated trust in alternative ecosystems such as Telegram and Odnoklassniki, alongside comparatively low trust in traditional media and experts. This creates an information environment where emotionally charged, socially reinforced, or platform-amplified narratives can gain disproportionate influence. The group includes a substantial share of Russian speakers and is primarily concentrated in secondary and non-university educational tiers, positioning them within communication networks that frequently intersect with Russian-language or fringe-platform information flows. These tendencies are reflected in their platform use and radicalization profiles visualized in Figure 8.

We call the second vulnerable type the Atomized Institutionalists (Type 4). This type combines high trust in recognized experts with limited trust in both traditional media and friends and family, suggesting that beliefs are formed mainly through expert sources without being tested or challenged through other institutional or personal channels. Additionally, alternative platforms are largely rejected. The type includes a notable concentration of Russian-speaking respondents, who may encounter Kremlin-aligned narratives through everyday Russian-language media environments such as broadcast television, shared links, or social conversations, even when direct engagement with platforms like Telegram or VKontakte is low. Educationally, this type is strongly represented in higher university categories, aligning with their preference for expert authority. However, the combination of individualized processing and language-linked information pathways may leave them exposed to authoritative-sounding but misleading narratives. Their Russian-dominant linguistic composition is illustrated in Figure 9.

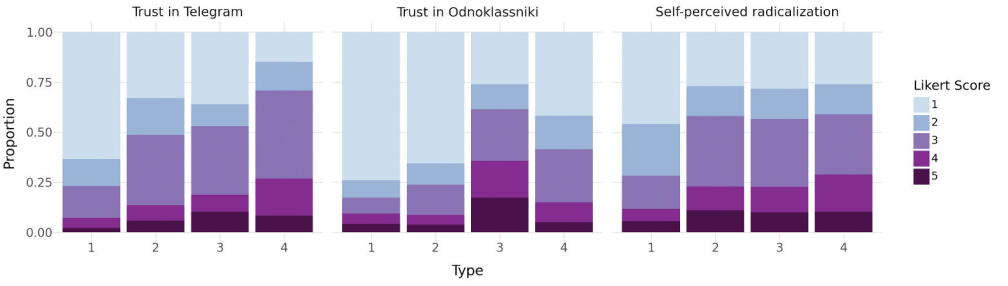

Figure 8. Distribution of Likert-scale responses across types for three dimensions: trust in Telegram, trust in Odnoklassniki, and self-perceived radicalization from social media.

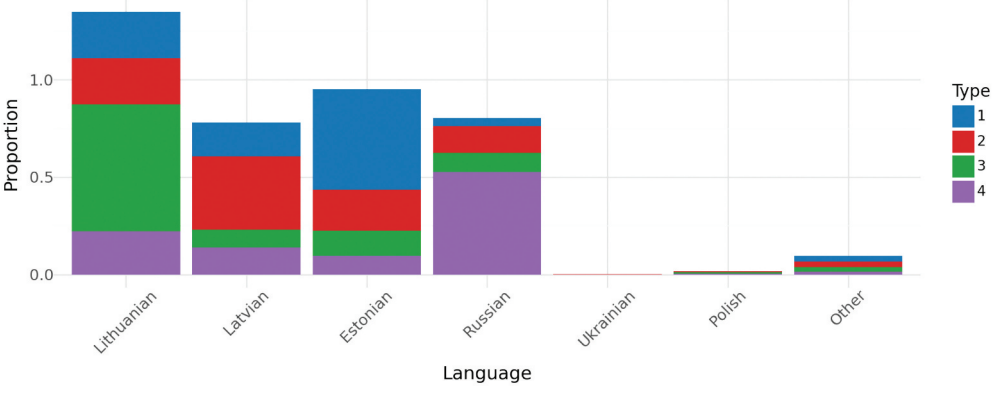

Figure 9. Stacked bar plot of mother tongue language use across types. Type 3 is shown to be predominantly Lithuanian, while types 1 and 3 are a mixture between Estonian, Lithuanian Latvian and Russian speakers. Type 4 is predominantly composed of Russian.

5. Discussion

5.1. Summary of main findings

Across all three Baltic countries, two predictors emerged as robust and consistent: Russian mother tongue and trust in Russian-linked social media platforms such as Telegram and Odnoklassniki. These variables were positively associated with susceptibility to propaganda narratives, even after controlling for demographic and informational environment factors. Conversely, trust in traditional media, experts, and science appeared as protective factors, significantly lowering susceptibility scores. Information environment variables consistently outperformed demographic factors in explanatory power, suggesting that susceptibility to Russian propaganda is shaped more by media trust patterns and emotional engagement with content than by socio-economic attributes.

5.2. Implications of findings

Our findings confirm prior work indicating that Russian-speaking minorities in the Baltics are disproportionately exposed to and influenced by Kremlin-aligned narratives (Bērziņš

2024; Helmus et al. 2018). The fact that trust, rather than mere usage, of platforms like Telegram and VKontakte predicted higher susceptibility highlights the role of epistemic reliance, where users not only consume content, but also implicitly accept it as valid. Similarly, the negative link between trust in traditional sources and susceptibility to Russian propaganda shows that established media, science, and expert voices continue to play a key protective role against propaganda (Osborne and Pimentel 2022).

Despite several common predictors across the three countries, the updated results also reveal clear cross-national differences in how specific information-environment variables relate to susceptibility. Trust in Telegram and VKontakte is significantly associated with susceptibility in Latvia and Lithuania but not in Estonia, indicating that platform-specific exposure plays a larger role where these networks are more embedded in everyday media use. Trust in Odnoklassniki matters in Estonia and Latvia but not in Lithuania, while trust in friends and family is a meaningful predictor only in Latvia and Lithuania, suggesting that interpersonal information channels are not uniformly important across the region. By contrast, trust in experts and trust in science are strongly associated with susceptibility in Estonia and Lithuania but not in Latvia, pointing to country-specific patterns in how institutional authority is integrated into belief formation. Psychological strain from social media is linked to susceptibility only in Lithuania, where emotional exhaustion appears more tightly coupled to narrative uptake than in Estonia or Latvia. Taken together, these findings indicate that, beyond shared regional patterns, susceptibility is shaped by national media and trust structures, in line with survey evidence that the balance between media consumption, socio-demographics, and political attitudes in explaining responsiveness to Russian propaganda differs between Estonia and Lithuania (Forte Forum 2024).

Our clustering showcased three audience types that differ in their susceptibility pathways:

Mainstream-Aligned Skeptics form the most resilient group. They express strong trust in traditional media and experts while showing minimal confidence in alternative platforms such as Telegram and Odnoklassniki. This combination reflects a cautious yet grounded information strategy in which institutional sources provide stability and questionable or highly polarized channels are avoided. This pattern is consistent with prior research suggesting that reliance on credible information sources can reduce vulnerability to misinformation and facilitate more effective correction of false beliefs (Lewandowsky et al. 2012). While such tendencies may also be present among other audience types, they appear comparatively more pronounced in this group due to their stronger trust in traditional media and experts. Rather than relying on social or emotional cues, members of this type maintain a stable, institution-focused orientation that limits the influence of propaganda narratives.

Socially Anchored Realists are also resilient but follow a different pathway. They rely heavily on traditional media while supplementing this with moderate trust in friends and family, creating an information structure shaped by institutional baselines and socially mediated reinforcement. This pattern reflects the dual role family networks may play in shaping judgment: sometimes exposing individuals to unverified claims, but often anchoring them in stable routines of shared interpretation (Johnson and Kromka 2023; Zozaya-Durazo, S´adaba-Chalezquer, and Beatriz 2024). Their susceptibility remains low, suggesting that trust in friends and family, which in isolation is associated with higher

susceptibility in our regression models, here works in combination with strong trust in traditional media to reinforce rather than undermine resilient beliefs. For many individuals, such hybrid pathways support pragmatic interpretation and reduce unfiltered engagement with high-risk platforms.

Community-Driven Vulnerables form the first vulnerable group. They combine elevated trust in alternative platforms such as Telegram and Odnoklassniki with strong reliance on interpersonal information channels. These conditions create an environment in which socially circulated or emotionally salient narratives can spread with fewer credibility checks. Prior work shows that dense interpersonal networks can increase susceptibility when social validation overrides critical evaluation, particularly among groups with lower institutional trust (Brashier and Schacter 2020). Emotional strain from digital environments can further exacerbate this pattern by impairing information discernment under stress (Walton et al. 2022). These dynamics align closely with the profile of Type 3 and help explain their elevated susceptibility.

Atomized Institutionalists are the second vulnerable group. They rely heavily on recognized experts while placing little trust in friends and family, meaning their views are shaped more by authoritative sources than by discussion within personal circles. The group is predominantly composed of Russian-speaking respondents, which our models identify as one of the strongest predictors of susceptibility. Their broader media environment may include channels where Kremlin-aligned narratives circulate alongside other Russian-language content, increasing the chance of incidental contact with such narratives (Maathuis, Ridder, and Stuurman 2023). Since they are predominantly Russian-speaking, the recognized experts they engage with may operate within a Russian-language media ecosystem where Kremlin-aligned framings are more prevalent (Treyger, Cheravitch, and Cohen 2022; Ventsel et al. 2021), making their expert-reliant but socially unmoderated information processing particularly vulnerable to narratives that carry an authoritative tone (Shulska et al. 2023). This could make them susceptible despite their otherwise institution-oriented informational profile.

These findings underline that propaganda resilience cannot be strengthened through generic, population-wide interventions. Instead, effective strategies must be tailored to the distinct trust configurations and informational contexts that shape how different groups process and evaluate content. As Balčytienė, Dāvidsone, and Siibak (2025) argues, information-related vulnerabilities emerge not only from structural conditions but also from individuals' lived experiences, cognitive resources, and cultural backgrounds, all of which must be considered when designing countermeasures. Complementing this, Balčytienė and Juraitė (2022) highlights that meaningful engagement with information depends on citizens' sense of inclusion in public communication spaces, perceptions of social solidarity, and trust in media as a democratic institution. For Socially Anchored Realists, strengthening peer-network media literacy may be particularly impactful, ensuring that mainstream media trust is not undermined by uncritical acceptance of information circulated within social circles. For Community-Driven Vulnerables, interventions should focus on evaluating content that spreads through interpersonal networks and high-risk platforms, where emotional and social validation often outweigh source scrutiny. For Atomized Institutionalists, educational efforts would benefit from fostering epistemic vigilance, especially the ability to assess the credibility and intent of self-proclaimed experts. Across all types, reinforcing trust in traditional media and science

remains essential, and given the association between emotional strain, radicalization and susceptibility, approaches that address cognitive overload and emotional well-being should be considered integral components of information resilience strategies.

6. Limitations

While this study offers insights into susceptibility to Russian propaganda narratives in the Baltic region, several limitations should be acknowledged.

First, although the sample was stratified across key demographics such as age, gender, and education, recruitment was conducted via online panels. This may introduce selection bias by over-representing individuals who are more digitally active or politically engaged. In addition as seen in the final demographics, the sample had a very low amount of people with primary or lower education. As people with lower education are usually shown to be more vulnerable to disinformation (Hwang and Jeong 2023; Seo et al. 2021), then most likely this feature did not show significance due to sample representativeness.

Second, the study relies on self-reported data for both media use behaviors and trust assessments. Self-report measures are subject to social desirability biases and inaccuracies in recall, particularly for sensitive topics such as trust in alternative media platforms or perceived susceptibility to disinformation. Although the survey design aimed to minimize these biases through anonymity, their presence cannot be fully ruled out.

Third, because the survey is cross-sectional, we cannot draw causal conclusions about the relationships between demographics, information environment, and belief in propaganda narratives. While we identify important associations, we cannot confirm their direction or whether they would remain stable over time.

Fourth, the survey captured trust and usage patterns across major social media platforms but may have missed the influence of smaller, encrypted, or emerging platforms (e.g. Bluesky, Truth Social) that can be critical sources of disinformation. Future research should aim for finer-grained measures of platform-specific exposure.

Fifth, information consumption is not always a matter of active choice but often one of opportunity and infrastructural constraints. In some rural areas of Estonia, Latvia, and Lithuania, households still rely on older satellite or radio connections through which Russian-language broadcasts can be received unintentionally or as the only consistently available signal. This unplanned exposure may shape audiences' informational environments in ways that are not captured by self-reported platform use or trust measures. As a result, some respondents may appear susceptible not because they actively seek out Russian narratives, but because their media ecosystem structurally increases the likelihood of incidental contact with them. This limitation suggests that infrastructural and geographic factors could play a larger role in susceptibility than our survey design is able to measure directly.

7. Conclusions

This study identified factors associated with susceptibility to Russian propaganda narratives in Estonia, Latvia, and Lithuania. Russian mother tongue and trust in Russian social platforms (e.g. Telegram, VKontakte) consistently showed stronger associations with

higher susceptibility, while trust in traditional media, experts, and science were linked to lower susceptibility across all three countries. Country-level differences also emerged: in Latvia, education accounted for a larger share of explained variance in susceptibility, whereas in Estonia and Lithuania, emotional strain related to social media contributed more substantially to susceptibility.

Our clustering analysis revealed four distinct audience types, each shaped by a different pathway to susceptibility. Mainstream-Aligned Skeptics were the most resilient, characterised by strong trust in traditional media and experts and very limited reliance on high-risk alternative platforms. Socially Anchored Realists also showed resilience, grounded in a stable dependence on mainstream news reinforced by moderate social-network cues. Community-Driven Vulnerables exhibited heightened susceptibility, driven by strong reliance on interpersonal information channels and elevated trust in platforms such as Telegram and Odnoklassniki, which create socially reinforced pathways for propaganda. Atomized Institutionalists combined high trust in experts with low reliance on friends and family, making them vulnerable not through social influence but through unmoderated engagement with authoritative-sounding information, including potentially pseudo-expert narratives. Together, these types demonstrate that susceptibility is not uniform but emerges from different configurations of institutional trust, social embeddedness, and platform exposure.

Overall, our findings highlight that strengthening credible information sources and improving media literacy remain central to building resilience against propaganda in the Baltic region. Future work should test these relationships over time using longitudinal or experimental designs, and explore how specific interventions, such as targeted media literacy programs or trust-building initiatives, can shift informational trust dynamics and reduce susceptibility to Russian propaganda narratives across different audience segments.

Author contributions

CRediT: **Uku Kangur:** Conceptualization, Formal analysis, Investigation, Methodology, Resources, Software, Supervision, Visualization, Writing – original draft; **Girts Dimdins:** Conceptualization, Formal analysis, Funding acquisition, Supervision, Validation, Writing – review & editing; **Darius Plikynas:** Conceptualization, Formal analysis, Funding acquisition, Methodology, Project administration, Supervision, Validation, Writing – review & editing; **Rajesh Sharma:** Conceptualization, Funding acquisition, Project administration, Supervision.

Disclosure statement

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Ethical approval

The survey was conducted anonymously, and the study was reviewed and approved by University of Latvia Ethics Committee for Research in Humanities and Social Sciences (Approval No. 13–28/8), and by the Vilnius University Faculty of Philosophy Joint Committee on Research Ethics (Approval No. (1.13 E) 250,000-KT-121, dated 10 June 2024). No risks to participants or other ethical issues were identified during the ethical review. The participants indicated their consent after reading the study description, by checking a box next to a statement 'I confirm that I have read and understood all of the above information and agree to participate in the study'. After checking the box, a button 'Continue' was enabled, which allowed the participants to commence with the online study. The action of checking the box was registered as a separate variable in the data file, documenting the consent given by each participant completing the study.

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Appendices

Appendix A. Coding of the questionnaire questions

Table A1 Coding of questionnaire items. Codes correspond to survey questions across three blocks: social media use, trust, and information behaviour (Q1.1–Q1.24); recognition of manipulation techniques (Q2.1) and exposure to disinformation narratives (Q2.2); and respondent demographics (Q3.1–Q3.8).

Codes	Questions	Codes	Questions
Q1.1	How much time do you spend on social networks and media on average per day?	Q1.2_01	Telegram (Select three social network platforms that you use most)
Q1.2_02	Facebook (Select three social network platforms that you use most)	Q1.2_03	VKontakte (Select three social network platforms that you use most)
Q1.2_04	Youtube (Select three social network platforms that you use most)	Q1.2_05	Odnoklassniki (OK.ru) (Select three social network platforms that you use most)
Q1.2_06	Instagram (Select three social network platforms that you use most)	Q1.2_07	X/Twitter (Select three social network platforms that you use most)
Q1.2_08	TikTok (Select three social network platforms that you use most)	Q1.2_09	Threads (Select three social network platforms that you use most)
Q1.2_10	Snapchat (Select three social network platforms that you use most)	Q1.2_11	Pinterest (Select three social network platforms that you use most)
Q1.2_12	Other (Select three social network platforms that you use most)	Q1.3_01	Telegram (Do you trust these social network platforms?)
Q1.3_02	Facebook (Do you trust these social network platforms?)	Q1.3_03	VKontakte (Do you trust these social network platforms?)
Q1.3_04	Odniklasniki (Do you trust these social network platforms?)	Q1.3_05	Instagram (Do you trust these social network platforms?)
Q1.3_06	X/Twitter (Do you trust these social network platforms?)	Q1.3_07	TikTok (Do you trust these social network platforms?)
Q1.3_08	Threads (Do you trust these social network platforms?)	Q1.3_09	SnapChat (Do you trust these social network platforms?)
Q1.3_10	Pinterest (Do you trust these social network platforms?)	Q1.4	How often do you check sources when you come across suspicious information on social networks and media?
Q1.5	Do you agree with the statement: 'Social networks and media are an important source of news for me'?	Q1.6	Do you have many followers/friends on social networks?
Q1.7	How often do you follow other people's accounts or groups on social networks?	Q1.8	On average, how many posts do you make on your personal social network pages per week (e.g. posts, events, tweets, ads, etc.)?
Q1.9	On average, how many posts (e.g. Fb posts, events, tweets, ads, etc.) obtained from various other sources do you forward per week?	Q1.10	On average, how many comments/replies do you post on social networks per week?
Q1.11_01	Traditional mainstream media (TV, radio, print) (What do you consider the most reliable sources of information?)	Q1.11_02	Social networks (What do you consider the most reliable sources of information?)
Q1.11_03	Friends and family (What do you consider the most reliable sources of information?)	Q1.11_04	Recognized experts (What do you consider the most reliable sources of information?)
Q1.11_05	Media influencers (What do you consider the most reliable sources of information?)	Q1.11_06	Science reports (What do you consider the most reliable sources of information?)
Q1.11_07	Other (What do you consider the most reliable sources of information?)	Q1.12	How strongly do you agree with the statement: I tend to trust the information shared by my friends on social media?
Q1.13	How often do you notice covert impact of foreign information manipulation and interference in the social networks and media you use?	Q1.14	How strongly do you agree that your views on social, political or economic issues are influenced by the information you see on social networks and media?

(*Continued*)

Table A1 (Continued).

Codes	Questions	Codes	Questions
Q1.15	How strongly do you agree that you tend to change your behavior based on the information you get from social media?	Q1.16	Do you agree that the social networks and media you follow usually have a negative emotional effect on your state of mind?
Q1.17	How often do you encounter social networks and media environments where individuals encounter only information and opinions that align with and reinforce their existing beliefs, potentially limiting exposure to other views?	Q1.18	Have your political views become more radical in the last five years?
Q1.19	Have political attitudes in society become more polarized in the last five years because of COVID, the war in Ukraine, LGBT rights and other controversial issues?	Q1.20	How often, when reading information on social media, you do not feel confident (you doubt) that you are able to distinguish between accurate and inaccurate information?
Q1.21	How often do you tend to limit yourself to information and opinions on social networks that correspond to and reinforce your preconceptions and beliefs, while distancing yourself from exposure to other points of view?	Q1.22	How often do you encounter unconstructive criticism on social networks and media?
Q1.23	Do you agree that the social networks and media you use foster an atmosphere of trust and cooperation?	Q1.24	Do you agree that your critical thinking is more important than blind trust in social networks and media?
Q2.1_01	Whataboutism (e.g. 'Yes, we have issues with human rights, but what about all the other countries with worse situations?')	Q2.1_02	Red herring (e.g. 'We should focus on education instead of the defense budget'.)
Q2.1_03	Emotional appeals ('Think of the children who will suffer if we don't act now!')	Q2.1_04	Ad hominem ('How can you trust him? He's not even a real scientist'.)
Q2.1_05	Repetition ('Fight! Fight! Fight!')	Q2.1_06	Reductio ad hitlerum ('That's what the Nazis would have done'.)
Q2.1_07	Doubt ('Can we really trust her with national security?')	Q2.1_08	Bandwagoning ('Everyone is already supporting this—don't be left out!')
Q2.1_09	Flag-waving ('If you love your country, you'll support this decision'.)	Q2.1_10	Appeal to authority ('Many leading scientists agree—we should trust them'.)
Q2.1_11	Simplification ('It's all because of the moral decline'.)	Q2.2_01	The EU is too bureaucratic to respond effectively to migrant flows.
Q2.2_02	The war in Ukraine was caused by NATO expansion.	Q2.2_03	Baltic independence caused economic and societal decline.
Q2.2_04	Taxpayer money is being wasted on a military that serves NATO interests.	Q2.2_05	Baltic institutions prioritize foreign agendas over their people.
Q2.2_06	EU bureaucracy stifles innovation—countries should leave the Union.	Q2.2_07	The West has morally decayed due to LGBT rights and feminism.
Q2.2_08	China shows that firm governance ensures prosperity and order.	Q2.2_09	The Baltics should look to new allies like China.
Q2.2_10	Governments restrict online dissent with technology.	Q2.2_11	Climate change is a hoax invented by Western elites.
Q2.2_12	The US wouldn't help Europe if Russia attacked.	Q2.2_13	Russia proves that strict order is better than liberty.
Q2.2_14	Russia defends cultural heritage and moral traditions.	Q2.2_15	The UN undermines national sovereignty.
Q2.2_16	The voting system allows widespread fraud.	Q2.2_17	The military drains resources from healthcare and education.
Q2.2_18	Independence led to depopulated regions and economic collapse.	Q2.2_19	Aid to Ukraine is misused by corrupt officials.
Q2.2_20	EU border policies led to refugee-driven social unrest.	Q3.1	Age group
Q3.2	Gender	Q3.3	Education level
Q3.4	Mother tongue	Q3.5	Occupational status
Q3.6	Monthly net income	Q3.7	Marital and Family Status
Q3.8	Location		

Appendix B. Propaganda narratives

Table A2 Propaganda narratives, by theme. Each theme comprises two statements presented to respondents, with Cronbach's α indicating internal consistency between the paired items. Country-specific wording (Estonia/Latvia/Lithuania) was adapted to the respondent's country of residence.

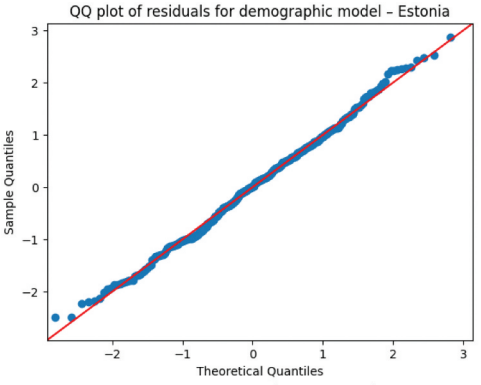
Narrative theme	Cronbach's *α*	Statements
Escalation of the refugee/migrant crisis	0.487	1. The rigid bureaucratic structure of the EU struggles to respond promptly and effectively to the challenges posed by the massive migrant flows from Russia, Belarus and Ukraine. 2. The European Union's relaxed border policies have led to a surge in refugees, causing social unrest throughout the continent.
Disinformation about the war in Ukraine	0.625	1. The recent war between Russia and Ukraine was started due to aggressive NATO expansion. 2. Most of foreign military support that goes to Ukraine is misused by corrupt officials for personal gain.
Defamation of the project of the Republic of Lithuania/Latvia/Estonia	0.635	1. Estonian/Latvian/Lithuanian pursuit of independence from the USSR has only led to economic downfall and societal division. 2. The Baltic states' pursuit of independence has only turned them into depopulated regions with collapsing economies, as their young workforce flees abroad and their industries are swallowed by Western interests.
Defamation of the financing of the Lithuanian/Latvian/Estonian Armed Forces	0.767	1. Taxpayer money is being wasted on a military that serves NATO interests in foreign conflicts, not Estonia's/Latvia's/Lithuania's. 2. The Estonian/Latvian/Lithuanian Armed Forces drain resources that should be used for healthcare and education.
Distrust of Lithuanian/Latvian/Estonian institutions	0.703	1. Estonian/Latvian/Lithuanian institutions prioritize foreign agendas over the needs of their own people. 2. The voting system in Estonia/Latvia/Lithuania is flawed, enabling widespread voter fraud.
Undermining trust in Western institutions	0.646	1. EU bureaucracy stifles innovation and burdens businesses with excessive regulations, hindering economic progress. Thus countries are better off separating themselves from the European Union. 2. By enforcing international regulations, the UN interferes with domestic policies and undermines self-governance.
Promotion of the idea of the end of Western civilization	0.531	1. The West has led itself into moral decay due to enabling LGBT rights, feminism and political correctness. 2. Russia is a guardian of traditional values, standing as a defender of cultural heritage, family principles, and moral traditions in the face of modern liberal influences.
Promotion of an example of effective governance	0.587	1. While Western countries struggle with social unrest and economic instability, China has shown how effective policies and firm governance can ensure safety, prosperity, and a high standard of living for its citizens. 2. By embracing strict regulations and curtailing certain freedoms, Russia proves that prosperity is best achieved when governance prioritizes order and control over individual liberties.
The theory of the end of 'Washington hegemony'	0.617	1. With US politics and economics becoming more destabilized, Estonia/Latvia/Lithuania should look towards new allies, such as China. 2. The United States would not help Europe if it were attacked by Russia.
Promotion of the 'New World Order'	0.647	1. The Estonian/Latvian/Lithuanian governments use technologies to restrict online discussion aimed against their policies. 2. Climate change is a hoax to steer attention away from the actions of the Western political elites.

Appendix C. Feature variance inflation factors

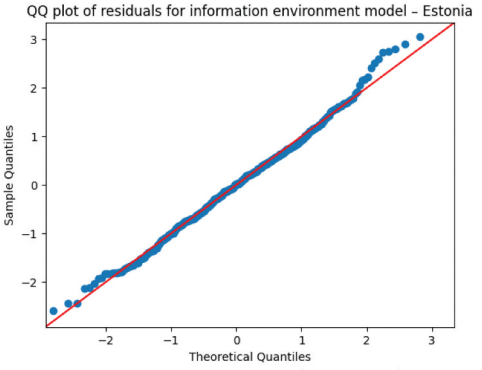
Table A3. Variance inflation factors (VIF) for both the demographic model and the information environment model, by country. Values shown are the maximum VIF across dummy-coded levels (demographics) or across predictors (information environment).

Demographic Model			
Predictor	Estonia	Latvia	Lithuania
Q3_1	0.07	0.17	0.09
Q3_2	0.36	0.39	0.19
Q3_3	0.05	0.06	0.04
Q3_4	0.17	1.35	1.30
Q3_5	0.30	0.18	0.18
Q3_6	0.19	0.21	0.16
Q3_7	0.04	0.03	0.03
Q3_8	0.02	0.02	0.02
Information Environment Model			
Predictor	**Estonia**	**Latvia**	**Lithuania**
Q1_3_01	6.35	7.79	4.44
Q1_3_02	10.54	9.29	7.74
Q1_3_03	7.33	6.96	5.52
Q1_3_04	6.98	5.94	10.02
Q1_3_05	8.09	9.24	5.34
Q1_3_06	7.96	6.35	7.14
Q1_3_07	6.21	6.76	7.40
Q1_3_08	6.13	7.57	6.10
Q1_3_09	6.82	6.52	8.28
Q1_3_10	5.96	6.13	5.80
Q1_11_01	2.50	2.44	2.38
Q1_11_02	1.32	1.39	1.46
Q1_11_03	1.75	1.34	1.83
Q1_11_04	1.99	2.01	2.03
Q1_11_05	1.09	1.06	1.24
Q1_11_06	2.85	2.09	2.10
Q1_11_07	1.13	1.34	1.21
Q1_16	6.25	6.37	7.06
Q1_17	9.16	8.46	9.14
Q1_18	4.81	5.58	6.35
Q1_20	9.98	7.39	7.86
Q1_21	8.81	7.95	8.73

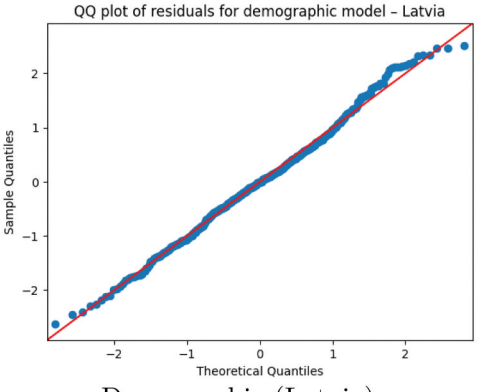
Appendix D. *Q-Q plots of regression model features*



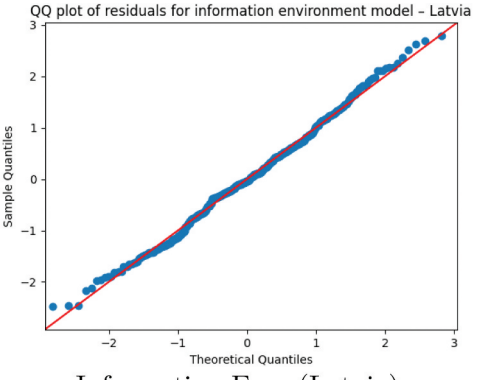
Demographic (Estonia)



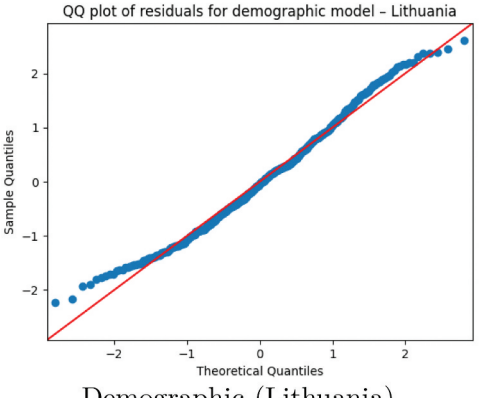
Information Env. (Estonia)



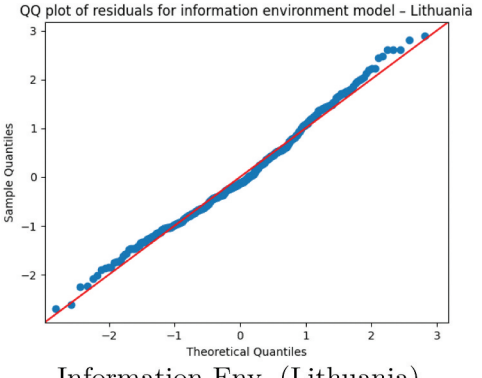
Demographic (Latvia)



Information Env. (Latvia)



Demographic (Lithuania)



Information Env. (Lithuania)