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"The Truth Always Comes Out"

Disinformation and the Dynamics of Truth in Hungary's Sociopolitical Landscape

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DOCTORAL DISSERTATION

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Abstract

This doctoral dissertation explores the psychological and societal factors that underlie susceptibility to disinformation and how their dynamics manifest in public discourse and perceptions of truth. The focus is on the unique political landscape of Hungary. The dissertation builds on previous research that underscores the concern over "fake news" and its impact on democratic processes and the role that (social) media plays in the shaping of public perceptions of truth and reality. The dissertation contributes to an understanding of how social-psychological dynamics—such as biases, ideological orientations, trust in the media and political institutions, and epistemic frameworks—are involved in the processes of disinformation belief and truth construction.

The dissertation explored the dynamics of disinformation and truth evaluation and negotiation within the Hungarian socio-political context. The first quantitative sub-study (Study I) investigated the social-psychological predictors of belief in disinformation among Hungarians (*N* = 295), surveyed in the spring of 2019. This variable-centered approach allowed for the identification of key variables—such as a conspiracy mentality and motivated reasoning—that influence disinformation beliefs in the population. The second, person-centered quantitative sub-study (Study II), which utilized the same dataset as Study I, provided an analysis of the participants' belief profiles in disinformation, revealing how diverse subgroups—ranging from staunch government supporters to skeptical independents— approach the blurred lines between truth and falsehood in an increasingly polarized political landscape. The third qualitative sub-study (Study III) shifted the focus to the discursive battlefields of online platforms, examining the rhetorical strategies employed by Hungarian-speaking commenters on Hungarian Facebook pages in discussions around the Bucha massacre during the first year after the full-scale invasion of Ukraine by Russia. Utilizing Discourse-Historical Analysis (DHA), the study shed light on how social media users constructed, negotiated, and challenged competing epistemologies and notions of truth, employing a range of discursive tactics to assert their interpretations amidst a torrent of narratives and counter-narratives. Together, the three studies highlight the complex relationship between individual predispositions, social dynamics, and broader political currents in shaping the limits and foundations of both disinformation belief and epistemic resilience in contemporary Hungary. The studies also locate disinformation within the larger contours of political communication online and show how lay political discussions reproduce and counteract disinformation online, mirroring and strengthening exiting political narratives.

This dissertation contributes to an understanding of disinformation and truth negotiation in three pivotal ways. First, it does so by incorporating Realist Social Constructionism (RSC), which allows for the assumption of the relatively independent agency of the human mind without devaluing the socially constructed nature of reality. By blending variable- and person-centered analysis with DHA, the dissertation shows how various social and personal factors influence susceptibility to disinformation and how individuals negotiate truths within their various socio-political contexts. Second, the research deepens understanding of the origin of disinformation beliefs by exploring the paradoxical roles of both trust and distrust in institutions. This aspect of the dissertation challenges the conventional emphasis on distrust, highlighting how trust in various institutions can equally influence the propensity to accept disinformation in more authoritarian contexts. Such an

exploration offers a more holistic view of the factors that underpin disinformation susceptibility, contributing to a richer understanding of its dynamics within the particular context of Hungary. Third, this work sheds light on the discursive practices and epistemic strategies prevalent in Hungarian public discourses surrounding disinformation concerning international conflicts, particularly the regarding Russian's war in Ukraine. By identifying specific epistemic patterns in online discussions, the dissertation reveals the critical role of online discourse in the construction of societal beliefs about truth. This analysis goes beyond merely cataloging discursive tactics, uncovering how discursive accounts of history, political contexts, authority, and perceived agency become intertwined to shape how people discern what they see as disinformation from truth. It adds critical depth to disinformation research, challenging oversimplified narratives about truth vs. non-truth by demonstrating the complex, multi-layered process through which individuals evaluate information.

The insights derived from exploring disinformation beliefs and online discursive strategies extend beyond individual interactions, shaping public understandings and perceptions of truth and disinformation within the Hungarian socio-political context. This dissertation explores the interaction between psychological predispositions, systemic factors, and discursive practices, highlighting the value of a multimethod approach that integrates quantitative surveys with constructionist methods, here DHA. By employing this comprehensive framework, it not only captures the multifaceted nature of disinformation engagement and belief formation but also enriches the empirical strength and interpretative depth of the analysis. The combination of these diverse methodologies underscores the urgent need for social psychological research to refine its approaches to accurately explore the complex mechanisms of disinformation. Thus, this work fosters a deeper understanding of how disinformation shapes, and is shaped by, the evolving dynamics of public discourse, advocating for amore multifaceted approach to enhancing media literacy and public awareness. The findings emphasize that effective interventions must transcend traditional fact-checking approaches to address the complex connections between political polarization, trust dynamics, and historical narratives in information processing. Moreover, they suggest that media literacy efforts should recognize both excessive trust and distrust as potential vulnerabilities while acknowledging conspiracy theories as rational responses to societal complexity rather than mere misperceptions to be corrected.

Tiivistelmä

Tässä väitöskirjassa tarkastellaan, millaiset psykologiset ja yhteiskunnalliset tekijät altistavat väärän tiedon omaksumiselle ja miten nämä vaikutussuhteet näkyvät julkisessa keskustelussa ja käsityksissä totuudesta. Tutkimus keskittyy Unkarin erityislaatuiseen poliittiseen ympäristöön. Väitöskirja rakentaa aiemmalle tutkimukselle, joka korostaa huolta valeuutisista ja niiden vaikutuksesta demokraattisiin prosesseihin sekä roolia, joka (sosiaalisella) medialla on totuuden ja todellisuuden käsitysten muovaamisessa. Väitöskirja edistää ymmärrystä siitä, miten sosiaalipsykologiset dynamiikat — kuten ennakkoluulot, ideologiset suuntautumiset, luottamus mediaan ja poliittisiin instituutioihin sekä episteemiset kehykset — ovat osallisina väärän tiedon uskomusten ja totuuden rakentumisen prosesseissa.

Tutkimuksessa tarkasteltiin väärän tiedon dynamiikkaa sekä totuuden arviointia ja määrittelyä Unkarin yhteiskunnallisessa ja poliittisessa ympäristössä. Ensimmäinen kvantitatiivinen osatutkimus (Tutkimus I) selvitti sosiaalipsykologisia ennustajia väärän tiedon uskomuksille unkarilaisten keskuudessa (N = 295). Näitä tutkittiin keväällä 2019. Tämä lähestymistapa mahdollisti joidenkin muuttujien, kuten salaliittomentaliteetin ja motivoituneen päättelyn, tunnistamisen väestön väärän tiedon uskomuksiin vaikuttaviksi avainmuuttujiksi. Toisessa, henkilökeskeisessä määrällisessä osatutkimuksessa (Tutkimus II) hyödynnettiin samaa aineistoa ja analysoitiin osallistujien uskomusprofiileja suhteessa väärään tietoon. Analyysi osoitti, miten eri ryhmät – hallituksen vahvoista kannattajista kriittisiin riippumattomiin – suunnistavat totuuden ja valheen hämärtyvällä rajalla yhä jakaantuneemmassa poliittisessa kentässä. Kolmannessa, laadullisessa osatutkimuksessa (Tutkimus III) tarkastelu kohdistui verkkokeskustelujen kiistakysymyksiin. Tutkimuksessa analysoitiin unkarilaisten Facebook-kommentoijien retorisia strategioita Butšan verilöylyä koskevissa keskusteluissa Venäjän Ukrainaan kohdistaman täysimittaisen hyökkäyksen ensimmäisenä vuonna. Diskurssihistoriallisen analyysin (DHA) avulla selvitettiin, miten sosiaalisen median käyttäjät rakensivat, neuvottelivat ja kyseenalaistivat erilaisia tietokäsityksiä ja totuusväittämiä käyttäen moninaisia diskursiivisia keinoja tulkitessaan kilpailevia kertomuksia. Yhdessä nämä kolme tutkimusta tuovat esiin yksilöllisten taipumusten, sosiaalisten dynamiikkojen ja laajempien poliittisten virtausten monimutkaisen vuorovaikutuksen, joka muokkaa sekä väärän tiedon uskomusten että episteemisen joustavuuden rajoja ja perusteita nykyaikaisessa Unkarissa. Tutkimukset osoittavat myös, miten väärä tieto kytkeytyy laajempaan poliittiseen verkkoviestintään, ja miten kansalaisten poliittiset keskustelut verkossa sekä toistavat että haastavat väärää tietoa samalla kun ne heijastavat ja vahvistavat vallitsevia poliittisia narratiiveja.

Väitöskirja tuo kolme keskeistä uutta näkökulmaa väärän tiedon ja totuuden määrittelyn ymmärtämiseen. Ensinnäkin se tekee sen käyttämällä realistista sosiaalista konstruktionismia (RSC), joka mahdollistaa ihmismielen suhteellisen itsenäisen toimijuuden olettamisen vähättelemättä todellisuuden sosiaalisesti rakennettua luonnetta. Yhdistämällä muuttuja- ja henkilökeskeistä analyysiä diskurssihistorialliseen analyysiin (DHA) työssä osoitetaan, kuinka erilaiset sosiaaliset ja henkilökohtaiset tekijät vaikuttavat alttiuteen väärälle tiedolle ja kuinka yksilöt neuvottelevat totuuksista erilaisissa sosiopoliittisissa konteksteissaan. Toiseksi tutkimus syventää ymmärrystä väärän tiedon uskomusten alkuperästä tutkimalla luottamusta ja epäluottamusta instituutioihin. Tämä väitöskirjan osa haastaa perinteisen painotuksen epäluottamukseen, korostaen kuinka luottamus eri instituutioihin voi yhtä lailla altistaa väärän tiedon hyväksymiseen autoritaarisemmissa

kontekseissa. Tämä tarkastelu avaa aiempaa monipuolisemman näkymän väärän tiedon omaksumiseen vaikuttaviin tekijöihin ja syventää ilmiön dynamiikan ymmärtämistä etenkin Unkarin yhteiskunnallisessa tilanteessa.Kolmanneksi työssä tarkastellaan Unkarin julkisissa keskusteluissa vallitsevia diskursiivisia käytäntöjä ja episteemisiä strategioita, jotka liittyvät väärään tietoon kansainvälisissä konflikteissa, erityisesti Venäjän Ukrainassa käymässä sodassa. Tunnistamalla tiettyjä episteemisiä malleja online-keskusteluissa väitöskirja paljastaa online-diskurssin kriittisen roolin rakennettaessa yhteiskunnallisia uskomuksia totuudesta. Tämä analyysi menee pelkän diskursiivisten taktiikoiden luetteloinnin yli paljastaen kuinka diskursiiviset historiakuvaukset, poliittiset kontekstit, auktoriteetti ja koettu toimijuus kietoutuvat yhteen muokkaamaan tapaa, jolla ihmiset erottavat todeksi ja epätodeksi uskomansa. Tutkimus tuo kriittisen näkökulman väärän tiedon tarkasteluun kyseenalaistamalla yksinkertaistetun kahtiajaon totuuden ja epätotuuden välillä. Se osoittaa, miten monitahoinen ja -kerroksinen prosessi tiedon arviointi yksilöille on.

Tutkimuksesta johdetut oivallukset väärän tiedon uskomusten ja online-diskurssien strategioiden tutkimisesta ulottuvat yksittäisiä vuorovaikutuksia laajemmalle, muokaten julkisia käsityksiä totuudesta ja väärästä tiedosta Unkarin sosiopoliittisessa kontekstissa. Väitöskirjassa tarkastellaan psykologisten taipumusten, rakenteellisten tekijöiden ja diskursiivisten käytäntöjen välistä vuorovaikutusta. Työssä korostetaan monimenetelmäisen lähestymistavan merkitystä yhdistämällä määrälliset kyselytutkimukset konstruktionistisiin menetelmiin, erityisesti diskurssihistorialliseen analyysiin (DHA). Tämä kattava tutkimusasetelma ei ainoastaan tuo esiin väärän tiedon omaksumisen ja uskomusten muodostumisen moniulotteisuutta, vaan myös vahvistaa analyysin empiiristä perustaa ja tulkinnallista syvyyttä. Eri menetelmien yhdistäminen osoittaa, että sosiaalipsykologisen tutkimuksen on tarkennettava lähestymistapojaan voidakseen tutkia väärän tiedon monimutkaisia mekanismeja. Tutkimus syventää näin ymmärrystä siitä, miten väärä tieto sekä muokkaa julkista keskustelua että muovautuu sen mukana. Työ kannustaa hienosyisempään lähestymistapaan mediakriittisyyden ja yleisen tietoisuuden edistämisessä. Tulokset osoittavat, että perinteisen faktantarkistuksen ohella on tärkeää ymmärtää, miten poliittinen vastakkainasettelu, luottamussuhteiden dynamiikka ja historialliset kertomukset kietoutuvat yhteen tiedonkäsittelyssä. Lisäksi tutkimus osoittaa, että mediakriittisyyttä edistettäessä on huomioitava sekä liiallisen luottamuksen että epäluottamuksen aiheuttamat riskit. Samalla salaliittoteoriat tulisi nähdä pikemminkin yrityksinä ymmärtää yhteiskunnan monimutkaisuutta kuin pelkkinä korjattavina väärinkäsityksinä.

Összefoglaló

A doktori disszertáció azt vizsgálja, hogyan befolyásolják a pszichológiai és társadalmi tényezők a dezinformációra való fogékonyságot és mindez miként alakítja a közbeszédet és az igazságról alkotott közös képünket. A kutatás elsődleges fókuszában a magyar politikai közeg egyedi sajátosságai állnak.
Az értekezés elméleti hátttereként szolgálnak azok a tudományos eredmények, amelyek rámutatnak az "álhírek" demokráciára gyakorolt romboló hatására, valamint a (közösségi) média valóságformáló szerepére. A dolgozat új perspektívából közelíti meg azt a kérdést, hogy olyan meghatározó tényezők, mint a kognitív torzítások, az egyén világnézeti beállítottsága, a média- és közintézményekbe vetett bizalom mértéke, illetve az egyéni valóságértelmezési keretek, miként befolyásolják a dezinformáció befogadását és a társadalmi valóság konstruálását.

A kutatás a magyar társadalmi és politikai közegben vizsgálja a dezinformációs folyamatok működését és az igazság értelmezésének alakulását. Az első, kvantitatív részkutatás (I. Vizsgálat) során 2019 tavaszán 295 magyar válaszadó bevonásával azt vizsgáltuk, hogy mely társadalmi- illetve pszichológiai tényezők függnek össze a dezinformációba vetett hittel. E változóalapú elemzés során sikerült kimutatni olyan kulcsfontosságú jellemzőket – mint az összeesküvés-elméletek iránti fogékonyság és az "önigazoló gondolkodás" (motivated reasoning) –, amelyek befolyásolják a hamis információk befogadását a magyar lakosság körében. A második, személyközpontú kvantitatív részkutatás (II. Vizsgálat) ugyanezen adatbázist felhasználva a válaszadók dezinformációs hiedelemmintázatait tárta fel, rámutatva, hogy a különböző profilú csoportok – a elkötelezett kormánypártiaktól a független szkeptikusokig – miként tájékozódnak az igazság és valótlanság egyre nehezebben szétválasztható terepén. A harmadik, kvalitatív részkutatás (III. Vizsgálat) az online térben zajló véleményütköztetésekre összpontosított: azt vizsgálta, milyen érvrendszereket alkalmaztak a magyar Facebook-felhasználók a bucsai mészárlás eseményeinek megvitatásakor az orosz-ukrán háború első évében. A diskurzustörténeti elemzés (DHA) módszerével feltártam, hogyan alakítják ki, vitatják meg és kérdőjelezik meg a felhasználók a különböző valóságértelmezéseket, illetve miként próbálják érvényesíteni saját álláspontjukat az ellentmondó narratívák sokaságában. A három vizsgálat együtt feltárja azt a bonyolult összefüggésrendszert, amely az egyéni látásmód, a társas folyamatok és a tágabb politikai viszonyok között feszül, s amely megszabja nemcsak a dezinformációba vetett hitet, hanem a vele szembeni kritikai ellenállás határait is a mai Magyarországon. A kutatás emellett új megvilágításba helyezi a dezinformáció szerepét az online politikai kommunikációban, rámutatva, hogy a mindennapi politikai eszmecserék miként erősítik vagy gyengítik a dezinformáció hatását a virtuális térben, így sokszor újratermelve és megszilárdítva a már meglévő politikai értelmezési kereteket.

A disszertáció három jelentős területen gazdagítja a dezinformáció működésének és az igazság társas megítélésének megértését. Az első jelentős eredmény az elméleti megközelítés: a realista társadalmi konstruktivizmus (RSC) alkalmazása lehetővé teszi, hogy egyszerre vizsgáljuk az egyéni gondolkodás sajátosságait és a valóság társas alakulását. A változó- és személyközpontú módszerek, valamint a diskurzustörténeti elemzés együttes használata megmutatja, hogy az egyéni és társas jellemzők hogyan befolyásolják a dezinformációra való fogékonyságot, illetve hogy az emberek miként formálják igazságképüket különböző társadalmi-politikai környezetben. A második fontos eredmény a dezinformációs meggyőződések eredetének újszerű értelmezése, amely rávilágít az intézményi

bizalom és bizalmatlanság kettős természetére. Ez a megközelítés túlmutat azokon a bevett magyarázatokon, amelyek csak a bizalmatlanság szerepét hangsúlyozzák. Ehelyett azt látjuk, hogy illiberális politikai környezetben az intézményekbe vetett bizalom éppúgy erősítheti a dezinformációba vetett hitet, mint a bizalmatlanság. Ez az értelmezés árnyaltabb képet ad arról, mi táplálja a dezinformációra való fogékonyságot, különösen a magyar viszonyok között.

A disszertáció harmadik fontos eredménye, hogy feltárja azokat a nyelvi és gondolkodási mintákat, illetve valóságértelmezési módokat, amelyek az orosz-ukrán háborúról szóló magyar közbeszédben megjelenő dezinformációt jellemzik. Az online viták érvelésmódjának elemzése rávilágít, hogyan alakítják az internetes eszmecserék a társadalom igazságképét. Az elemzés nem áll meg a vitában használt eszközök egyszerű felsorolásánál: azt is megmutatja, hogyan fonódik össze az emberek igazságértelmezésében a történelem többféle olvasata, a politikai összefüggések rendszere, a tudás megalapozottsága és a különböző szereplőknek tulajdonított mozgástér. A kutatás így árnyaltabbá teszi a dezinformációról való tudományos gondolkodást: túllép az igaz-hamis leegyszerűsítő kettősségén, és feltárja azt az összetett folyamatot, ahogyan az emberek eligazodnak az információk sűrűjében.

A dezinformációban való hit és az online érvelési mintázatok kutatása rávilágít arra, hogy az egyéni folyamatokon túl hogyan alakul az igazság és a dezinformáció társas megítélése a magyar társadalmi-politikai közegben. A kutatás újszerűsége abban rejlik, hogy együtt vizsgálja a pszichológiai tényezők, a rendszerszintű hatások és a társas diskurzusok összjátékát. A módszertani megközelítés – amely ötvözi a kvantitatív elemzést és a konstruktivista diskurzustörténeti elemzést – átfogó képet ad a jelenségről. Ez az elméleti keret nemcsak azt mutatja meg, milyen összetett folyamat a dezinformációba vetett hit és a meggyőződések kialakulása, hanem lehetővé tesz egy empirikusan megalapozott, mélyreható elemzést is. A különböző módszerek együttes alkalmazása pedig arra is rávilágít, hogy a szociálpszichológiai kutatásoknak új utakat kell találniuk ahhoz, hogy jobban megértsük, miért és hogyan hisznek az emberek a dezinformációban.
A dolgozat feltárja, hogyan hat egymásra a dezinformáció és a közbeszéd, és új szempontokat ad a kritikai gondolkodás fejlesztéséhez. Az eredmények azt mutatják, hogy a dezinformáció visszaszorításához nem elég a hagyományos tényellenőrzés: az információk értelmezését ugyanis együtt alakítja a politikai megosztottság, a bizalmi viszonyok átalakulása és a történelmi narratívák ereje. A kutatás arra is felhívja a figyelmet, hogy a médiatudatosság fejlesztése során mind a túlzott bizalom, mind a túlzott bizalmatlanság veszélyeire tekintettel kell lenni. Az összeesküvés-elméleteket pedig nem szabad hibás gondolkodásként elkönyvelnünk – ezek inkább azt mutatják meg, hogyan próbálnak az emberek értelmet találni a körülöttük zajló eseményekben.

Table of Contents

List of original publications

This dissertation is based on the following publications:

I. Szebeni, Z., Lönnqvist, J. E., & Jasinskaja-Lahti, I. (2021). Social psychological predictors of belief in fake news in the run-up to the 2019 Hungarian elections: the importance of conspiracy mentality supports the notion of ideological symmetry in fake news belief. *Frontiers in Psychology*, *12*, 790848.

II. Szebeni, Z., Jasinskaja-Lahti, I., Lönnqvist, J. E., & Szabó, Z. P. (2023). The price of (dis)trust—profiling believers of (dis)information in the Hungarian context. *Social Influence*, *18*(1), 2279662.

III. Szebeni, Z. 'The truth shall prevail!': Discourse, Epistemology, and the Contestation of Narratives in Online Discussions of the Bucha Massacre. [Manuscript in review]

Abbreviations

DHA	Discourse-Historical Analysis
CDA	Critical Discourse Analysis
RSC	Realist Social Constructionism

1. Introduction

"Fake news," once a term relegated to the peripheries of media discourse, has not only been catapulted into the global lexicon but has also become emblematic of a profound shift in the digital information age. Its prominence surged in 2017, capturing global attention to the point where it was named the Word of the Year (Collins Dictionary, 2017). Initially, "fake news" referred specifically to outright falsehoods crafted to resemble legitimate news stories. Over time, however, its usage expanded, becoming a catch-all descriptor of a broad spectrum of misinformation and disinformation practices aimed at deceiving, manipulating, and polarizing public opinion. The mainstreaming of fake news as a concept owes much to high-profile political figures, most notably former U.S. President Donald Trump, who weaponized the term against critics and adversaries (Ross & Rivers, 2018). Trump's frequent dismissal of unfavorable but factual news coverage as "fake news" not only blurred the lines between truth and falsehood but also highlighted the power of political rhetoric in shaping media narratives.

The ”fake news” phenomenon, while unprecedented in its scale and impact, draws from a long history of propaganda and information manipulation employed by certain states and political actors to influence public perception and control societal discourse (Posetti & Matthews, 2018). Yet, the current era of "fake news" or disinformation distinguishes itself from traditional propaganda through its novel propagation mechanisms and the sheer speed at which information spreads across the internet. Online platforms, social media networks, and algorithm-driven news feeds have created an environment where misleading information can achieve widespread circulation before fact-checkers can intervene. Such rapid dissemination, coupled with the strategic use of "fake news" by influential figures, presents a unique challenge to modern societies: how to function in an information landscape where the distinction between fact and fabrication becomes increasingly obscured. In this type of landscape, where anything can be dismissed as "fake news," discerning truth from falsehood becomes increasingly fraught. Yet, the issue at hand transcends mere semantic debates or technological quandaries. It taps into the very heart of how societies construct and contest realities in an interconnected world. The global concern over fake news also reflects deeper anxieties about the erosion of democratic values, the fragility of public discourse, and the power dynamics shaping media consumption (Adams et al., 2023). Amidst this discourse, the concept of a "post-truth" era has also emerged (e.g., Lewandowsky et al., 2017), emphasizing that emotional appeals and personal beliefs tend to have a greater impact on public opinion than objective facts. This post-truth dynamic, intertwined with the proliferation of fake news, illustrates a shifting battleground in the struggle for truth, where the ability to manipulate narratives holds sway over the presentation of factual accuracy. Understanding how this dynamic operates within specific sociopolitical contexts has is crucial for understanding the challenges of disinformation.

Within this global context of evolving information dynamics, Hungary represents what Flyvbjerg (2006) would term an "extreme case" within the European Union context. The country presents a compelling opportunity to examine how disinformation operates in a setting where key contributing factors are notably amplified. Hungary stands out due to its highly polarized political environment (Casal Bértoa & Rama, 2021) notable levels of political apathy among the populace (Gherghina &

Tap, 2023), and an increasingly centralized media landscape under governmental influence (Hargitai, 2021). Together these factors create a fertile ground for the spread and impact of disinformation (Krekó, 2022). While it's important to note that in a global perspective Hungary may not be exceptionally extreme, within the EU context it represents a unique case where these factors are particularly pronounced.

The strategic selection of Hungary as a case study follows follows Flyvbjerg's (2006) methodological insight that extreme cases can reveal more information about a phenomenon than typical ones. As an EU member state grappling with democratic backsliding, Hungary offers a rich terrain for exploring how disinformation operates within formally democratic structures. The intertwining of pro-government narratives with national media outlets (Urbán et al., 2023) not only complicates the public's ability to distinguish between genuine information and manipulated content, but also provides a lens through which to examine broader issues of media freedom and political manipulation within a democratic framework. Furthermore, Hungary's complex geopolitical positioning, often at odds with broader EU norms (Pech & Scheppele, 2017), adds another layer of complexity to the analysis. In such a setting, the mechanisms of disinformation are likely to be more pronounced, potentially revealing patterns and processes that may be present but less visible in other democracies facing similar challenges.

This doctoral dissertation investigates the psychological and societal underpinnings that predispose individuals and communities in Hungary to disinformation, unraveling how these foundational elements shape public discourse and influence perceptions of truth within a politically polarized landscape. I follow the definition of disinformation proposed by van der Linden (2017), as "misinformation coupled with a clear intent to cause harm or purposefully deceive others." This nuanced definition underscores the intentionality behind the dissemination of false information, distinguishing it from the broader and more ambiguously used term "fake news." builds on three key strands of research: studies highlighting the role of political biases in disinformation belief (e.g., Baptista & Gradim, 2022; Faragó et al., 2019; Van Bavel & Pereira, 2018), work identifying systemic factors that increase societal vulnerability to disinformation (e.g., Humprecht et al., 2020), and research examining personal epistemologies and epistemic approaches (Harambam & Aupers, 2021; Robertson & Amarasingam, 2022; Schwarzenegger, 2020). This exploration is anchored in the Hungarian context, where the combination of media centralization, political control, and societal divisions presents a unique case for understanding how disinformation permeates and influences public opinion and societal trust.

This dissertation employs a multi-methods framework that integrates quantitative survey analysis with (DHA) (Wodak et al., 2001) to examine how disinformation operates within Hungary's distinctive context. This methodological approach enables a detailed examination of the narratives and strategies employed in disinformation campaigns and their implications in a society where these phenomena are particularly pronounced. The focus on Hungary, with its unique combination of EU membership and democratic challenges, enables a deeper inquiry into the broader phenomena of disinformation in democracies in the digital age. By positioning the research within the broader discourse on disinformation, the dissertation contributes to the field by exploring the intersection of individual biases, systemic societal factors, and the strategic use of online media to influence public discourse through the lens of social psychology. This examination enhances an understanding of

disinformation's role in shaping political and public narratives in contexts where democratic norms are under strain, offering valuable insights into mitigating its effects and strengthening the foundations of democratic discourse across various political landscapes.

The dissertation contributes to the existing body of knowledge on disinformation within the social and political context of Hungary, enhancing an understanding of this pervasive issue in three key ways. First, by employing a Realist Social Constructionism (RSC) (Elder-Vass, 2012b) framework, the work transcends traditional research boundaries. RSC not only recognizes the constructed nature of social phenomena through discourse and interaction but also acknowledges the phenomena as grounded in tangible realities that exert influence on individual behaviors and societal norms. This theoretical approach enables the integration of quantitative methods with DHA's qualitative insights, allowing for a comprehensive examination of how disinformation is perceived and negotiated across multiple levels of analysis. Through this framework, the dissertation highlights the diverse interpretations of disinformation, exploring how individual predispositions and social interactions shape and are shaped by broader societal forces. The approach not only addresses the complexities inherent in understanding disinformation but also bridges theoretical constructs with practical analysis, providing a framework for investigating the dynamics of truth in a polarized society. Second, the research explores the paradoxical role of trust in institutions, extending beyond the commonly studied link between distrust and disinformation susceptibility(e.g., Frischlich & Humprecht, 2021; Humprecht, 2023; Lee et al., 2024) to examine how both trust and distrust can influence disinformation acceptance. Third, this research project identifies key epistemic patterns in online discussions, showing not just what people perceive as being true (e.g., Luo et al., 2022; Moravec et al., 2018) but *how* they justify such beliefs. The approach reveals the interrelation between personal history, socio-political context, authority, and agency within those patterns, offering insights into the complex reasoning behind truth discernment.

The doctoral dissertation encompasses three distinct sub-studies and a comprehensive summary that outline its theoretical and empirical foundation and the objectives of the research, details its methodology and materials, and deliberates on its broader implications. The structure of the dissertation is outlined as follows. Chapter 2 establishes the theoretical foundation by defining disinformation, exploring its societal implications, and examining both individual predispositions and systemic factors that contribute to its spread, with particular attention to the role of conspiracy theories. Chapter 3 focuses on the Hungarian context, analyzing how the country's unique political and media landscape shapes the dynamics of disinformation, and establishing why Hungary serves as a particularly revealing case study for examining these phenomena. In Chapter 4, I present the epistemological framework, contrasting positivist and social constructionist perspectives before introducing Realist Social Constructionism (RSC) as the meta-methodological approach that guides this research. Chapter 5 details the mixed-methods approach employed across the three sub-studies, describing the empirical material and analytical techniques used in each: variable-centered analysis in Study I, person-centered analysis in Study II, and Discourse-Historical Analysis in Study III. Chapter 6 presents the key findings from each sub-study, examining the roles of motivated reasoning and conspiracy mentality (Study I), trust and distrust (Study II), and epistemic patterns in online discourse (Study III). The chapter then discusses these findings' theoretical and practical implications, addressing methodological considerations and limitations. Chapter 7 concludes by synthesizing the key insights and highlighting their significance for understanding how

disinformation operates within specific sociopolitical contexts, with implications for both research and practice.

2. Disinformation

2.1 What is disinformation?

Defining disinformation within the complex ecosystem of information dissemination presents notable challenges. This complexity is compounded by the broad application of the term "misinformation" by scholars like Wu et al. (2019), who categorize all forms of inaccurate information under this larger large umbrella, ranging from unintentionally spread errors to rumors. Such a broad categorization underscores the observation (Krause et al., 2022) that the term "misinformation" risks becoming overly generalized, losing its specific meaning. Despite the complexity, a pivotal distinction emerges between disinformation and misinformation, anchored in the intentionality behind the dissemination of false information. Misinformation comprises inaccuracies or falsehoods disseminated without malicious intent, typically arising from genuine errors or misunderstandings (Wu et al., 2019). In stark contrast, disinformation is characterized by a strategic intent to deceive, with information being purposefully crafted and shared to mislead, manipulate, or achieve particular objectives, embodying an active engagement in the propagation of falsehoods (e.g., Fallis, 2015). This distinction is not merely theoretical but aligns with the observed motivations behind information sharing. As highlighted by Adams et al. (2023), the desire to share misinformation often stems from a variety of interactional motivations—such as self-expression and socializing (Chen et al., 2015) or the need to foster social cohesion (Duffy et al., 2020) —while intentional deception remains at the heart of disinformation-sharing efforts (George et al., 2021) .

Expanding this dichotomy, the concept of malinformation constitutes information that is used maliciously, which can be either truthful or false, such as in cases of doxing, where private information is disclosed to cause harm (Wardle, 2020) . Another pivotal term, "fake news," popularized significantly by political rhetoric, specifically refers to false information presented as legitimate news, designed to mislead for political or financial gain (Anderau, 2021). The term has been broadened to encompass various misinformation and disinformation practices, highlighting the challenge of categorizing information accurately. Rumors, representing one of the oldest forms of misinformation, are defined as unverified information circulating within public discourse (DiFonzo & Bordia, 2005). Their significance emerges not solely from the content of the information but also from the social dynamics involved in its dissemination (Berinsky, 2017). Another related term is propaganda, which can be defined as information that might be factual yet is deployed to "disparage opposing worldviews" (Tucker et al., 2018).

In response to such conceptual challenges, this dissertation adopts the definition proposed by van der Linden (2017, p.5), identifying disinformation as "misinformation coupled with a clear intent to cause harm or purposefully deceive others." I adopt this definition in my dissertation for several reasons. First, it connects disinformation with misinformation while specifying their key difference:

the element of intentionality. This distinction is crucial in the Hungarian context, where government-controlled media often deliberately spread false narratives. Second, this definition aligns well with the RSC approach, as it acknowledges both the objective existence of false information and the social agents who strategically construct and disseminate such disinformation. It also allows me to expand this definition by considering how the "intent to deceive" is socially constructed and interpreted within Hungary's unique political landscape.

I also opt to utilize the term "disinformation" since it is a less loaded, more analytically precise term, as opposed to the broad and often politicized use of the term "fake news." While "fake news" generally refers to misleading information presented as news, it often lacks clarity in its application, blurring the lines between error, bias, and intentional deceit. Therefore, in this analysis, "fake news" is subsumed under the broader, more well-defined category of "disinformation," which explicitly refers to information that is intentionally false and designed to deceive. This distinction allows for a more targeted examination of the mechanisms and impacts of information manipulation, ensuring a focused analysis on content that is deliberately crafted to mislead.

It is important to note that the effort to distinguish between these terms is not just a matter of semantics but reflects deeper epistemological concerns regarding truth and falsity in information dissemination. The delineation between misinformation and disinformation hinges on the intent to deceive, yet both contribute to an environment where the veracity of information is perpetually in question. This uncertainty underscores the importance of understanding not only the nature of the information itself but also the underlying assumptions about what constitutes truth. Furthermore, it complicates matters that people often mix up the various definitions, leading to further confusion in both public discourse and scholarly analysis.

2.2 (Why) should we worry about disinformation?

The effects of disinformation have emerged as a focal point of academic, political, and public concern. This chapter briefly highlights the well-documented effects of disinformation, underscoring its capacity to distort public discourse and weaken democratic institutions. However, it also considers the challenges in definitively proving such impacts and acknowledges that the perception of disinformation as a significant threat can itself influence public and political reactions.

Disinformation has mostly been associated with politics, and there are concerns about its potential effects on public behavior and democratic processes. Some of the strongest claims about the effects of disinformation have centered on high-profile events, like the 2016 U.S. presidential election and Brexit, suggesting that disinformation significantly influenced the outcomes (Cooke, 2017; Monti et al., 2019; Wagner, 2014). However, the extent of its influence is both debated (Adams et al., 2023) and uncertain (Allcott & Gentzkow, 2017; Guess et al., 2019). Nevertheless, some research suggests that misinformation could contribute to political polarization (Axt et al., 2020), affect trust in the media (Wagner & Boczkowski, 2019), and in some cases be associated with incidents of violence (Posetti & Matthews, 2018). These potential effects raise concerns about the principles of democratic engagement and informed decision-making (Kuklinski et al., 2000). Despite the

challenges in directly measuring the causal effects of disinformation on political behavior, the overarching consensus is that its impact on democracy is profound and concerning.

The impact of disinformation on news media centers around the challenge it poses in distinguishing true from false content. Studies have provided mixed results on whether audiences can reliably differentiate between real and false information, with some research indicating that even credible news faces skepticism (Luo et al., 2022). Such skepticism can contribute to declining trust in the media (Altay et al., 2022) and less engagement with traditional news sources, as evidenced by drops in social media interactions and news site visits (Rothschild & Fischer, 2022). Disinformation not only fosters distrust but also blurs the lines between biased and objective reporting, potentially driving audiences away from established news platforms (Wagner & Boczkowski, 2019).
Advances in information technology, particularly through social media, have drastically facilitated the spread of disinformation (Guess & Lyons, 2020). The various platforms can amplify misinformation by sidelining traditional gatekeepers like journalists and allowing unchecked information dissemination (Chambers, 2021). This process encourages individualistic "go-it-alone" approaches to knowledge creation, where personal biases overshadow verified facts (Adams et al., 2023). As a result, the public's ability to discern between true and false narratives is compromised, leading to increased skepticism towards both new and traditional media (Wagner & Boczkowski, 2019). This skepticism, coupled with the technological manipulation of content, poses significant challenges to media credibility and public discourse, laying fertile groundwork for disinformation to thrive and further erode trust in media sources.

Disinformation can significantly affect public understanding of scientific issues, particularly regarding health and climate science, complicating science communication and policy-making efforts. The misinformation surrounding pressing health crises like COVID-19 has led to harmful behaviors, such as chloroquine misuse and vaccine hesitancy (Tasnim et al., 2020; Kirkpatrick, 2021). The politicization of science, especially visible in the debates around anthropogenic climate change (Spampatti et al., 2023) or vaccines (Farhart et al., 2022), underscores another dimension of disinformation's impact. Disinformation contributes to polarized public opinions, often aligning with ideological divides, which interferes with finding consensus and delays critical policy actions (Zhou & Shen, 2022).

The perception of disinformation as a "severe threat" is in itself a considerable concern, which can amplify societal and political reactions beyond the actual impact of disinformation itself. This phenomenon indicates that the fear of disinformation's potential to undermine democratic processes and public trust can lead to reactionary measures that may not always align with the severity of its direct effects (Adams et al., 2023). This type of perceptual magnification can inadvertently bolster a cycle where the response to disinformation further polarizes public opinion and complicates rational discourse, thereby underscoring the complex layer of challenges posed by such perceptions when seeking to manage the true impact of disinformation.

While the negative impacts of disinformation are widely acknowledged, establishing strong causal connections between exposure to disinformation and specific societal behaviors remains challenging. While there is considerable correlation between disinformation campaigns and societal outcomes, definitive causal relationships are difficult to prove (Watts et al., 2021). This is partly due

to the complex nature of social behaviors, which are influenced by a number of factors beyond just information consumption. Despite such challenges, the preponderance of correlational data underscores the urgent need to address disinformation as a serious societal issue.

2.3 Why does disinformation flourish?

To understand why disinformation is so prevalent, it is crucial to examine the role of conspiracy theories in shaping public discourse and belief systems. Conspiracy theories often serve as a foundation for disinformation campaigns and can significantly influence how individuals interpret and engage with information. Following this discussion, I will outline first the individual predispositions that make some people more susceptible to disinformation and then the broader environmental factors that facilitate its spread.

2.3.1 Conspiracy theories

Conspiracy theories and disinformation, while occasionally overlapping, originate from fundamentally different impulses and serve different functions within society. Conspiracy theories are not inherently disinformation, though they can be used for such purposes depending on their intent and deployment. Unlike disinformation, which is deliberately created to mislead and manipulate public opinion for specific political or economic gains, conspiracy theories often emerge from a genuine sense of distrust and a quest to understand complex societal events (Van Prooijen & Jostmann, 2013). Disinformation is typically propagated with the explicit intent to deceive (van der Linden, 2017), while conspiracy theories may arise from a search for truth and can reflect deeper cultural and psychological underpinnings (Harambam, 2020). The impact of disinformation is directly tied to its ability to influence immediate political outcomes and pubic behaviors, while conspiracy theories often have a broader cultural resonance, shaping and reflecting societal fears and anxieties over time (Aupers, 2012).

Conspiracy theories can be understood as part of a larger phenomenon, conspiracy culture, defined as a cultural framework characterized by a pervasive distrust of official explanations and a propensity to believe that events are driven by hidden, malevolent forces (Aupers, 2012). Within this context, conspiracy theories emerge as alternative explanations for significant events or circumstances, positing the existence of hidden, usually malevolent, groups orchestrating such occurrences, often in contradiction to official or mainstream accounts. Bratich (2008), drawing on Foucauldian concepts, proposes a definition of conspiracy theories that is not solely based on their inherent qualities, but rather on their position within existing power structures and dominant narratives. This perspective suggests that the categorization of a belief as a conspiracy theory is more reflective of prevailing power dynamics than of any intrinsic characteristics of the belief itself.

Conspiracy culture is thus not just a collection of isolated theories but a widespread societal phenomenon that grows out of and feeds into deeper cultural, social, and psychological trends (Barkun, 2015; Douglas et al., 2017), and it can be regarded as an adaptive response to the conditions of modernity, wherein traditional sources of authority and knowledge are continually

questioned (Aupers, 2012). It is driven by epistemological motives to form casual explanations (Douglas et al., 2017) and by ontological insecurities about the nature of reality (Agius et al., 2020), and it is often exacerbated by the complex machinations of state, media, and other institutional powers (Aupers, 2012). The rise of conspiracy culture is thus deeply entwined with the processes of modernization, reflecting a radical form of skepticism and disenchantment in the face of rapid societal changes (Aupers, 2012). Viewed in this light, conspiracy culture is not merely a fringe element but a significant and revealing aspect of contemporary society, highlighting how individuals and groups make sense of the transformations brought about by modern life. It challenges the binaries of rational/irrational and true/false, offering insights into the complexities of belief, truth, and trust in the modern world (Latour, 1993).

Media—both traditional forms, such as newspapers and television, and newer platforms, like social media and online forums—play a pivotal role in the spread and normalization of conspiracy theories (Bruns et al., 2021). This influence is twofold: various media not only disseminate these types of theories but also shape the context in which they are received and understood. Traditional media, with its long reach and authoritative voice, has historically played a role in unintentionally propagating conspiracy theories by reporting on them, often in the guise of debunking or discussing their implications (Bruns et al., 2022). The coverage can inadvertently legitimize conspiracy theories by presenting them as worthy of public discourse (Barkun, 2003).

Social media platforms transform the landscape further by allowing the rapid dissemination of information with minimal oversight or factual verification. Here, the concept of intersubjectivity—defined by Adams et al. (2023) as a "*coordination effort by two or more individuals to interpret entities in the world through their social interactions*"—becomes crucial. Social media not only facilitates the spread of conspiracy theories but also allows them to be co-created and reinforced, sometimes isolated from contradictory viewpoints (Sunstein, 2009). The interactive nature of new media platforms enables individuals to become active participants in the creation and propagation of alternative narratives, further entrenching such counternarratives within certain communities.

Conspiracy theories often emerge in contexts where individuals experience significant control deficits over their lives due to factors like political disenfranchisement, economic instability, or widespread social upheaval (Douglas et al., 2017). The resulting feeling of powerlessness is a fertile ground for conspiracy theories, which attribute the causality of events to hidden forces rather than more complex realities that may be less psychologically satisfying. Embracing such theories allows individuals to regain a sense of agency and mastery over their environment, serving as a psychological coping mechanism even when the beliefs themselves may be unfounded or incorrect (Franks et al., 2013; Douglas et al., 2019). Building on this profound sense of epistemological and ontological insecurity, a "conspiracy mentality" emerges as a distinct inclination among certain individuals to see societal events as orchestrated by covert, malign forces (Bruder et al., 2013). Such a mentality not only drives individuals to find patterns and intentions in random events but also influences their interactions with societal structures and authority (Imhoff & Bruder, 2014), affecting behaviors ranging from political activism (Imhoff et al., 2021) to skepticism towards public health measures (Marinthe et al., 2020).

This dissertation integrates the concepts of "conspiracy mentality" and "conspiracy culture" to provide a comprehensive framework that views conspiracy theories as epistemic tools used to make sense of the complexities of the modern world. By examining "conspiracy mentality" as a measurable construct, it assesses how this inclination predisposes individuals towards believing in disinformation. Simultaneously, this work situates such a conspiracy mentality within the broader context of "conspiracy culture," which emerges as an adaptive response to the uncertainties and rapid changes taking place in present-day society. This approach reframes conspiracy theories not as flawed misrepresentations but as meaningful epistemic methods through which individuals and groups articulate their understanding of and interaction with the world around them. This perspective recognizes the role of conspiracy theories in filling epistemic gaps created by traditional explanatory frameworks that fail to resonate with the everyday experiences and observations of those who feel marginalized or disenfranchised.

While conspiracy theories can lead to negative consequences, for example as part of disinformation campaigns during a public health crisis, it is crucial to recognize that the theories themselves are not inherently pathological. Instead, they often emerge from a genuine attempt to understand and make sense of a world that feels increasingly opaque and controlled by unseen forces. Acknowledging this complexity allows for a more balanced discourse that neither dismisses such theories outright nor ignores their potential to cause harm. Thus, this dissertation advocates for an approach that views conspiracy theories through a lens of critical analysis, striving to understand their roots and consequences within broader social and cultural dynamics instead of dismissing them as a form of pathological thinking.

2.3.2 Individual predispositions—Who believes disinformation?

While conspiracy theories provide a framework for understanding complex events, individual characteristics play a crucial role in determining a person's susceptibility to disinformation. Thus, it is important to examine cognitive aspects, ideological leanings, and the influence of demographic factors, such as age.

Individuals with less analytical thinking styles are more prone to believe in disinformation (Bronstein et al., 2019). Analytical thinkers tend to scrutinize the veracity of information more deeply, questioning its accuracy before accepting it as true. This level of cognitive engagement acts as a protective barrier, reducing the likelihood of accepting false claims, indicating that those who exhibit higher levels of cognitive reflection are less susceptible to disinformation (Pennycook & Rand, 2019). Moreover, the frequency with which a specific piece of information is encountered plays a critical role in its acceptance. This is known as the "illusory truth effect," where repeated exposure to a statement increases the likelihood of it being perceived as true, regardless of its factual accuracy (Pennycook et al., 2017). The cognitive mechanism behind this effect is processing fluency—the ease with which the mind processes a repeated statement can lead individuals to mistake this fluency for truthfulness. Such an effect demonstrates that familiarity can override rational evaluation (Dechêne et al., 2010), leading to increased acceptance of disinformation.

Ideological beliefs also significantly impact an individual's susceptibility to disinformation, and several studies have found it particularly true for conservatives (e.g., Jost et al., 2018). Such studies reveal that individuals with conservative ideologies are often more prone to accept misinformation, a trend observed both during events like the COVID-19 pandemic and in broader international contexts (see, e.g., Baptista & Gradim, 2022). For instance, research done during the pandemic showed a noticeable correlation between conservative beliefs and the acceptance of misinformation in the U.S. (Calvillo et al., 2020). This type of correlation raises questions about the unique aspects of conservative ideology that enhance vulnerability to false beliefs (Baron & Jost, 2019). Additionally, the conservative media ecosystem frequently circulates more misinformation, especially evident during significant political milestones, like the 2016 U.S. presidential election, where the bulk of disinformation targeted conservative audiences (Guess et al., 2018)

Conversely, partisan bias across the political spectrum influences how individuals process information, often leading them to interpret facts in a way that reinforces their pre-existing beliefs and social identities—pointing to ideological symmetry in disinformation belief. This phenomenon, well-documented in the existing literature (Kahan, 2017; Van Bavel & Pereira, 2018), manifests itself through mechanisms like selective exposure to partisan news and motivated reasoning, making it challenging to separate such influences. Selective exposure refers to the tendency of individuals to favor information sources that confirm their existing beliefs (Festinger, 1957), while motivated reasoning is the process by which individuals subconsciously reason in a biased manner to arrive at conclusions they wish to support (Kunda, 1990). Moreover, identity-congruent motives play a significant role in how certain individuals process information. Motivational models suggest that when individuals encounter information that aligns with their identity—whether positive misinformation about their own group or negative misinformation about an opposing group—their identity-based motives may clash with their desire for accurate information (Tomz & Van Houweling, 2008; Van Bavel et al., 2021). These biases are not isolated but instead reflect a basic tendency to categorize the world into "ingroups" and "outgroups" (Tajfel & Turner, 1986). When confronted with evidence that challenges their beliefs, we might expect people to "update" or change their beliefs. Yet, studies have found that politically relevant beliefs show substantial resistance to contrary evidence (Vidigal & Jerit, 2022).

Research has also identified several demographic factors and personality traits that influence susceptibility to misinformation. One key psychological trait is intellectual humility, which involves virtues like open-mindedness, modesty, and the ability to correct one's beliefs (Alfano et al., 2017). Studies have shown that people with higher levels of intellectual humility are less likely to believe in conspiracy theories or endorse disinformation (e.g., Bowes & Tasimi, 2022), including on a global scale, where open-mindedness, a component of intellectual humility, is a strong negative predictor of beliefs in COVID misinformation (Pärnamets et al., 2022). Age is another factor influencing disinformation beliefs. Studies have shown that Individuals above 65 years of age tend to share significantly more disinformation links than younger users (Guess et al., 2019). This finding could attributed to several factors, such as lower digital media literacy and cognitive decline (Brashier & Schacter, 2020), or else to older individuals being more polarized in their opinions (Van Bavel et al., 2021).
Studies have also explored the role of certain personality traits that may be connected to disinformation belief, such as high levels of impulsivity (Taurino et al., 2023), high agreeableness and

low extraversion (Ahmed & Tan, 2022), or higher levels of conscientiousness and open-mindedness (Calvillo et al., 2021). The previous research on individual predispositions leads to the first research question of this dissertation: *What social psychological factors influence susceptibility to disinformation in the Hungarian context?*

As I transition from understanding individual susceptibilities to systemic factors in the next chapter, it is crucial to acknowledge how such personal inclinations are embedded within and influenced by larger societal structures. These systemic elements, ranging from media landscapes to educational frameworks, play a pivotal role in either curbing or facilitating the spread of disinformation.

2.3.3 Systemic factors in disinformation belief

The systemic elements influencing disinformation belief are multilayered and pervasive, interacting in ways that complicate the information landscape and shape public perceptions. Among such factors, political polarization stands out as a particularly significant driver of the spread of disinformation. Political polarization is a state where political beliefs and attitudes diverge sharply towards ideological extremes, which then exacerbates the spread and impact of misinformation (Allcott & Gentzkow, 2017). In highly polarized environments, the line between fact and partisan opinion becomes blurred, making disinformation a strategic tool for partisan gain (e.g., Silverman, 2016). The impact is cyclical—polarization feeds disinformation, which in turn deepens polarization. Research shows that polarization prompts individuals to engage with hyper-partisan sources, increasing their exposure to, and belief in, disinformation (Kevins & Soroka, 2018). This situation is particularly evident in two-party systems, where an "us-versus-them" mentality fosters not only increased intergroup hostility but also resistance to fact-checking (Abramowitz & Webster, 2018). As a result, even neutral information can become politically charged, with truths accepted or rejected based on partisan lines rather than factual accuracy. Further complicating political polarization is affective polarization—where the emotional divide between political groups deepens even further (Iyengar et al., 2019). Such environments promote the sharing of misinformation, not necessarily because individuals believe it but because it serves to undermine the opposing group. This trend is bolstered by findings that show how strong negative feelings towards opposing parties significantly drive the dissemination of false news (Osmundsen et al., 2020).

It is also essential to consider additional systemic factors, as identified by Humprecht et al. (2020), which influence the resilience of societies to the spread of disinformation. They include populist communication, low trust in the news, weak public service media, fragmented audiences, large advertising markets, and high social media usage. Some scholars posit that populist communication often becomes intertwined with the spread of partisan disinformation (Bennett & Livingston, 2018; Marwick & Lewis, 2017), since they both cultivate a divisive worldview where one's own group is deemed truthful and the opposition deceitful. Populist figures frequently criticize mainstream media for allegedly spreading "fake news," enhancing narratives that pit "ordinary people" against supposedly malevolent elites (Ross & Rivers, 2018). Additionally, populists may spread disinformation to bolster their narratives of division and conspiracy. This association with conspiracy theories and mistrust of established facts often leads citizens exposed to high levels of populist

rhetoric to form skewed perceptions of reality, making such environments more vulnerable to disinformation (Humprecht et al., 2020).

In the present media environment, several factors critically impact the resilience of societies to disinformation. Low trust in news media is a significant issue (e.g., Park et al., 2020), as skepticism towards traditional media sources can lead individuals to seek out alternative information platforms (Müller & Schulz, 2021), which may not adhere to journalistic standards and be prone to disseminate disinformation (Bennett & Livingston, 2018). This mistrust can limit exposure to diverse political information and reduce critical evaluation of content (Tsfati & Cappella, 2003), thereby affecting the public's ability to resist disinformation. Research has shown that people who trust mainstream media less are also more likely to believe online disinformation more (Hameleers et al., 2022; Zimmermann & Kohring, 2020). Additionally, the strength of public service media in a country correlates positively with the public's level of awareness and knowledge about public affairs, which enhances resilience against disinformation (Humprecht et al., 2020). Strong public service broadcasting not only provides comprehensive news coverage but also elevates the quality of commercial media through competitive pressure to produce high-quality content. This dynamic helps inform citizens and equips them to better understand the complexities of online disinformation (Aalberg et al., 2013). Furthermore, the fragmentation of media audiences due to digitalization and the rise of niche and partisan media outlets contribute to the problem. As audiences become more segmented, individuals are less likely to encounter corrective information that challenges or refutes disinformation (Shin & Thorson, 2017). This fragmentation provides multiple entry points for disinformation to take hold, particularly in environments where media consumers do not overlap significantly in their news sources. Such factors can foster a media environment that is less resilient to disinformation.

The economic and social media environments significantly impact the resilience of societies to overcome disinformation (Humprecht et al., 2020). Large advertising markets, particularly those driven by the pursuit of ad revenue, create incentives for the production and dissemination of disinformation (Nielsen & Graves, 2017). Disinformation—often being more emotionally charged and "clickbaity"—is more likely to attract user attention, thus generating larger revenue (Braun & Eklund, 2019). Consequently, larger advertising markets are typically more susceptible to the spread of disinformation (Humprecht et al., 2020). Similarly, high social media usage amplifies an individual's vulnerability to disinformation. Social media platforms, which often prioritize entertainment over accurate news dissemination, enable the rapid spread of rumors and allow misinformation to flourish among large networks of users (Fletcher et al., 2018). Studies suggest that individuals consuming news primarily through social media are less informed about public affairs, leading to a greater susceptibility to disinformation compared to those accessing news through traditional media (Shehata & Strömbäck, 2021). This combination of economic incentives and social media dynamics forms a potent environment where disinformation can thrive and spread extensively.

In conclusion, the systemic factors contributing to disinformation belief create a complex and interconnected landscape. Political polarization, which blurs the line between fact and opinion, is exacerbated by a populist style of communication that promotes divisive narratives. Mistrust in traditional media leads people to seek alternative sources that may lack journalistic integrity, while

fragmented media audiences and large advertising markets incentivize sensationalist content. These factors collectively undermine societal resilience to disinformation. The systemic factors, while influential on a societal level, interact with individual characteristics to produce varied outcomes in terms of disinformation susceptibility. The combination of broader societal influences and personal attributes results in diverse patterns of information processing and acceptance across different population segments. This interaction between systemic and individual factors prompts the second research question addressed in this dissertation: *How do individual characteristics and systemic factors create distinct profiles of disinformation belief among Hungarian citizens?*

To answer this question, I examine Hungary as a case study. Within the European Union, Hungary presents a unique environment for examining disinformation dynamics. Its distinct political and media landscape offers an opportunity to observe and analyze how systemic factors and individual characteristics interact in a setting where disinformation mechanisms are particularly pronounced. By focusing on Hungary, the study can explore these dynamics in depth, revealing patterns that may be less visible in other contexts.

3. The Hungarian context

When analyzing the dynamics of disinformation in Hungary, it is crucial to consider the country's unique historical, political, and cultural context. From the enduring impacts of the communist era to the significant shifts in media control in the 21st century, Hungary's landscape is shaped by the intersection of historical narratives, its geopolitical positioning, and various political maneuvers. The first section outlines how the Hungarian government, predominantly under the Fidesz party, strategically employs media to craft and disseminate disinformation, shaping public perceptions and influencing the political landscape. The exploration spans such issues as concentrated media ownership, the polarized political environment, culturally resonant historical narratives, and Hungary's complex foreign policy stance at the crossroads between Eastern and Western alliances.

3.1 Disinformation in Hungary

Disinformation and propaganda in Hungary have deep historical roots and continue to shape the media and societal landscape in profound ways. From an historical standpoint, during the communist era the Hungarian government wielded the media as a tool for state propaganda, controlling information to suppress opposition and promote pro-Soviet narratives (Bajomi-Lázár, 2003). This period laid the foundation of media manipulation that has influenced subsequent media practices in the country. Following the fall of communism in 1989, Hungary experienced a brief period of media freedom and diversity (Altena, 2017). However, this openness has gradually declined, especially after the Fidesz party, led by Prime Minister Viktor Orbán, gained a parliamentary supermajority in 2010. The government began to reassert control over the media through regulatory changes, ownership shifts, and financial pressures, a move criticized for consolidating media control and reducing critical, independent reporting (Griffen, 2020). Such actions are part of what some scholars describe as an erosion of democratic norms, with the media

being used to shape public opinion in ways that support the government's political agenda (e.g., Enyedi, 2018). This phenomenon can also be referred to as the establishment of "informational autocracy," highlighting a shift where information control consolidates power by limiting diverse perspectives in public discourse (Krekó, 2022).
The media landscape in Hungary today is characterized by a high degree of centralization, with significant control exerted by the government and its allies. This centralization is instrumental in the dissemination of disinformation, supporting the government's political objectives and attempting to shape public opinion in a favorable way towards the government (Krekó & Enyedi, 2018). The consolidation of media under the control of government-friendly entities has facilitated a systematic propagation of narratives that are heavily nationalistic, staunchly anti-immigration, and critical of the European Union (Csehi & Zgut, 2021). This strategic manipulation of media content aligns closely with broader political agendas and helps to solidify the ruling party's power by reinforcing its ideological stances among the populace.

The phenomenon of disinformation in Hungary, particularly after 2015, is closely tied to geopolitical events and internal political strategies. Yet, it is nearly impossible to catalog all the disinformation campaigns that have been deployed over recent years.
The first large-scale disinformation campaign took place after the 2015 "migration crisis." Central to the disinformation campaign was the construction and utilization of the "Soros Plan" narrative. The narrative was rooted in the European migration crisis and catalyzed by George Soros's well-known advocacy for open and inclusive societies. The Hungarian government seized on this narrative to suggest, without detailed evidence, that Soros was orchestrating a plan to flood Hungary with immigrants (Plenta, 2020). From the outset, the government's narrative eschewed the term "refugees," opting instead for "migrants" or "economic migrants," signaling that such individuals were not fleeing danger but were instead part of a calculated move to undermine national sovereignty. Following the delineation of the "Soros Plan" after the 2015 migration crisis, the Hungarian government intensified its disinformation campaigns by utilizing striking visual propaganda to cement the narrative further in the public psyche (Kallius, 2023). Posters depicting George Soros as the mastermind behind forced migration became widespread across Hungary. The posters, often seen in public spaces and transit areas, visually reinforced the government's message that Soros was orchestrating an influx of migrants to undermine national sovereignty (Plenta, 2020). This visual campaign not only personified the perceived threat represented by Soros but also simplified complex geopolitical issues into a single digestible and alarming image that was easy to understand.
Following the initial focus on migration, the government's disinformation efforts expanded to address various societal issues. The state-controlled media propagated exaggerated fears linking immigration to crime and terrorism (Bienvenu & Karasz, 2017), which intensified public apprehension and xenophobic attitudes (Kende & Krekó, 2020). Subsequent campaigns targeted LGBTQ+ rights, framing them as threats to traditional family structures and societal values (Gera, 2023). During the COVID-19 pandemic, the narrative shifted to paint the opposition as anti-vaccine (Kásler, 2021). More recently, with Russia’s war in Ukraine, disinformation efforts have not only portrayed the opposition as warmongers (Szebeni, 2022), suggesting that they are trying to entangle Hungary in international conflicts, but have also actively spread pro-Kremlin talking points (Bayer, 2022). The government's media channels have been instrumental in echoing Russian narratives, particularly regarding Russia's and Ukraine's roles in the conflict (Krekó, 2022). This alignment with

Kremlin rhetoric serves to justify the Hungarian government's ambiguous foreign policy stance while continuing to undermine the opposition by depicting them as antithetical to national interests (G. Győri, 2024).
What unites the diverse narratives are a consistent thread of anti-EU sentiment and the portrayal of the opposition as agents of foreign influence—aligned with Soros and EU interests rather than Hungarian sovereignty. This ongoing thematic element in government-sponsored disinformation campaigns serves to vilify the opposition, consolidate governmental power, and reinforce the narrative that only the current administration can protect Hungarian interests against external threats. This strategic use of disinformation not only manipulates public perceptions but also cements the government's control by exploiting fears and deepening societal divisions.

In Hungary, the ecosystem of disinformation is sophisticated and multi-faceted, involving a variety of actors and platforms that play distinct roles in the dissemination of misleading information. State media, having undergone significant consolidation under entities aligned with the ruling government party, have emerged as primary conduits of disinformation (Urbán et al., 2023). These outlets frequently broadcast narratives that support government policies, effectively marginalizing opposition voices and stifling critical perspectives (Meco & Hesterman, 2023). This strategic control of the media is a key part of the government's broader effort to shape public discourse and enforce its political agendas. In addition to state media, private news outlets owned by individuals closely linked to the ruling party mirror the state's role in spreading disinformation (Bajomi-Lázár & Horváth, 2023). These outlets often push narratives that align closely with state policies on issues such as immigration, national security, and the European Union, reflecting the government's objectives (Griffen, 2020). This blurring of the lines between state and private media outlets ensures a wide dissemination of the government's preferred narratives. Moreover, the disinformation strategy extends to online platforms as well. Social media has become a significant arena for the spread of disinformation, facilitated by the algorithmic amplification of engaging, often sensationalist, and polarizing content. The government employs social media influencers and GONGOs (government-organized nongovernmental organizations), such as Megafon Center and CÖF (Civil Union Forum), to launch targeted disinformation campaigns. The influencers affiliated with Megafon create and disseminate ads and posts on platforms like Facebook, exploiting the virality and reach of social media to manipulate public opinion (Böcskei & Németh, 2022). The government's influence is further augmented by thinktanks and research institutions that produce studies and reports supporting governmental narratives (Mikola, 2023). These institutions serve as intellectual covers, providing scholarly legitimacy to disinformation and shaping academic and public debates in favor of the state's interests (Kallius, 2023).

While it is challenging to definitively attribute specific societal trends solely to disinformation campaigns, the correlation between these campaigns and shifts in public opinion in Hungary suggests a significant impact. Although measuring causality is complex, the following trends appear indicative of the influence that disinformation has exerted. Manipulative campaigns most likely influenced attitudes toward migration, increasing xenophobia since the 2015 crisis (Barna & Koltai, 2019). Similarly, it is possible that Fidesz's anti-EU and pro-Russian rhetoric could have contributed to the public's foreign policy orientation. By 2022, support among Fidesz voters for alignment with Russia over the US surged from 39% to 55%, reflecting a strong narrative impact, although general support for EU and NATO membership remains high (Krekó, 2019, 2022). George Soros, initially a

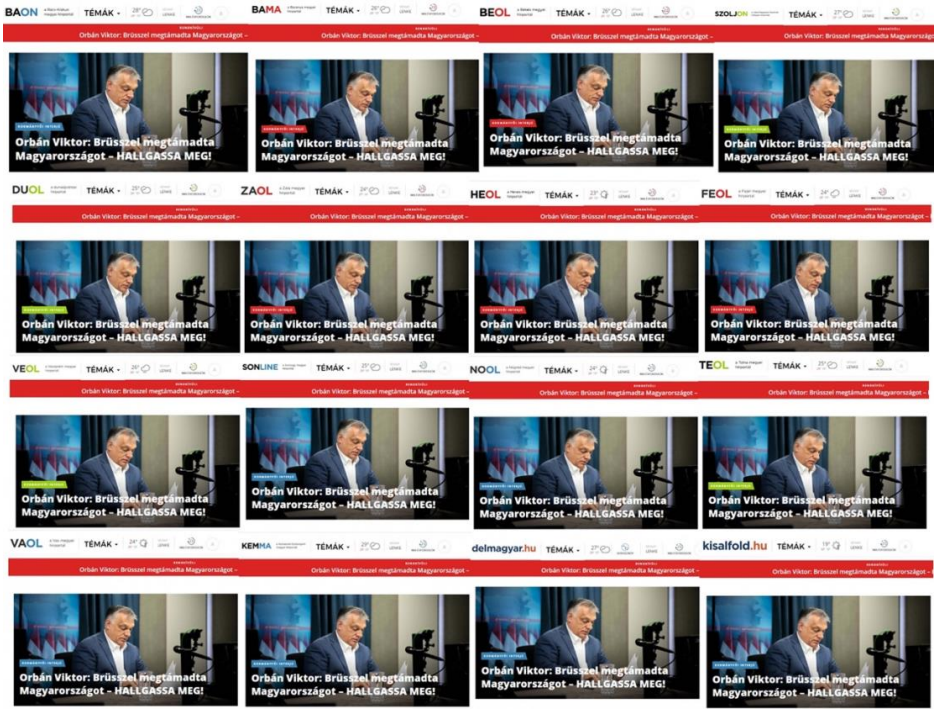
less known figure, by 2021 was deemed to be "dangerous to Hungary" by 57% of Fidesz voters (Tenczer, 2021).
Moreover, polarization within Hungarian society has deepened, with a significant rise in Manichean views from 2018 to 2022, indicating an increasing belief in the binary division of political and social ideologies (Krekó, 2022).
In concluding the section on disinformation dynamics within the Hungarian context, it is evident how deeply connected media manipulation and strategic political narratives are with the broader historical and geopolitical fabric of the country. The Fidesz party's adept use of media to consolidate power and craft a narrative that aligns closely with nationalistic sentiments, while stifling dissent, paints a complex picture of the state of democracy in Hungary. In section 3.2, I go into more detail on the distinctive features of Hungary's media landscape, political environment, and cultural factors, further unpacking how these elements uniquely contribute to the nation's susceptibility and resistance to disinformation.

3.2 What makes the Hungarian context special?

When exploring disinformation in Hungary, it is crucial to highlight the specific factors that shape the environment and make it fitting for such a study. The factors include: centralized media ownership aligned closely with government interests, a politically polarized environment that fuels strategic disinformation, frequently evoked historical narratives used to affirm national identity, and a complex foreign policy navigating between Eastern and Western alliances. The convergence between the various elements creates a distinctive landscape for the operation and study of disinformation. This combination of factors positions Hungary as what Flyvbjerg (2006) terms an "extreme case" within the European Union context, though it is important to note that more extreme cases do exist globally. Within the EU, though, Hungary's unusually high degree of media centralization and political control, coupled with the strategic use of historical narratives and an ambiguous geopolitical stance that balances EU membership with pro-Russian leanings, makes Hungary an ideal subject for examining how disinformation dynamics manifest themselves in a highly pronounced form. As an extreme case, Hungary offers the opportunity to observe mechanisms of disinformation that may be present but less visible in other contexts. The studying of such amplified dynamics will potentially reveal subtler manifestations of disinformation strategies and in more moderate political landscapes across the EU and beyond. This approach allows for a deep dive into the complexities of disinformation in a setting where its various components are particularly salient and interconnected.

To understand how Hungary embodies one extreme case, it is best to examine each of the factors in detail, starting with the media landscape. Hungary's media environment is characterized by an intense concentration of media ownership within the Central European Press and Media Foundation (KESMA), both of which are closely aligned with the government, making it a unique media landscape in the region. KESMA, along with public media, has consolidated approximately 500 national and local media organizations, all pushing similar narratives that support the ruling party, Fidesz (Serdült, 2022). This extensive level of control allows the government to dominate around 80% of the media sphere, influencing public opinion and stifling dissent (Reporters Without Borders, 2024). This high level of media concentration might influence public trust in both government

institutions and media outlets. Citizens may struggle to find diverse perspectives or truly independent reporting, potentially leading to either increased skepticism towards all information sources or, conversely, an overreliance on government-aligned narratives. The concentration of media power has significant implications for press freedom in Hungary, which is currently ranked 67th in the 2024 Reporters Without Borders World Press Freedom Index, the lowest ranking within the European Union (Reporters Without Borders, 2024). This low-ranking position reflects the ongoing challenges faced by the media in maintaining independence and plurality in a highly controlled media environment. The political maneuvers that have facilitated this media landscape are deeply intertwined with various economic and legal strategies. Since 2010, a systematic undermining of media pluralism and independence has taken place under Prime Minister Viktor Orbán (Milutinovic, 2022). Many private media outlets have been either co-opted or silenced through acquisitions by oligarchs with close ties to Fidesz or through direct governmental interference. The recent creation of an authority for "sovereignty defense" in 2023 poses further risks of administrative harassment of the media, with the government potentially using it as a tool for smear campaigns undermining trust in independent journalists (Moravecz & Folk, 2023). From an economic standpoint, the media market's sustainability is challenged by discriminatory practices in state advertising, which favor pro-government outlets and financially strangle independent media. This strategy was evident in the takeover of the major news site Index.hu in 2020 by entrepreneurs close to Fidesz, facilitated by shrinking revenue streams, which made the site vulnerable to acquisition (Reporters Without Borders, 2024).



Collage showcasing the front pages of various county news sites across Hungary, all carrying the same headline on the same day, illustrating the centralized control of the media under KESMA (text reads: *Viktor Orbán: Brussels attacked Hungary – LISTEN TO THIS!*)
(source: https://444.hu/2021/07/23/minden-megyei-lapnal-cimlapra-kerult-orban-viktor-kampanyuzenete).

The second factor making Hungary unique is the political environment, which is marked by deep polarization that is both the result of and a catalyst for the strategic deployment of disinformation. Pro-government media frequently broadcast disinformation that aligns with Fidesz's political goals. Meanwhile, the limited number of opposition-owned media outlets also engage in spreading disinformation (Szakács, 2020). The stark division not only limits balanced public discourse but also creates an environment ripe for disinformation (Humprecht et al., 2020), as both sides produce content that reinforces their base's pre-existing biases rather than provide objective information. Such stark political divisions not only fuel disinformation but can also shape attitudes towards the government, with supporters and opponents often holding drastically different views on the administration's performance and legitimacy.

Amidst this landscape, there still are independent media outlets that maintain a robust presence in the market. These independent media platforms strive to maintain journalistic integrity and provide objective reporting, and they are critical for providing alternate viewpoints and sustaining media pluralism against the backdrop of government-aligned narratives. However, these journalist organizations and media outlets face significant challenges, as they are often painted by the ruling party as purveyors of "fake news" (Szilli & Fábián, 2018). For instance, Prime Minister Orbán and other government figures typically refrain from giving interviews to such independent outlets,

signaling a deliberate attempt to undermine their credibility. This tactic not only marginalizes independent media sources but also deepens societal divisions, complicating the public's ability to access unbiased information.

The government's political strategy often involves exploiting and even deepening societal divisions. Disinformation campaigns are tailored to exacerbate existing cultural, socioeconomic, and political rifts, making them more pronounced. For example, narratives around migration or EU policies are not merely presented as policy discussions but are imbued with identity politics, painting opposition to the government's stance as a threat to Hungarian sovereignty and cultural integrity (Krekó, 2022). This strategy can further polarize public opinion, ensuring that discourse remains fragmented and more susceptible to manipulation. The public's ability to engage in informed discourse is compromised when facts are continuously manipulated or presented through a hyper-partisan lens. As a result, disinformation becomes a normalized element of political strategy.

The third aspect that makes the Hungarian context especially interesting in terms of disinformation is the cultural dynamics of the country, particularly when studied through the lens of memory work and national history, which remain potent elements in political discourse. Events such as the Treaty of Trianon and the interwar period under Regent Miklós Horthy are not merely historical footnotes but active elements of governmental communication and public sentiment. The government often leverages such historical reference points to reinforce national identity, strategically employing them in disinformation campaigns.

The Treaty of Trianon (1920), which resulted in significant territorial losses for Hungary, is a seminal event that continues to resonate deeply within Hungarian society, constituting the biggest national trauma (Z. P. Szabó et al., 2023). The government frequently invokes Trianon to underscore themes of national victimization and resilience (Szebeni & Salojärvi, 2022). This historical context is not just a reflection of past grievances but is actively used to cultivate a narrative of being perpetually "betrayed by the West" (Szalai, 2024). A similar event is the 1956 Hungarian Revolution, where a national uprising against Soviet control was ultimately crushed when Western nations failed to provide the necessary support, reinforcing this narrative of betrayal (J. Szabó, 2020). The narratives comprise potent in disinformation campaigns, with the government using them to justify anti-EU sentiments or skepticism towards international cooperation, portraying current political or economic challenges as continuations of historical injustices. By invoking such significant historical events, the government crafts a consistent theme of external betrayal that resonates strongly within the national psyche, enhancing the impact of disinformation campaigns that tap into deep-seated feelings of grievance. Similarly, the interwar period under Horthy is often romanticized or invoked in a manner that emphasizes sovereignty and national glory, despite its controversial and complex nature (Kunt, 2023). By evoking this era, the government taps into a nostalgic sentiment that glorifies a past perceived as more autonomous and culturally cohesive. This selective historical memory serves as a backdrop for disseminating disinformation that promotes nationalistic and authoritarian values; painting them as inherent Hungarian virtues may contribute to a heightened conspiracy mentality among the population, as complex geopolitical issues are often framed in terms of external threats or hidden agendas.

Just as the Treaty of Trianon continues to serve as a basis for both historical and contemporary ideas of victimization (Z. P. Szabó, 2020), it also plays a critical role in shaping Hungary’s relations with neighboring countries due to the presence of Hungarian minorities—including in the

Transcarpathian region of Ukraine. Hungarian-Ukrainian relations have been strained not only because of a complex history between the two countries but also because of the introduction of a controversial language law (Pablo, 2017) in Ukraine, which banned teaching in minority languages—including Hungarian. Since then, the Ukrainian Parliament passed a law to reinstate the language rights of the Hungarian minority (Spike, 2024). However, during the period that it was active the Hungarian government used the legislation as a pretext for withholding support for Ukraine, accusing the country of repressing minorities.
The use of historical narratives, such as those relating to Trianon, shapes public perceptions and may increase susceptibility to misinformation. By embedding the historical reference points within governmental communications, a foundation is established that primes the public to accept disinformation that conforms with these deep-seated national stories. This practice not only perpetuates past grievances but also complicates present-day diplomatic relationships.

The fourth factor that makes Hungary's context special is its geopolitical position and foreign policy, which straddle a complex line between Eastern and Western influences. Under the leadership of Prime Minister Viktor Orbán, Hungary's foreign policy embodies a dual approach: fostering pro-Eastern sympathies (including pro-Russia and pro-China policies and narratives) while maintaining formal commitments to the European Union and NATO. This strategic ambiguity became even more pronounced following Russia's full scale invasion of Ukraine in 2022, with Hungary maintaining a notably ambiguous stance, often resisting broader European calls for sanctions against Russia and advocating for a "peaceful resolution" to the conflict in ways that sometimes echo Russian talking points (Győri & Hunyadi, 2023). Hungary's sympathy for Russia and its policies is evident in various economic and political alignments that frequently run counter to broader EU policies. Orbán's administration has continually sought closer ties with Russia, highlighted by significant energy deals, like the expansion of the Paks nuclear power plant, which relies on Russian technology and financing (Gavin, 2024). Moreover, Hungary's reluctance to participate fully in EU sanctions against Russia since 2022 reflects its strategic positioning, with the government citing the negative impact on the economy and the value of strong bilateral relations (Foy, 2024). The pro-Russian orientation also influences the Hungarian government's media strategies, where narratives supportive of Russian perspectives, particularly concerning European security and energy policies, are frequently promoted (Krekó, 2022). These narratives are actively utilized to shape public opinion in Hungary, suggesting that a close relationship with Russia serves national interests in terms of security and economic prosperity. Additionally, the state media has orchestrated disinformation campaigns targeting EU figures, such as Commission President Ursula von der Leyen, suggesting that EU officials and "Brussels" are threatening Hungarian sovereignty (Spike, 2023). Conversely, Hungary's commitments to the European Union and NATO play a significant role in its foreign policy discourse. Despite tensions with EU institutions over issues like judicial reforms and media freedoms (Fleck et al., 2022), Hungary benefits from EU financial aid and economic integration, which are important to its economy (Nagy, 2024). Similarly, while domestic viewpoints may sometimes be critical of NATO, the strategic importance of the alliance, particularly for collective security, is recognized by the Hungarian government (Fazekas, 2022).

The delicate balancing act between meeting international obligations and promoting more critical domestic political narratives serves both as a source and a subject of disinformation campaigns. It affects public trust in international institutions and shapes attitudes toward the government's

foreign policy decisions. Domestically, the government crafts narratives emphasizing sovereignty and national interests to justify its "nuanced" positions within these international bodies (Kim, 2021). The dynamics are not just subjects of disinformation but are also integral to the government's political strategy. In the 2022 parliamentary elections, Fidesz secured a significant victory, attributed largely to its potent political campaign on the theme of war versus peace (Political Capital, 2022). During this campaign, Fidesz effectively portrayed the Hungarian opposition and "Brussels" as warmongers intent on dragging Hungary into a global conflict, positioning itself as the peacemaking guardian of the Hungarian people (e.g., Than, 2022). This narrative resonated deeply with voters, enabling Fidesz to achieve a two-thirds majority in parliament. Building on this success, the party employed a similar strategy in the 2024 European Parliament and municipal elections, which occurred simultaneously in Hungary. Fidesz sought to frame the election as a binary choice between peace and war, once again utilizing state resources to advance its political agenda and narratives. The approach again blurred the distinctions between the party, the government, and the state, as well as between information dissemination and campaigning (Demény et al., 2024). Disinformation played a key role in this strategy; it focused on the supposed threat posed by "pro-war politicians" and their Hungarian counterparts, accusing them of wanting to involve Hungary in a third world war (Chiappa, 2024). For instance, Fidesz spread false claims that Ukraine received EU funds earmarked for Hungary, and the pro-government media reported on the serious threat of Ukraine planning to invade Hungary (Demény et al., 2024). Additionally, Fidesz and left-wing parties launched disinformation-laden smear campaigns against the newly emerged Freedom and Respect (Tisza) party, while Fidesz extended such tactics to target all opposition politicians (Political Capital et al., 2024). This campaign approach has made the Russian-Ukrainian war a dominant topic in Hungarian political discourse and a basis for further polarization in society. The 2024 election results reflected the impact of such strategies: Fidesz secured 44.82% of the vote, while the Tisza party surprisingly garnered 29.6%. The outcome suggests that while Fidesz remains strong, the rise of the Tisza party—which primarily ran on an anti-corruption platform—has significantly reshaped the political scene by effectively diminishing the influence of the "old-left" opposition. This shift indicates a changing landscape in Hungarian politics, where new parties can disrupt traditional power structures and potentially alter future policy directions.

A building near Mexikói út, in Budapest, with government posters (the text reads "*STOP WAR; ON 9th JULY ONLY FIDESZ*," with the "war" text featuring the faces of three opposition politicians and George Soros)
(source: https://444.hu/2024/05/20/totalis-haborus-pszichozis-a-mexikoi-uton).

The strategic use of disinformation in the 2024 European Parliament elections exemplifies the broader patterns of information manipulation within Hungary's political landscape. The tactics and their impacts, however, extend beyond singular events, reflecting a more pervasive and complex phenomenon that positions Hungary as a unique case study within the field of disinformation research. Hungary's case aligns with broader trends in disinformation studies, particularly in demonstrating the effects of political polarization regarding information consumption (Allcott & Gentzkow, 2017; Polyák et al., 2022) and the role of motivated reasoning in shaping beliefs (Faragó et al., 2019; Vegetti & Mancosu, 2020). However, Hungary represents an extreme case within the European Union context, where such phenomena are amplified by several unique factors. The unprecedented level of media centralization under KESMA, coupled with Hungary's hybrid geopolitical stance and the persistent influence of historical narratives, creates an environment where the dynamics of disinformation may manifest more intensely than in other studied contexts. This centralization complicates trust dynamics, as the line between state communication and independent journalism becomes increasingly blurred. Consequently, it is possible to observe more pervasive and coordinated disinformation campaigns in Hungary due to the high degree of centralized media control, potentially leading to a more uniform narrative landscape than in countries with more diverse media ownership (Urbán et al., 2023).

Furthermore, given the strong influence of past traumas on current political discourse, Hungary may exhibit a higher susceptibility to disinformation that leverages historical grievances. This heightened sensitivity to historically rooted narratives could amplify the impact of disinformation campaigns that exploit national memory and identity, potentially fueling conspiracy theories that resonate with collective historical experiences. Hungary's unique position between Eastern and Western spheres of influence suggests the potential for more complex interactions between domestic and foreign disinformation narratives. This geopolitical complexity may result in a sophisticated blending of divergent narrative strands, challenging traditional models of information warfare that often assume clear geopolitical alignments. The ambiguity in Hungary's international positioning may further complicate public trust, as citizens grapple with conflicting narratives derived from domestic and international sources. Additionally, as an EU member state experiencing democratic backsliding, Hungary presents a scenario where sophisticated state-sanctioned disinformation campaigns operate within formal democratic structures. This context may foster more subtle forms of information manipulation compared to overtly authoritarian regimes, potentially blurring the lines between factual and manipulated information in official communications.

These factors position Hungary as an interesting case study for understanding how disinformation operates in contexts where democratic institutions coexist with authoritarian tendencies and where trust in traditional information sources is increasingly being undermined. Thus, the results can uncover new patterns of information manipulation that extend beyond the typical findings in either fully democratic or authoritarian settings, contributing to a more detailed global understanding of disinformation in the 21st century.

4. Epistemological foundations of truth

In outlining the dynamics of disinformation within the Hungarian context, a critical issue underpinning the discussion of disinformation emerges: the construction and perception of truth itself. This inquiry is not merely academic; it profoundly influences how societies, particularly those as politically polarized as Hungary, grapple with questions of disinformation and public discourse. This section discusses not only broader epistemological questions while examining how my interpretation of knowledge and its verification influence the methodologies applied in this dissertation.

Examining epistemological foundations is crucial in the context of disinformation research, as it fundamentally shapes how we conceptualize and approach the subject. The epistemological stances of researchers influence not only how they define disinformation but also how they perceive its role and impact in society. It affects the methodological choices in studying disinformation, from the questions asked to the data they consider valid. Moreover, understanding various epistemological perspectives allows researchers to critically examine the assumptions underlying different approaches to combating disinformation. This exploration also enables researchers to consider how different societies or groups, operating under distinct epistemological frameworks, might interpret and respond to the same information differently. By engaging with these foundational questions, researchers can develop a more comprehensive understanding of the complex dynamics surrounding disinformation in the current information ecosystem.

At the heart of any discourse on disinformation is the need for fundamental inquiry: *What* is truth, and *how* do people know what is true? Epistemology, the branch of philosophy concerned with knowledge and belief, addresses these very questions. It explores how we distinguish justified belief from mere opinion, crucial for evaluating the challenges presented by disinformation and misinformation (Steup & Neta, 2020). Understanding the criteria for truth and the processes by which we validate knowledge is essential, especially when the ways in which and speed by which information spreads are constantly changing.

To explore the nature of truth in relation to disinformation, this section examines various epistemological perspectives. I begin with the positivist view, which emphasizes empirical evidence and objectivity. Then, I describe social constructionism, which focuses on the role of social interactions in shaping social meanings and the construction of the social world. Finally, I discuss RSC as a framework that integrates elements of both perspectives by enabling the analysis of (dis)information as a socially and politically constructed interpretation of reality.

In this dissertation, I apply the latter perspective as a meta-perspective, approaching the epistemological underpinnings of disinformation from a stance that considers the factual approach to (dis)information and social processes in the formation of knowledge and beliefs. An RSC approach enables me to bridge an examination of the usage of the factual content of information alongside the social dynamics that give meanings to particular political events and influence the acceptance and dissemination of such information. By adopting an integrated perspective, I provide a comprehensive analysis that acknowledges both the objective realities and the socially constructed aspects of disinformation in our current information ecosystem.

4.1 Positivist view on truth

When viewing the foundations of truth through the lens of historical epistemology, it is possible to examine the evolution of our understanding of truth and knowledge, a perspective that sheds light on how societies have historically grappled with distinguishing between true and false information. The concept of truth has not always been anchored in present-day notions of objectivity and empirical evidence. Instead, it has been shaped by various social, cultural, and technological forces, evolving from the era of rhetoric and oral traditions into the scientific methodologies and printed word more familiar in current academic discussions (Feest & Sturm, 2011).

Within the positivist, or scientific, paradigm, truth is constructed through an evidence-based approach characterized by empirical investigation, verification, and falsification. This methodological stance is rooted in essentialism and positivism, where observable, measurable evidence is the primary criterion for determining the validity of knowledge claims (Chalmers, 2013). Historically, the emphasis on objectivity and empirical facts as the pillars of knowledge is a relatively recent development. The introduction of the printing press initiated a critical transformation in epistemological practices, positioning facts as the bedrock of knowledge and making them synonymous with truth itself (Wootton, 2016). This shift from a reliance on subjective interpretations and rhetoric towards an objective grounding in facts marked the beginning of the "modern fact" as a novel epistemological unit (Poovey, 1998). This transition was further solidified in the 18th century when knowledge acquisition began to hinge on the objective relationship between humans and the natural world, articulated through measurements and empirical facts. This period

also saw the dissemination of such newfound knowledge to an increasingly literate populace, expanding the scope and impact of scientific inquiry (Adams et al., 2023).

The positivist approach relies heavily on methodologies that can systematically gather and analyze data to support or refute hypotheses, reflecting an ontological commitment to an objective reality that can be comprehensively understood through scientific inquiry (Kuhn, 2009). The transformation in the epistemological landscape, marked notably by the mathematization of the world and the elevation of numbers as symbols of accuracy and precision, has fundamentally influenced the standards of evidence (Winchester, 2018). In this dissertation, the use of methodologies like questionnaires plays a crucial role. I have chosen to employ structured and replicable tools to collect data, allowing me to explore patterns and insights that reflect broader standards of human behavior, societal trends, and factual realities. In Studies I and II, I utilized questionnaires designed to explore people's susceptibility to disinformation, which revealed significant psychological and social associations. This approach offers a grounded basis for developing interventions and educational programs.

Incorporating questionnaires into research also reflects a deeper epistemological and ontological stance. From an ontological perspective, it implies a belief in an objective reality that can be quantitatively measured and understood (Creswell & Creswell, 2018). Epistemologically, it suggests a confidence in positivism—the idea that through careful, systematic study, researchers can gain reliable knowledge about the world (Romm, 2013). However, this approach also necessitates a consideration of essentialism, particularly the ways in which the design of a questionnaire might inherently shape and limit the knowledge it produces (Krauss, 2015). The questions that researchers ask, the way they frame them, and the assumptions underlying their methodological choices all reflect deeper beliefs about what is knowable and how we come to know it (Schwandt, 2003). Thus, while questionnaires can provide valuable insights into phenomena like disinformation, they also embody a specific worldview, highlighting the complex relationships between methodology, epistemology, and ontology in the pursuit of truth. For this reason, I also incorporate a form of social constructionism, which helps me to explore and articulate how individuals and communities construct their own perceptions of disinformation through social interactions and cultural influences.

4.2 Social construction of truth

Social constructionism represents a paradigm shift in understanding truth, challenging the empirical foundations of knowledge by asserting that truth is not an objective entity to be uncovered but a construct shaped by social processes and interpretations (Hacking, 2000). In this perspective lies the assertion that people's perceptions of truth and reality are significantly molded by the cultural norms, historical contexts, and societal power dynamics within which they are embedded. Unlike the evidence-based approach, which seeks to determine truth through empirical investigation and verification, social constructionism posits that truth is contingent, fluid, and constructed through the shared experiences and discourses of communities (Burr & Dick, 2017). The perspective posits that knowledge and truth are not mere reflections of an external reality but are actively created through the languages we speak, the stories we tell, and the interactions we engage in. When viewed

through such a lens, truth becomes subject to a dynamic interrelation of social forces, revealing the profound impact of cultural and societal contexts in shaping our understanding of the world.

The social constructionist viewpoint on truth and knowledge is deeply rooted in the seminal works of Peter L. Berger and Thomas Luckmann, as well as Michel Foucault, whose theories provide critical insights into the nature of knowledge construction within societal contexts. Berger and Luckmann (1966) elucidate how social realities are created and maintained through daily interactions and shared beliefs, positing that knowledge is a product of societal consensus rather than objective observation. This conceptual framework underscores the importance of examining the societal processes that underlie the construction of truth, paving the way for methodologies that focus on social interactions and cultural narratives as sources of knowledge. Michel Foucault, on the other hand, offers a complementary but distinct perspective. Foucault explores the power dynamics inherent in the production of knowledge, arguing that what is accepted as truth is deeply connected to power structures within society. His analysis of discourse as a vehicle for power relations highlights the significance of investigating the ways in which knowledge is shaped by and serves to reinforce or challenge existing power dynamics (Focault, 1961). Foucault's theories thus contribute to a deeper understanding of the socio-political dimensions of knowledge construction, informing methodological approaches that closely examine the dynamics between discourse, power, and truth.

The integration of these theoretical foundations into social constructionism research is exemplified in the methodologies of Critical Discourse Analysis (CDA) (for an overview, see, e.g., Fairclough & Wodak, 1997) and DHA (e.g., Reisigl & Wodak, 2001). CDA, drawing on Foucault's insights into the power-laden nature of discourse, provides a framework for analyzing how language is used to construct, perpetuate, and challenge social realities. This approach is particularly relevant for exploring how the discourses built around truth and disinformation are shaped by and contribute to the maintenance of power within societies. Specifically, I have employed DHA in Study III to explore the historical and linguistic aspects of disinformation, enabling a thorough exploration of how truth is framed and contested. DHA forms an integral part of critical discourse studies, a field that examines the role of semiosis—the production of meaning—in societal structures. Originating from the work of Ruth Wodak and colleagues (Wodak, 2015), DHA is particularly known for its multidisciplinary approach, which combines linguistic analysis with historical context to explore the power dynamics within discourse. This methodology emphasizes the connections between discourse and societal structures, investigating how language not only reflects but also shapes social realities through a process termed recontextualization (Reisigl, 2018). DHA offers a comprehensive perspective on the construction of truth, emphasizing the role of historical context in shaping contemporary understandings of knowledge.

While a social constructionist perspective offers profound insights into the more subtle and contextual nature of truth, it has not been without its criticisms. One of the primary critiques centers around the issue of relativism—the notion that if all truths are socially constructed, then this might lead to a stance where all beliefs are seen as equally valid, potentially undermining the pursuit of objective knowledge (Hammersley, 2010). It is important to note, however, that not all social constructionist theories embrace such radical relativism. Some versions of social constructionism do acknowledge the existence of external realities and the constraints that shape social constructions, while still emphasizing the role of social processes in the formation of knowledge

(Mallon, 2007). However, radical constructionism, with its anti-realist ontology, asserts that all phenomena are social constructs, leaving no other way to understand the world (Elder-Vass, 2012). Without a framework for evaluating the veracity of different truths, social constructionism could inadvertently foster a form of epistemological nihilism, where the distinction between more and less reliable claims becomes blurred. Such a stance not only overlooks the ways in which the material world shapes and limits social constructions of truth, but also removes any common ground for evaluating the different kinds of constructions, consequently undermining *all* knowledge claims.

4.3 Realist social constructionism—bridging the gap between scientific and social constructions of truth

It is essential to acknowledge the complexities involving scientific and social constructions of truth at the outset of this discussion on RSC. Such an approach combines the empirical rigor of scientific methodologies with the interpretative depth of social constructionism perspectives, thus offering fertile terrain for scholarly exploration and debate. By introducing RSC—as outlined by Elder-Vass (2012)—I will reconcile the two often divergent realms, presenting a framework that recognizes truth as both empirically grounded and socially shaped. This endeavor not only addresses a gap that is seldom explored in social psychology but also enhances current understandings of knowledge by integrating objective evidence with contextual social dynamics.

RSC combines a realist ontology with constructionism, where social phenomena are constructed through discourses and social interactions while simultaneously being anchored in a reality that exerts a significant influence on social structures and interactions. This perspective combines the strengths of realism, with its emphasis on the objective existence of social structures, with those of constructionism, which highlights the role of human activities in creating and sustaining social meanings (Elder-Vass, 2012b). It is important to clarify that RSC does not equate realism simply with the objectiveness of structures; rather, it views such structures as real but significantly shaped by human interactions and societal contexts. Further enriching this discussion, the concept of agency within RSC underscores the notion that individuals are not passive recipients of social forces but are instead capable of reflection and choice (Archer, 2003). The capacity for agency is an emergent property of human interactions and societal structures, capable of both conforming to and transforming such structures (Elder-Vass, 2012a). Human agency is thus a critical element in the constructionist process, functioning within a framework of existing social forces that collectively shape societal norms and realities. Elder-Vass (2010) supports this view by emphasizing that agency allows for a complex dynamic between an individual's capacity for action and the structural constraints and affordances provided by society. By incorporating agency, RSC provides a more comprehensive understanding of how social structures are both created and modified by human actions, reflecting a complex interaction between individual capacities and societal conditions. This approach acknowledges that while social structures exert a considerable influence—whether through knowledge (Archer, 2003) or social dispositions (Bourdieu, 1977)—they are also perpetually recreated and transformed through human agency. Therefore, individuals are agentic subjects, self-reflective and capable of making decisions that shape their social reality, albeit within the constraints of existing social structures (Elder-Vass, 2010). This discussion not only integrates the

arguments of critical realism (e.g., Bhaskar, 1975), according to which all events, including social phenomena, are influenced by multiple interacting influences, but also aligns well with the moderate forms of social constructionism that accommodate the realism of social structures. It moves away from extreme anti-realist versions of constructionism, building on arguments that realism and constructionism, when appropriately balanced, can provide a comprehensive framework for understanding the complexities of social interactions and structures (e.g., Joseph, 2004).

Social constructionist theories typically emphasize the significant role that language, discourse, and culture play in shaping social realities. Often drawing from various interpretive traditions, these theories generally argue that such elements are beyond causal explanation, suggesting that their impacts are best understood through hermeneutic or interpretative methods. In contrast, RSC sees no conflict between interpretation and causal analysis. It posits that language, discourse, and culture are not only mediums through which social realities are constructed but also exert influence on other social phenomena (Elder-Vass, 2012). Thus, from a realist constructionist standpoint these elements are both products and producers of social realities, actively participating in the creation and perpetuation of social structures and meanings. This approach allows for a deeper integration of interpretative understanding with detailed structural analysis, enriching the exploration of social dynamics.

In this dissertation, I also apply RSC to the study of attitudes within social psychology. Attitudes, as enduring evaluations of people, objects, or ideas, are both shaped by and reflective of the broader social contexts they inhabit. Through the lens of RSC, I understand attitudes as not merely personal or isolated beliefs but as deeply embedded within and influenced by societal norms and cultural narratives. While attitudes can appear subjective and individualistic, they are in fact products of social interactions and a particular cultural milieu. For example, societal attitudes towards government transparency or public trust in institutions are not solely the result of individual experiences and choices but are also shaped by larger discursive practices and the social norms that arise from such practices. These attitudes are anchored in a reality that includes social structures—such as educational systems, media outlets, and legislative bodies—which both exert influence on and are shaped by public opinion.

Within the framework of RSC, I view truth as a dynamic construct that evolves through the interaction of empirical evidence and social discourse. Empirical methods uncover facts about the world, yet their significance and interpretation are shaped by social interactions influenced by cultural norms, historical contexts, and power dynamics. This approach frames truth not merely as an empirical fact but also as a concept that gains relevance and meaning within specific social contexts. By integrating critical realism, RSC offers an approach to epistemology that bridges realism and social interpretation (Elder-Vass, 2012). It suggests that truth is not only about the factual accuracy of information but also about understanding the social processes that frame and influence such information. This perspective is crucial in modern contexts since it acknowledges that interpretations of facts are not uniform but vary widely across diverse social and political groups. In a world increasingly characterized by information polarization and debates about "fake news, " understanding the multifaceted nature of truth is essential. This approach emphasizes that the acceptance of various truths is significantly influenced by power dynamics within societies, which can dictate what is recognized as truth. Beyond power, however, cultural norms and historical

contexts also critically shape our understanding of truth (e.g., Levinger, 2018). Cultural norms influence perceptions by providing a framework through which information is interpreted, reflecting the shared values and beliefs of specific groups (Elder-Vass, 2012b). Historical contexts, meanwhile, add a layer of complexity by embedding current truths within specific temporal narratives (Wodak, 2015), thus affecting how truths are understood and validated over time. Recognizing such factors alongside and in relation to existing power dynamics reveals the depth of social influences on knowledge and underscores why a multifaceted view of truth is necessary in modern sociopolitical discourse. Building on this understanding of truth as both socially constructed and anchored in empirical reality, the third research question addressed in this dissertation is the following: *How do individuals construct, negotiate, and challenge competing epistemologies and notions of truth in online discussions about contentious geopolitical events in Hungary?*

The dissertation employs DHA—a moderate constructionist perspective (Reisigl, 2018) —together with surveys designed to measure constructs that are inherently shaped by social forces. This methodological combination is underpinned by the framework of RSC, which effectively bridges the gap between the empirical rigor of quantitative methods and the depth of qualitative, interpretative analysis. The framework thus allows for a *critical* examination of social constructs, as it moves beyond extreme constructionist positions that view all truths as relative and equally valid. Instead, it acknowledges that certain empirical truths still provide a stable foundation for understanding our world, while agreeing that many aspects of our society are socially constructed, thus changeable.

The RSC framework not only provides a theoretical lens but also serves as a meta-methodological guide in this dissertation research, blending quantitative and qualitative approaches in an exploration of the factors driving people's susceptibility to disinformation. Thus, this doctoral study is guided by the following overarching research question: *What are the underlying psychological and societal factors driving people*'s *susceptibility to disinformation, and how are perceptions of truth constructed and negotiated in societal discourse?*

Each of the three sub-studies targets specific aspects of disinformation, progressively building from individual susceptibility to broader societal discourse, and from a more realist methodology to a more constructionist one, with the specific aims of this research project reflected in the research questions below:

1. What social psychological factors influence susceptibility to disinformation in the Hungarian context? (Study I)

2. How do individual characteristics and systemic factors create distinct profiles of disinformation belief among Hungarian citizens? (Study II)

3. How do individuals construct, negotiate, and challenge competing epistemologies and notions of truth in online discussions about contentious geopolitical events in Hungary? (Study III)

Chapter 6 details the main findings from the three sub-studies, addressing each of the research questions outlined earlier. I analyze the findings with the overarching research question consistently in focus. I then provide summaries, evaluate the results, and discuss their theoretical, empirical, and practical implications in greater depth in chapter 7. Before that, though, the next chapter provides a thorough explanation of the research materials and methods used in the analysis.

5. Material and methods

This dissertation consists of three separate sub-studies. Study I was co-authored with Jan-Erik Lönnqvist and Inga Jasinskaja-Lahti, while Study II was co-authored with Inga Jasinskaja-Lahti, Zsolt Szabó, and Jan-Erik Lönnqvist. Study III was authored by myself. Thus, I use 'we' when referring to Study I and Study II and 'I' when referring to Study III.

5.1 Material

5.1.1 Studies I and II

Data for Study I and Study II were collected via an online questionnaire that was active from April 8 to May 20, 2019, a strategic period ending one week before the 2019 European Parliamentary elections so as to minimize any potential biases related to the electoral outcome. The recruitment utilized social media platforms, where master's degree students from Eötvös Loránd University, Budapest, widely shared the questionnaire link. This approach targeted a broad range of participants across various political discussion groups and personal networks. The final sample of 296 participants engaged in a 35-minute survey designed to explore their news consumption habits, political views, and perceptions of societal issues. The demographic breakdown of the final sample was as follows: the average age was 36.41 years, with 115 males, 169 females, four identifying as other, and eight not specifying their gender. Educational attainment varied, with 5.1% having completed primary education, 49.4% secondary education, and 42.5% possessing a higher education degree. Participants were not compensated monetarily; rather, their involvement was voluntary, with informed consent obtained upfront. They were free to withdraw or decline to answer sensitive questions at any point. The research project received the necessary ethical clearance from the Ethics Committee of Eötvös Loránd University and adheres to the high standards of data integrity and privacy as outlined in the data availability section of our publications.

5.1.1.1 Measures used in Studies I and II

Participants evaluated the veracity of 18 news headlines selected from Hungarian news sources, presented in a format mimicking Facebook posts, complete with headlines, images, and bylines, but without identifying the sources to mitigate bias. The items were chosen in the months leading up to the data collection phase and were divided equally into six categories: fake and real news, each with

pro-government, anti-government, and nonpolitical content. The selection process adhered to established methodologies (e.g., Calvillo et al., 2021; Pennycook & Rand, 2018) ensuring that the news represented clear political or nonpolitical narratives and involved rigorous fact-checking by the co-authors to confirm the authenticity of claims, with some disinformation items having been previously refuted or legally contested.

Participants responded to each item with a judgment of its truthfulness on a 1 to 7 Likert-type scale, where 1 indicated strong certainty of the news being false, 4 suggested a neutral stance (equally likely to be true as false), and 7 indicated strong certainty of the news being true. This scale is grounded in previous research, which has highlighted its effectiveness over binary options for capturing nuanced perceptions of credibility. Cronbach's α and McDonald's omega were both computed for all types of news scales, with the omega values shown in brackets. The reliability coefficients for believing anti-government disinformation were .65 (.65); anti-government real news .41 (.44); nonpolitical disinformation .37 (.41); nonpolitical real news .45 (.47); pro-government disinformation .71 (.71); and pro- government real news .34 (.42). The reliability coefficient for disinformation in general was .66 (.59), and for all real news it was .47 (.47).

TABLE 1 | Examples of the different news types included in the study, including the headline and byline.

	Fake	Real
Political, pro-government narrative	Peter Juhász regularly abused drugs in front of his children As we earlier reported, shocking details came to light from the files of the court case of Peter Juhász: the partner of the president of Együtt said, that he gave her tranquilizers, after he knelt on her and hit her	GDP grew with 4.8% last year Hungary's gross domestic product grew with 4.8% in last year's last quarter, when accounting for seasonal and calendar effects. According to raw data, it grew by 5% compared to the same period of the year before – reported the KSH Thursday morning.
Political, anti-government narrative	A whole floor is reserved for Viktor Orbán, at a secret private clinic in Graz. Our source was not willing to tell us anything about the illness of the prime minister, but they said, that the most modern equipment and neurologists who studied at the best places are at the disposal of the important guest.	Here is the letter of Orban, asking for George Soros' help. Most people know, that Viktor Orban studied at Oxford before the end of communism in Hungary. 30 years passed, and many things changed in the mind of the prime minister.
Non-political	Herb man from Bükk: everything is healable! To prevent cancer: soda bicarbonate, for childless: celery and quail egg yolk!	Pedestrians die because of healthy lifestyle, mobile phones and big cars. Since 1990, last year was the highest in pedestrian deaths caused by accidents

The news in the questionnaire appeared with a picture in the original Hungarian format, translation is made by the authors.

Table 1 *taken from the original publication of Study I, showcasing examples of the different news narratives included in Studies I and II.*

In addition to evaluating the veracity of the news, both studies assessed conspiracy mentality using the Hungarian version of the 5-item **Conspiracy Mentality Questionnaire (CMQ)**, translated by Orosz et al. (2016) from the original developed by Bruder et al. (2013). Participants rated their agreement with statements designed to probe their beliefs about hidden agendas and undisclosed

significant events. Examples of such statements include "I think that many very important things happen in the world, which the public is never informed about." Responses were recorded on a Likert scale ranging from 1 (not true at all) to 7 (completely true), while the average of these five items provided a composite score reflecting each participant's level of conspiracy mentality. This measure demonstrated good internal consistency, with a Cronbach's alpha of 0.79 and a Spearman–Brown coefficient of 0.786, indicating robust reliability. The mean score for all participants was 4.5 (SD = 1.19), suggesting a moderate endorsement of conspiracy beliefs among the sample.

Political orientation and satisfaction with government was gauged through two questions from the European Social Survey: "Thinking about the Hungarian government, how satisfied are you with the way it is doing its job?" and "On the whole, how satisfied are you with the way democracy works in Hungary?" Responses were provided on a scale ranging from 0 (extremely dissatisfied) to 10 (extremely satisfied). The mean of the responses served as an index of general satisfaction with the government, reflecting the distinct government-opposition dynamics that increasingly characterize Hungary's political landscape rather than a traditional left/right divide. The Spearman–Brown Coefficient was 0.923.

In addition to the measures used in both Study I and Study II, Study I incorporated several specific instruments to further explore the complex socio-political dynamics among Hungarian participants:

We assessed participants' **political interest** using a trio of questions: 1) "How interested would you say you are in politics?"; 2) "How aware are you of current politics?"; and 3) "Compared to the general population, how knowledgeable are you of current politics?" Responses ranged from 1 (not interested/aware/knowledgeable) to 5 (very interested/aware/knowledgeable). The average score for the three items provided a measure of overall political interest. Cronbach's α was 0.87, while the Spearman–Brown Coefficient was 0.887.
Participants' **political knowledge** was tested through ten multiple-choice questions about current political and relevant historical events; for instance, "Who is the current Speaker of the National Assembly?" Participants had 15 seconds to answer each question, with scores based on the total number of correct responses.
Scientific knowledge was assessed with six questions, including multiple-choice and true/false formats, such as "Antibiotics kill viruses as well as bacteria." This measure followed the format used by the National Science Foundation of the United States (National Science Board, 2010).
Openness was evaluated using ten items from the Hungarian version (Szirmak, 2009) of the HEXACO Personality Inventory (Ashton & Lee, 2009). A sample statement read: "I would be quite bored by a visit to an art gallery." Participants rated their level of agreement on a scale ranging from 1 (strongly disagree) to 7 (strongly agree). Cronbach's α was 0.66.
The **Need for Closure Scale's** condensed (Roets & Van Hiel, 2011), 15-item Hungarian version (Csanádi et al., 2009) was used to measure participants' level of discomfort with ambiguity. A sample statement read: "I don't like situations that are uncertain." Responses ranged from 1 (strongly disagree) to 6 (strongly agree).
System justification beliefs were assessed using an 8-item Hungarian version (Berkics, 2009) of the System Justification Scale (Kay & Jost, 2003), which included statements like "Hungarian society needs to be radically restructured." The scale ranged from 1 (strongly disagree) to 9 (strongly agree). Cronbach's α was 0.89.

Right-wing authoritarianism (Altemeyer, 1981) was measured using a 10-item Hungarian version (Enyedi, 1996) of the scale, which included items such as "It is always better to trust the judgment of the proper authorities in government and religion than to listen to the noisy rabble-rousers in our society." Responses ranged from 1 (strongly disagree) to 7 (strongly agree). Cronbach's α was 0.89. The Hungarian version (Faragó et al., 2019) of the SDO7 scale (Ho et al., 2015) was used to assess **social dominance orientation,** which included items like "An ideal society requires some groups to be on top and others to be on the bottom." The scale ranged from 1 (strongly oppose) to 7 (strongly favor).

In addition to the shared measures across both studies, Study II included unique measures tailored to capture distinct aspects of media engagement and political dynamics within Hungary.

Trust in Politicians and Media: Trust levels were assessed using a 0–10 scale, where 0 represented no trust and 10 indicated complete trust. This measure evaluated participants' trust in both politicians and the media, reflecting broader perceptions of credibility and reliability with respect to those institutions. The average score was 3.04 (SD =2.04) for trust in politicians and 3.57 (SD = 1.83) for trust in the media.

Media Consumption Time: Participants reported the average amount of time daily spent on media consumption, measured in minutes. This broad measure encompassed all types of media content, providing insights into the extent of media exposure among the participants.

Participants were also asked about their education level, age, gender, and socioeconomic status.

Table 2

Variables used in Study I and Study II, with their respective roles in the studies

Variable name	Description	Study involved	Role in Study
News truthfulness perceptions	Perceptions of news headlines' truthfulness	Study I and Study II	Outcome in Study I and Study II
Conspiracy mentality	Measures tendency to believe in conspiracies	Study I and Study II	Predictor in Study I, Profile characteristic in Study II
Satisfaction with government	Measures satisfaction with the current government	Study I and Study II	Predictor in Study I, profile characteristic in Study II
Political interest	Measures interest in politics	Study I	Predictor
Political knowledge	Assesses understanding of political processes and events	Study I	Predictor
Scientific knowledge	Assesses knowledge of scientific concepts and facts	Study I	Predictor
Openness	Measures openness to experience	Study I	Predictor
Need for Closure	Desire for a definite answer, aversion to ambiguity	Study I	Predictor
System justification beliefs	Measures tendency to defend and justify the status quo	Study I	Predictor
Right-wing authoritarianism	Assesses authoritarian tendencies	Study I	Predictor
Social dominance orientation	Assesses belief in social hierarchies	Study I	Predictor
Trust in Politicians	Measures trust in politicians	Study II	Profile characteristic
Trust in media	Measures trust in media	Study II	Profile characteristic
Media consumption time	Amount of time spent consuming media daily	Study II	Profile characteristic
Age	Respondent's age	Study I	Control
Gender	Respondent's gender	Study I	Control
Education level	Highest level of education achieved	Study I and Study II	Control in Study I, Profile characteristic in Study II

5.1.2 Study III

In Study III, the data collection process was strategically executed to explore how online commenters construct, negotiate, and challenge competing epistemologies and the notion of truth

and disinformation related to the Russia–Ukraine war. Altogether, I analyzed 1,203 comments, which I collected following the steps outlined below:

First, I selected the appropriate sources of comment. I utilized CrowdTangle and several fact-checking databases to identify 16 Facebook pages that were important in spreading disinformation about the Russia–Ukraine conflict. I selected the pages based on their influence and content but excluded any that had a clear pro-government connection, to avoid overt bias, with the aim being to collect a sample that could provide insights into more subtly skewed narratives.

Second, I identified relevant facebook posts. I selected two posts that presented contrasting viewpoints during the first year after the full-scale invasion of Ukraine by Russia (February 24, 2022, to February 24, 2023). Both posts are related to the Bucha massacre, which involved the large-scale killing of Ukrainian civilians and prisoners of war by the Russian Armed Forces in early 2022.

Post 1, the most commented-on post in the disinformation pages, was a video by Orosz Hírek ("Russian News," liked by 92k, followed by 164k), with 18,612 comments. For a counter-narrative, I compiled posts from the most popular independent Hungarian news outlets using CrowdTangle, focusing especially on posts that mentioned Bucha in the same time period. The most commented on Bucha-related post was by Telex.hu (liked by 479k, followed by 548k), a fact-checked article on the Bucha massacre with 763 comments, which I refer to as **Post 2.**

Third, I selected the comments for analysis. Using Facepager, I extracted comments from the selected posts based on specific criteria to ensure a focused analysis.

(1) **Language**: Only Hungarian comments were collected to reflect the localized nature of the discussion.

(2) **Engagement**: The most engaged comment threads (top 12 by likes and replies) from each post were included, resulting in 151 comments for Post 1 and 130 for Post 2.

(3) **Keywords Related to Truth**: Comments were also filtered to include mentions of truth, falsehood, disinformation, or personal information retrieval experiences. For Post 1, these words were present in 706 comments. Similarly, the same word list was used for Post 2, resulting in an additional 216 comments. This made the final number of comments 857 for Post 1 and 346 for Post 2, totaling 1,203 comments altogether.

(4) **Translation**: I initially analyzed all comments in Hungarian to preserve the authenticity of the discourse. I translated the comments into English for the purpose of showcasing the analysis, ensuring accuracy in conveying the original sentiments and linguistic nuances.

5.2 Method

In the two quantitative studies, Study I and Study II, we employed different methods of analysis. We employed a variable-centric view in Study I and a person-centered analysis in Study II. This dual approach allowed us to examine the complex nature of disinformation susceptibility from both a broad and individualized perspective, providing a comprehensive understanding of how different factors contribute to beliefs about disinformation. I outline the difference between the two approaches below and describe the DHA approach adopted in Study III.

5.2.1 Study I: Variable-centered approach

For the variable-centric analysis of Study I, we utilized a methodological framework that quantitatively assessed the impact of specific psychological and social variables on the susceptibility to disinformation across a diverse population sample. Through hierarchical multiple regression analyses, the approach allowed us to systematically examine how individual factors—such as demographic characteristics, cognitive competencies, political orientations, and psychological traits—are related to beliefs in different types of news content. This methodology aligns well with traditional approaches employed in the social sciences, where a single set of "averaged" parameters are estimated across the sample, reflecting common associations when summarizing characteristics of a population (Howard & Hoffman, 2018). The research questions were specifically designed to identify the direct and cumulative effects of each variable on disinformation susceptibility, addressing queries such as "Who is susceptible to disinformation?" and "How do specific variables like trust in media, political knowledge, and conspiracy mentality directly influence beliefs in real versus false information?" This structured model not only highlights the direct impacts of individual factors but also quantifies their contributions within a comprehensive framework.

5.2.2 Study II: Person-centered approach

In transitioning to a person-centered approach in Study II, we focused on identifying distinct profiles within the sample based on psychological and behavioral characteristics, a strategy that is useful for detecting subpopulations (Howard & Hoffman, 2018). This method differs from the variable-centered approach by relaxing the assumption that all individuals derive from a single population, instead considering multiple subpopulations characterized by different sets of parameters. We divided individuals into distinct profiles based on their psychological and behavioral characteristics, such as trust in media, conspiracy mentality, and other psychological factors. We investigated how individuals in the clusters—defined by varying levels of trust in the media and susceptibility to conspiracy theories—differed in their beliefs about the authenticity of the different news items. Accordingly, the research questions here diverged significantly from those in Study I by focusing on the identification and characterization of subpopulations within the broader sample. We explored questions like "*Are there distinct profiles of individuals based on their trust in media, government satisfaction, and conspiracy mentality*?" and "*How do these profiles differ in their susceptibility to disinformation?"* By analyzing subpopulations, we gain a refined understanding of the dynamic relationships between psychological traits, media consumption habits, and belief in disinformation.

5.2.3 Study III: Discourse-Historical Analysis (DHA)

In Study III, I employed DHA, as initially conceptualized by Ruth Wodak and colleagues (e.g., Reisigl & Wodak, 2001, 2016; Wodak, 2012), which is situated within the field of critical discourse studies (CDS) and examines how language, power dynamics, and social contexts influence the construction of knowledge and beliefs (Wodak & Meyer, 2016). DHA is deeply rooted in the tradition of the

Frankfurt School and reflects Habermas's philosophy of communicative action, which emphasizes the role of language in constituting social realities (Wodak, 2015). This theoretical grounding provides a comprehensive framework for understanding the socio-political structures and power dynamics that influence how information is interpreted and disseminated. Additionally, the application of DHA to online discourse extends the work of scholars who have explored related phenomena, such as racism (Reisigl & Wodak, 2001), identity construction (Wodak, 2012), and right-wing populist discourse (Sengul, 2019).

Specifically, I adapted DHA's framework to analyze online discourse related to the Russia–Ukraine conflict, focusing on the Bucha massacre. This approach allowed me to identify and analyze the discursive strategies used by individuals in social media, thereby uncovering the epistemic patterns and structures through which those individuals construct, perceive, and communicate knowledge and beliefs. The main research question of this study was as follows: "*How do online commenters construct, negotiate, and challenge competing epistemologies and the notion of truth, including the role of disinformation, in connection with the Bucha massacre?*"

As with all approaches to CDA, the DHA framework offers a distinct set of analytical techniques that scholars can utilize. Specifically, the research draws on the typology of five discursive strategies outlined by Reisigl and Wodak (2001). The five strategies are not merely descriptive tools but serve as analytical categories that structure the examination of discourse.
They include:

1. **Nomination**: This category involves the detailed scrutiny of how individuals, sources, and groups are referred to within the discourse. By examining such references, I identified categorization patterns that reveal implicit perceptions and social classifications, providing insights into the ideological underpinnings that inform discourse participants.
2. **Predication**: Through this analytical lens, I explored the attributes and qualities ascribed to entities within the discourse. This analysis allowed me to trace how the concepts of credibility and truthfulness are constructed and contested, revealing the contested boundaries between truth and falsehood as negotiated by the participants.
3. **Argumentation**: This strategy examines the types of arguments used and their underlying logical, emotional, and ethical structures. Understanding these patterns helped to reveal the foundational beliefs and assumptions that guide participants' reasoning and stance-taking within the discourse.
4. **Perspectivization**: By investigating how viewpoints are presented, this category uncovers the diversity of perspectives and the rhetorical strategies used to advocate such views. It highlights the different epistemic positions articulated by participants, showing how biases and ideological leanings are embedded in discourse.
5. **Intensification/Mitigation**: This final category involves analyzing modulation of the force behind statements, especially in contexts laden with disinformation. By examining how expressions of doubt, certainty, obligation, or suggestion are used, I detected patterns of conviction and skepticism that reflect the complex relationship of epistemic and deontic statuses within the discourse.

These five analytical categories provide a structured framework for exploring the discourse surrounding the Bucha massacre, ensuring that the analysis is both comprehensive and replicable.

By employing the categories, the study explores not just the 'what' of discourse patterns but also the 'how' and 'why'—the mechanisms through which individuals engage with, interpret, and contribute to the evolving narrative landscape.

I chose this methodological framework because it allows for an in-depth examination of how individuals negotiate meanings and truths in a highly polarized and dynamic information environment. DHA is particularly adept at uncovering the subtle ways in which language contributes to the construction of social realities (Reisigl, 2018), making it an ideal approach for studying complex and contentious issues, like those evident in the Russia–Ukraine conflict. Thus, DHA provides a comprehensive framework for not only exploring the linguistic and discursive mechanisms through which knowledge and beliefs are constructed but also how such processes are influenced by historical dynamics, which are important elements in truth negotiation.

The application of DHA in this study aligns well with the framework of RSC, which underpins the entire dissertation. RSC posits that while social phenomena are constructed through discourse and interaction, they are simultaneously grounded in a reality that exerts influence on social structures and interactions (Elder-Vass, 2012b). For its part, DHA, as a form of critical discourse analysis, examines how language use relates to and shapes social contexts (Wodak, 2015), which resonates with RSC's emphasis on the connections between discursive practices and material realities. By employing DHA within an RSC framework, I could analyze how individuals construct and negotiate meanings around disinformation and truth, while also acknowledging the real-world contexts and consequences of such discursive practices.

6. Findings

6.1 Study I: The role of motivated reasoning and conspiracy mentality

To explore the determinants of news belief, our study employed hierarchical multiple regression analyses across different categories of news content. The purpose of the study was to comprehensively understand how various factors, such as demographics, competencies, political orientations, and psychological traits, interact to shape individuals' beliefs about the authenticity of news. The regression analysis was structured to incrementally examine the influence of these variables in four distinct stages. First, we included demographic variables, such as age and gender. This first step made it possible to control for the fundamental demographic effects that might influence news belief patterns. Following the demographic assessment, we introduced competencies in the second stage of the regression. This step included such variables as objective political knowledge, scientific understanding, and the extent of political engagement. During this step, we assessed the impact of an individual's informational background and cognitive abilities on their perception and evaluation of news.

The third step involved investigating how ideological leanings might influence the acceptance of or skepticism towards different types of news. This step was crucial for understanding the role of political bias in the perception of news authenticity. Finally, the regression model was further

refined by adding psychological traits in the fourth stage. This phase included the adding of variables like Right-Wing Authoritarianism (RWA), Social Dominance Orientation (SDO), System Justification Bias (SJB), openness to experience, need for closure, and conspiracy mentality. The traits were selected based on their significant preliminary correlations with news belief, offering deeper insights into the psychological underpinnings that drive news perception. However, we acknowledge that a different order of block entry could potentially lead to different results in terms of the variance explained at each step. This is a limitation of hierarchical regression analysis in general.

The results provided insights into how political orientation, a conspiracy mentality, and system justification shape beliefs in various types of news, ranging from anti-government disinformation to pro-government real news. The role of political orientation became particularly evident in the analysis of the belief in anti-government disinformation, where the addition of this variable significantly enhanced the model's explanatory power (ΔR^2= .21, F(1,270) = 71.50, p < .001): people who were less satisfied with the government (B = −.21, t = −4.14, p < .001) believed anti-government disinformation more. Further, the influence of a conspiracy mentality was profound, with higher scores correlating with a greater likelihood of believing in anti-government disinformation (B = .28, t = 4.27, p < .001). Similarly, for pro-government disinformation, the addition of political orientation in the regression significantly increased the variance (ΔR^2=0.25, F(1,270)=104.70, p<0.001), underscoring the impact of political alignment on news acceptance. Those who viewed the government favorably (B=0.16; t=3.39, p<0.001) and exhibited high system justification (B=0.17, t=2.28, p<0.01) and a conspiracy mentality (B=0.19; t=3.12, p<0.001) were more inclined to believe in pro-government disinformation, further indicating that ideological alignment enhances susceptibility to biased information.

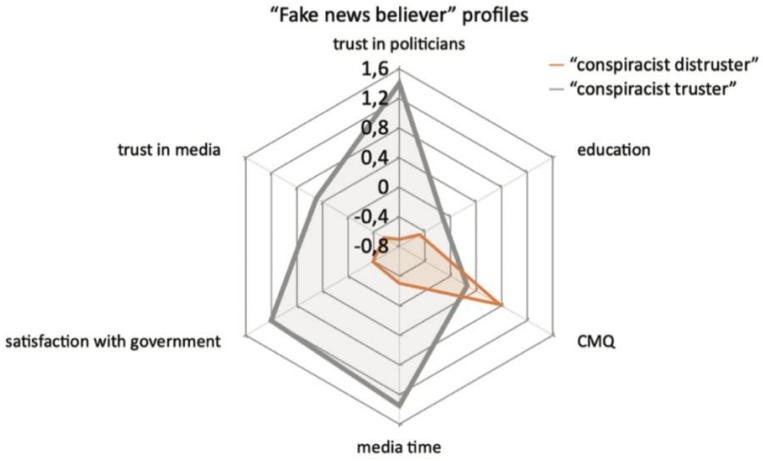
Interestingly, belief in anti-government *real* news was also significantly influenced by political orientation—in this case, dissatisfaction with the government (B=−0.17, t=−5.83, p<0.001) and a heightened interest in politics (B=0.15, t=1.85, p<0.05), suggesting that those critical of government actions and more politically engaged are more receptive to real news, which may be more critical of the government. This pattern reflects a complex interrelation where political orientation not only predisposes individuals to favor news that aligns with their own views but also impacts their acceptance of legitimate news content. The study also highlighted the pervasive influence of a conspiracy mentality across non-political news types, where a belief in non-political disinformation was associated with higher scores on the conspiracy mentality scale (B=0.21, t=3.42, p<0.001). This finding suggests that a conspiracy mentality contributes to a generalized susceptibility to disinformation, independent of the news' political content.
Moreover, system justification played a role in beliefs across different news types. For instance, those with higher system justification scores were less likely to believe in anti-government disinformation, (r=−0.37, p<0.001) but more likely to believe in pro-government real news (B = 0.18, t = 2.50, p < 0.01), indicating that a tendency to justify the status quo can influence how individuals perceive news depending on its alignment with or against government narratives.

The study examined the social psychological factors influencing the belief in fake and real news within Hungary's politically polarized environment. We found that a conspiracy mentality was consistently associated with believing both political and non-political disinformation, supporting previous research that suggests such a mentality transcends specific political ideologies (Sutton &

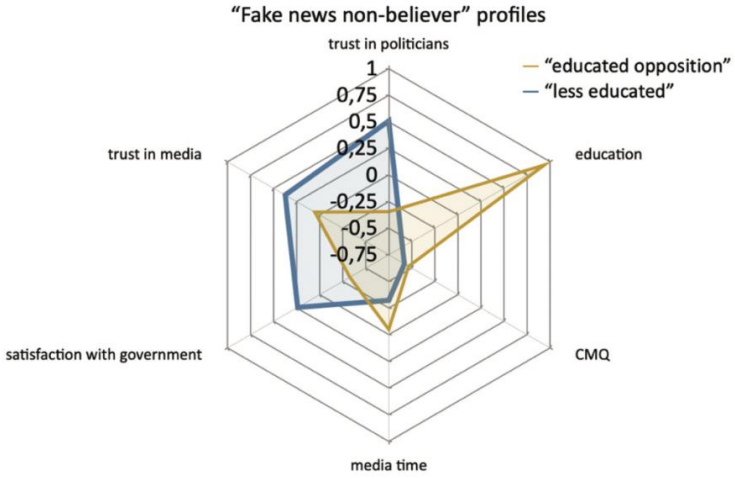
Douglas, 2020; van Prooijen et al., 2015). A conspiracy mentality appears to fulfill deeper epistemic needs, providing individuals with a sense of understanding and control over complex and uncertain events (Douglas et al., 2017). Pro-government individuals were more likely to believe pro-government news, while anti-government individuals believed anti-government news, regardless of the news' veracity. This phenomenon supports the concept of motivated reasoning, where individuals process information in a way that aligns with their pre-existing political identities and biases (Calvillo et al., 2021; Pennycook & Rand, 2018). SJB further influenced the acceptance of disinformation. Individuals with a strong need to validate and legitimize the current social system were more likely to believe pro-government news, underscoring how SJB fosters a belief in the perceived legitimacy of authorities and institutions (J. Jost & Hunyady, 2005). This predisposition aligns with the broader understanding that such beliefs can reinforce support for the status quo, even when the supporting information is false. Interestingly, those interested in politics were better at distinguishing between real and fake political news, despite similar levels of political knowledge compared to less interested individuals. This finding suggests that increasing political interest might be more effective in combating disinformation than focusing solely on knowledge-based interventions.

6.2 Study II: The role of trust

Building on the findings from Study I, which highlighted the significant role of a conspiracy mentality and political orientation in shaping disinformation beliefs, in Study II we employed a person-centered approach to examine these dynamics, while also incorporating the role of systemic factors like trust in media and politicians and media consumption. A two-step cluster analysis, utilizing six standardized variables (education, conspiracy mentality, trust in politicians, trust in media, time spent on social media, and satisfaction with the government), identified four distinct profiles within our sample. Two profiles, labeled "conspiracist distruster" (n=92) and "conspiracist truster" (n=43), were characterized by a strong conspiracy mentality and a higher overall tendency to believe in disinformation. However, the two groups diverged significantly in their levels of trust and media consumption. The "conspiracist distruster" group exhibited low trust in both media and politicians and low media consumption, aligning with the commonly held notion that conspiracy beliefs are associated with distrust (e.g., Imhoff et al., 2018). Conversely, the "conspiracist truster" group displayed high levels of trust in both the media and politicians, coupled with the highest media consumption, challenging this conventional view and suggesting that in certain contexts, high trust can be as detrimental as distrust in discerning disinformation. Individuals in the other two profiles, "educated opposition" (n=92) and "less formally educated" (n=61), were less susceptible to disinformation. The "educated opposition" group, characterized by higher education levels and a critical stance towards the government, was the most resistant to disinformation, but individuals still "fell for" some disinformation with anti-government narratives. The "less formally educated" group, those individuals with the lowest education levels, exhibited a general distrust towards all news, both real and fake, and low media consumption, indicating a potential disengagement from the media landscape altogether.



Note. Orange color in the radar chart refers to Profile 1 ("conspiracist distruster"), grey colors refers to Profile 4 ("conspiracist truster").



Note. Yellow color in the radar chart refers to Profile 2 ("educated opposition"), blue color refers to Profile 3 ("less formally educated").

The Figures above are taken from Study II and showcase the profiles identified in the study.

The results from Study II highlight the complexity of individual predispositions, social dynamics, and broader political currents in shaping disinformation belief and resistance in contemporary Hungary. The emergence of the "conspiracist distruster" and "conspiracist truster" profiles underscores the paradoxical role of trust and distrust in institutions. In the Hungarian context, which is characterized by deep polarization and governmental control of the media, both high and low levels of trust can be exploited to foster disinformation belief, particularly when coupled with a conspiracy mentality. Individuals in the "educated opposition" profile were best at discerning fake

from real news, however they were still skeptical of pro-government real news and were more likely to believe anti-government disinformation. As such, the study complicates the narrative of education as an automatic shield against disinformation. Paradoxically, the very skepticism—or epistemic vigilance—that might normally make a highly educated population resistant to disinformation seemed, in this context, to make them more receptive to anti-government narratives, even those demonstrably false. Such susceptibility aligns closely with the concept of confirmation bias and motivated reasoning, where individuals gravitate towards information that reinforces their existing beliefs. Individuals in the "less formally educated" profile displayed a general distrust of all news, both real and fake. This distrust, together with their moderate stance on the government and low media consumption, suggests that they might be more disengaged from public affairs. While their general skepticism might shield them from partisan narratives, it could also hinder their ability to discern real news. This finding highlights the complex role of media consumption: it can foster political participation (Boulianne, 2020), but the presence of disinformation and hyper-partisan news can also lead to disengagement (Tucker et al., 2018).

6.3 Study III: Epistemic patterns

To address the research question regarding how Hungarian online commenters construct, negotiate, and challenge competing epistemologies and the notion of truth, including the role of disinformation, in connection with the Bucha massacre, this study identifies the epistemic patterns in online discourse. I introduce the term "epistemic patterns" as a framework to encapsulate the underlying structures and processes through which individuals construct, perceive, and communicate knowledge and beliefs, particularly in relation to competing narratives. The patterns reveal the discursive devices and epistemic cues that individuals employ to justify their stances and grapple with the complexities of truth and knowledge claims. Building on the findings from Study I and Study II, which highlight the role of a conspiracy mentality, motivated reasoning, and trust in shaping disinformation beliefs, this study provides a deeper understanding of the cues and patterns that people follow when they confronted with competing narratives. The DHA analysis of 1,203 comments under two different posts related to the Bucha massacre revealed four distinct epistemic patterns: *polarization*, *historical*, *epistemic authority*, and *agency*.

The polarization pattern highlighted the impact of political divisions on online discourse. Commenters often reduced complex geopolitical issues to binary oppositions, such as Putin versus Zelenskyy or Russia against the U.S./West. This tendency to reduce complex dynamics into antagonistic dualities reflects the broader political polarization in Hungary and aligns with pro-Kremlin disinformation goals of fragmenting and destabilizing the West (Baumann, 2020). A representative example of this pattern is evident in the following comment: "*How sincerely he speaks, and how clearly Putin sees. He's a smart politician, 10000% right! It's all been a provocation against him for years. ... And now he strikes back, and he's the one declared guilty, where he is right! How many more innocent people must die before this vile actor is finished! ... Where is the truth then?* " (Post 1) This comment not only polarizes the two leaders but also aligns with Hungarian narratives that criticize Zelenskyy's acting background and portray Putin as authentic (Előd, 2023; Eksi & Wood, 2019). In relation to Wodak's (2012) discursive strategies, this pattern employs predication by attributing positive qualities to Putin ("smart," "right") and negative qualities to his opponents ("vile actor"). It utilizes argumentation by constructing a narrative of victimhood and

justified retaliation. The pattern also incorporates intensification through the use of emphatic language ("10000% right") to amplify the perceived righteousness of Putin's actions. Furthermore, it exemplifies perspectivization by positioning the commenter as an insightful observer who sees through alleged provocations. The polarization pattern thus reflects how individuals construct and reinforce their understanding of complex geopolitical events through simplified, oppositional frameworks.

The **historical pattern** emphasizes the role of historically oriented narratives in shaping interpretations of current events. Commenters frequently drew on collective historical memory, group trauma, and collective nostalgia, integrating them into their interpretations of both misinformation and genuine news. For instance, one commenter stated, "*Yes! They cannot deny these things, just like the threats in Transcarpathia when they tried to terrorize the Transcarpathian Hungarians! I have quite a few Transcarpathian colleagues, and I talk to them!* " (Post 1). This comment reflects the historical trauma of the Treaty of Trianon and its impact on Hungary's borders and minorities, linking ongoing national and ethnic identity struggles to contemporary discussions. In terms of Wodak's (2012) discursive strategies, this pattern aligns with perspectivization since the commenter positions themselves within a historical continuum, viewing current events through the lens of past conflicts. It employs argumentation by using historical events as evidence to support current viewpoints. The pattern also utilizes nomination by invoking historical groups ("Transcarpathian Hungarians") to categorize current actors. Additionally, it incorporates intensification through the use of exclamation marks to amplify the perceived significance of historical parallels. The historical pattern thus demonstrates how past events continue to shape perceptions of current realities, often reinforcing existing biases and interpretations in online discourse.

The **epistemic authority** pattern reveals the diverse sources that individuals rely on to establish truth and credibility. Commenters invoked a wide range of authorities, from religious figures to personal anecdotes and alternative viewpoints. This pattern highlights the tension between traditional sources of authority and the rise of alternative epistemologies. For example, one commenter wrote "leave it to the righteous JUDGE, and that is the living eternal God" (Post 1), while another made the following assertion: "*My partner is a hospital employee. Unfortunately, he knows what a real corpse looks like. He has seen footage of the alleged dead. He thinks they only crawled into the black bag because of the cold*" (Post 1). These comments demonstrate the varying degrees of trust placed in different sources of authority, ranging from divine judgment to personal experiences. Analyzing this pattern via Wodak's (2012) discursive strategies reveals the use of argumentation, with personal experience (the partner's expertise) being employed as evidence to support a counternarrative. The pattern incorporates predication by attributing expertise and credibility to the partner based on their profession. It also utilizes perspectivization, positioning the commenter as someone with insider knowledge through their personal connection. Furthermore, the use of mitigation is evident in the word "unfortunately," which softens the challenging nature of the claim. The epistemic authority pattern thus reveals how individuals weigh between different sources of knowledge and authority in constructing their understanding of events, often privileging personal or alternative sources over official narratives.

The **agency pattern** captures the fluctuating degrees of self-belief expressed by commenters. While some asserted their superior understanding of the situation, others grappled with doubt or denial. This pattern reflects the varying levels of epistemic autonomy that individuals exhibit as they assess the complex landscape of information and disinformation. For instance, one commenter confidently proclaimed, "*Calm thinking; We all know the truth!!! Allowing America space is a great danger!!!*," while another expressed uncertainty: "*The mass graves do not speak; the dead cannot tell who killed them. Reality is not visible*" (Post 1). These comments illustrate the spectrum of self-belief and the challenges that individuals face in discerning truth amidst competing narratives. In relation to Wodak's (2012) discursive strategies, the pattern reveals a process of intensification through the use of exclamation marks and emphatic language to amplify the perceived certainty and importance of the claim. It utilizes perspectivization by positioning the commenter as part of a collective ("We all") that possesses superior knowledge. The pattern also incorporates predication by attributing danger to America's influence, implying a threat to be countered. Furthermore, it employs argumentation by constructing a simple cause-effect relationship between American influence and danger. The agency pattern thus reveals how individuals position themselves as knowledgeable actors within online discourse, reflecting varying levels of confidence in their ability to discern truth amidst competing narratives.

It is important to note that these patterns are not mutually exclusive and can often overlap within a single comment or across multiple comments, as well as in one's thinking. This simplified categorization serves as an analytical tool to better understand the complex ways in which individuals engage with and interpret information. The agency pattern in particular could be considered a meta-epistemic pattern, as it reflects individuals' awareness and reflection on their own knowledge and beliefs in relation to the broader discourse.

The findings have important implications for understanding how people assess competing truth claims online, particularly in contexts involving geopolitical tension and high levels of disinformation. They suggest that addressing the spread of disinformation requires not just fact-checking, but also an understanding of the deep-seated narratives, historical contexts, and epistemic frameworks that shape how individuals interpret and engage with information. This awareness could inform more targeted approaches to media literacy and public communication in contested information environments.

7. Discussion

This dissertation has examined specific psychological and societal factors that contribute to susceptibility to disinformation among certain groups in Hungary. It discusses how these dynamics appear in public discourse and influence perceptions of truth. It contributes to an understanding of how social-psychological dynamics—such as political biases, trust in media and political institutions, and epistemic processes— are involved in the processes of disinformation belief and truth construction. In this chapter, I first reflect on the theoretical and empirical contributions of the dissertation to the field of social psychology. Then, I reflect on the methodological choices and limitations of the three sub-studies. Following this, I offer suggestions for future research directions and discuss the practical implications of the findings. Finally, I conclude with some final remarks.

7.1 Empirical and theoretical reflections

The three sub-studies presented in this dissertation collectively underscore the profound impact of political polarization on the consumption and interpretation of information, not merely disinformation. In Study I, the strong association between political orientation and belief in both fake and real news aligned with one's political orientation, highlighting how partisan biases shape information processing and lead individuals to selectively accept or reject information based on how well it reflects their political identity, resembling similar previous results (e.g., Kahan, 2017; Van Bavel & Pereira, 2018). This finding aligns with the broader literature on motivated reasoning, which suggests that individuals are prone to interpret information in ways that confirm their pre-existing beliefs and group affiliations (Faragó et al., 2019; Kahne & Bowyer, 2017; Kunda, 1990; Vegetti & Mancosu, 2020). The results of this dissertation resonate with the concept of opinion-based groups (Turner, 1982), suggesting that political identities may serve as markers of such groups, influencing both the acceptance and dissemination of information in ways that reinforce collective group norms and behaviors (McGarty et al., 2009). Study II further emphasized this point by revealing distinct profiles of news consumption and belief based on political orientation and trust in institutions. Individuals in the "educated opposition" profile, for instance, exhibited a pronounced skepticism towards pro-government real news, indicating that even factually accurate information can be met with resistance when it contradicts deeply held political beliefs. This phenomenon is consistent with research on selective exposure, where individuals actively seek out information sources that align with their views (e.g, Stroud, 2017). Additionally, the hostile and polarized nature of online comments observed in Study III, particularly those targeting individuals perceived as belonging to opposing political camps, such as the comment "*You're an idiot. I write it honestly, not beating around the bush. In my opinion, you should hang yourself*," further illustrates how polarization can foster an environment where information is weaponized to demonize opponents (Fisher, 2020), which could lead to (online) political hostility (Marwick & Lewis, 2017). These findings collectively emphasize that the impact of polarization extends beyond the mere acceptance of disinformation; it fundamentally shapes how individuals engage with and interpret all forms of information, contributing to a fragmented and increasingly hostile information landscape. In the Hungarian context, characterized by deep political divisions (Vegetti, 2019) and a media landscape largely controlled by the government (Krekó, 2022), the effects of polarization are particularly pronounced. The government's strategic use of disinformation to promote its agenda and discredit opposition voices has further fueled such polarization, creating an environment where individuals are increasingly entrenched in their political beliefs and less likely to engage with information that challenges those beliefs. This strategy not only hinders constructive dialogue and compromise but also makes the public more vulnerable to manipulation by those in power.

The phenomenon of conspiracy theorizing consistently emerged as a significant theme in all three sub-studies. Conspiracy mentality, prevalent among both pro-government and anti-government groups, represents an epistemic approach to interpreting and understanding societal events in Hungary. For government supporters, conspiracy theories align with a "permanent crisis" style of communication by the government, where narratives regarding the constant threats stemming from foreign influences, "migrants," and wars (Krekó, 2022) make such theories seem logical and justified. Conversely, for those skeptical of the government, the opacity and perceived secrecy surrounding state affairs render conspiracy theories a compelling framework for articulating their distrust and

making sense of government actions. This duality highlights how different segments of the population utilize conspiracy theories to understand and rationalize the complexities and uncertainties of their political and social environment. The adoption of conspiracy theories as such is part of a broader "conspiracy culture" (Aupers, 2012), which serves as a legitimate epistemic method for interpreting the complexities of modern society (Harambam, 2020). The approach adopted in this dissertation does not pathologize those who subscribe to conspiracy theories; rather, it seeks to understand their reasons and the contexts shaping their beliefs. Consequently, contemporary conspiracy thinking should not be dismissed merely as faulty logic, but recognized as an essential, and occasionally inventive, reaction to swift societal transformations (Knight, 2000). Globally, conspiracy theories help individuals make sense of complex, far-reaching forces, such as international politics or economic systems and technological advancements, offering a simplified explanation for the rapid changes impacting their lives (Aupers, 2012). Locally in Hungary, they resonate with historical grievances or centralized media control, amplifying mistrust in official narratives. The findings from Study III highlight how individuals in online forums actively engage with, contest, and reinterpret disinformation narratives and conspiracy theories, illustrating the varied ways people cope with epistemic instability (Harambam, 2020). On the one hand, some individuals find solace in the clarity and certainty offered by the narratives from authoritative figures and state-controlled media. On the other hand, though, others, when confronted by the same challenges, turn to alternative narratives, including conspiracy theories, as a means to assert control and make sense of complex realities that defy straightforward explanations.

Previous studies on disinformation suggest that a lack of trust undermines societal cohesion (Jones, 2023) and can contribute to a belief in disinformation (Kaul, 2012; Pérez-Escoda et al., 2021; Posetti & Matthews, 2018; Steensen, 2019). Interestingly, the findings from this dissertation reveal that "excessive trust" can be equally harmful. This similar dynamic has been observed in the United Kingdom and United States, where higher levels of trust in conservative governments correlate with an increased tendency to spread disinformation, whereas in France and Belgium the pattern was observed with respect to trust in opposition politicians (Humprecht, 2023). Additionally, Humprecht's (2023) study links dissatisfaction with democratic processes to a greater likelihood of disseminating disinformation. The influence of trusted figures, such as experts and political leaders, in shaping public perceptions also illustrates the potential harm when such authorities propagate falsehoods (Ecker et al., 2021). The paradoxical relationship between high trust and increased susceptibility to disinformation also aligns with Wong and Jensen's (2022) findings from Singapore during the COVID-19 pandemic, where high public trust in the government led to lower risk perceptions and reduced compliance with safety measures, highlighting how trust can function differently in different contexts.

In the specific case of Hungary, where the government has been implicated in disseminating disinformation, high levels of trust in official channels might facilitate the acceptance of misleading narratives. The finding underscores the complex dynamics of trust in media consumption. This counterintuitive aspect of trust—that it can also lead to the uncritical acceptance of disinformation—suggests that a certain degree of skepticism, or epistemic vigilance (Levy, 2022), towards information sources, even mainstream ones, can serve a protective function. Skepticism, or an evaluative mindset (Mayo, 2024), enables individuals to critically evaluate the information they receive, fostering a more resilient public. Viewed in this light, conspiracy theories and alternative

narratives, often seen as the byproduct of distrust, can also be understood as manifestations of a healthy skepticism towards prevailing power structures and media narratives. This finding also aligns with this dissertation's take on conspiracy theories as a rational response to the complexities and uncertainties of modern life. The tendency to question and scrutinize dominant narratives, especially in less democratic contexts, is not inherently detrimental but can also be an essential mechanism for maintaining a balanced perspective in the face of pervasive disinformation. Thus, while excessive skepticism can undoubtedly lead to fragmentation, a calibrated skepticism—encouraging critical engagement with all forms of media—can potentially fortify democratic discourse. This understanding of trust and skepticism challenges the simplistic dichotomy of "good" trust versus "bad" distrust, proposing instead that the critical capacity to balance between these extremes is crucial in contemporary information ecosystems.

The epistemic patterns identified in this study—polarization, historical, epistemic authority, and agency—offer a complex perspective on how individuals engage with complex information landscapes in online spaces. The patterns do not exist in isolation, but rather interact with each other and overlap in ways that reflect the multifaceted nature of knowledge construction in online environments. The findings build on Robertson's (2016) study of epistemic strategies in conspiracy theories and Harambam and Aupers's (2019) analysis of how conspiracy theorists legitimate their claims. However, by focusing on the discursive practices of online commenters rather than prominent conspiracy figures or adherents of conspiracy theories, I explored how these epistemic strategies are deployed and negotiated in everyday online interactions. The dynamic between the "historical pattern" and "epistemic authority" pattern, for instance, demonstrates how individuals weave together appeals to tradition, personal experience, and perceived expertise to construct compelling narratives. This finding echoes the concept of "epistemological pluralism"(Ganeri, 2019) but extends it to demonstrate how such pluralism operates dynamically in online discourse. The "polarization pattern" and "agency pattern" reveal how social and psychological factors shape individuals' stances on information, highlighting the roles of group identity and personal efficacy in their epistemic positioning. These patterns reveal how individuals' truth claims are shaped not just by the sources they invoke, but by their perceived relationship to opposing viewpoints and their sense of personal epistemic efficacy (Farman et al., 2017). This adds depth to our understanding of how epistemic strategies function within broader socio-political contexts and individual psychological frameworks. Collectively, the patterns paint a picture of epistemic negotiation in online spaces as a complex, multi-layered process. They highlight how individuals draw on diverse resources—historical narratives, claims to authority, group identities, and personal convictions—to make sense of contentious issues. By situating these patterns within the broader landscape of conspiracy and disinformation studies, scholars can begin to trace the connections between individual-level epistemic practices and larger societal trends in information consumption and belief formation.

The results of this dissertation echo previous results from other contexts on the importance of motivated reasoning (Pasek et al., 2015), political biases (Van Bavel & Pereira, 2018), and distrust for disinformation belief (Winter et al., 2022), as well as the usage of different epistemic frameworks by people (Schwarzenegger, 2023). But what do the findings then tell us about the impact of disinformation on Hungary's political culture and public discourse? First, this dissertation draws a critical distinction between disinformation and conspiracy theories. While I treat conspiracy theories

as legitimate expressions of alternative ways of understanding complex phenomena, disinformation is explicitly designed to mislead and manipulate public opinion for specific political agendas. While it is essential to distinguish between the two, it is also difficult to do so in an environment where conspiracy theories are weaponized as disinformation on a regular basis (e.g., Plenta, 2020). This research draws attention to disinformation as a sophisticated socio-political act, where manipulations of historical and national narratives are not just misleading but also actively construct and reinforce power structures, illustrating a subtle exercise of power. The integration of conspiracy theories into mainstream Hungarian discourse also challenges the conventional boundaries between "legitimate" and "illegitimate" knowledge (Harambam, 2020), adding complexity to the study of such narratives. It also compels a reevaluation of conspiracy theories as "fringe," since they are significant elements that influence mainstream political narratives and identity formation. This research project further reveals that epistemic patterns, often characterized by either acceptance of or skepticism of official narratives, demonstrate how trust and distrust are strategically used to cultivate political alignments. The deep political polarization observed in Hungary—between pro-government and opposition groups—demonstrates how such alignments are interlinked with personal and collective epistemologies. Notably, opposition groups also forge their identities by actively resisting government-promoted narratives, illustrating the formation of a community around shared skepticism.

In conclusion, the dissertation enhances the understanding of disinformation as a dynamic element of political culture, particularly in environments with authoritarian tendencies or strong centralized control. By examining Hungary through this lens, the research has explored how power, trust, and narrative control intersect to shape public perception and discourse. These insights enrich our theoretical understanding of disinformation and conspiracy theories, underscoring their significance in contemporary political debates and their broader implications for democratic engagement and institutional resilience against manipulative practices.

7.2 Methodological reflections

This dissertation employed a multi-method approach, integrating quantitative and qualitative analyses to explore people's susceptibility to disinformation within the Hungarian context. Utilizing RSC as a guiding framework, it has bridged the gap between empirical rigor and the interpretative depth required to understand the complex phenomena of disinformation and truth negotiation.

The multi-method approach, though presenting theoretical and analytical challenges, proved instrumental in studying the dynamic connection between individual predispositions and broader socio-political dynamics. The integration of variable-centered and person-centered analyses with DHA facilitated a comprehensive exploration across different layers of social interaction and discourse. This methodological plurality aligns well with RSC, affirming that while social phenomena are shaped by discourse, they are also grounded in realities that exert distinct influences (Elder-Vass, 2012b). However, it may seem at times that I argue both for and against certain perspectives. For instance, the use of a conspiracy mentality scale can be critiqued for potentially lumping conspiracy believers into a single mold. While such critiques are valid to an extent, I claim that simplified measures are necessary and valid tools for gauging widespread attitudes within populations. Scale items like "*I think that many very important things happen in the world, which the public is never*

informed about" offer a straightforward yet effective means to capture the essence of such attitudes without necessarily subscribing to other research that might deem this type of thinking paranoid or irrational. Furthermore, embracing RSC allowed me to appreciate the constructed nature of social phenomena without dismissing the influence of tangible, empirical realities. This approach acknowledges the complexities of constructing truths in a modern society where both discursive practices and material conditions shape individuals' understandings and beliefs.

Another significant challenge in this research project has been the limitations resulting from the relatively small sample size in Study I and Study II, which reduces its statistical power and generalizability. Future research should aim to replicate the findings with larger sample sizes. Regarding Study III, researchers often argue that it is not possible to generalize based on evidence from qualitative case studies (Abercrombie et al., 2006; Dogan et al., 1990; Smith, 2018). However, such an assessment is based on a common misunderstanding, as case studies can be central to scientific development, offering generalizable insights through "the force of example" (Flyvbjerg, 2006). While the qualitative nature of Study III does not allow for statistical generalization, it offers rich, contextual insights into how individuals construct and negotiate truth in a polarized information environment. These insights can be transferable to similar contexts (Polit & Beck, 2010), providing a valuable understanding of complex phenomena like disinformation belief. Flyvbjerg (2006) emphasizes that while formal generalization is often overvalued in scientific development, the power of example-based learning is frequently underestimated.

A significant limitation of Study I and Study II was the low reliability scores for belief in certain types of news headlines. The Cronbach's α values for anti-government real news (0.41), nonpolitical disinformation (0.37), nonpolitical real news (0.45), and pro-government real news (0.34) were below the commonly accepted threshold of 0.60. These low reliability scores indicate that the items within the scales may not be consistently measuring the same construct, which could affect the validity of results related to the categories. The low reliability scores could be due to the small number of items (3) per category or the diverse nature of the news content within each category. This limitation highlights the need for developing more robust and internally consistent measures of news believability across different categories in future research.

The introduction of "epistemic patterns" as a concept provides a novel means for understanding how individuals make sense of the complex landscape of disinformation. As explored in Study III, these patterns represent an approach to examining the discursive strategies that individuals use to assert and negotiate truth within online forums, particularly around contentious events like the Bucha massacre. This approach, rooted in DHA, is adept at capturing the connections between personal belief systems and the broader discursive environment. The synthesis of Wodak's DHA approach (2012) with an analysis of epistemic patterns bridges the gap between linguistic analysis and epistemological inquiry, allowing for an exploration into how language in online discourse not only reflects but also actively constructs epistemic frameworks within specific sociopolitical contexts. This methodological integration process rests on the premise that epistemic stances are fundamentally linguistic constructions. While Wodak's (2012) discursive strategies provide tools for analyzing the linguistic features of texts, the identification of epistemic patterns offers insights into the underlying cognitive and social processes of knowledge construction. The synergy between these various approaches emerges in how discursive strategies serve as the linguistic manifestations of

broader epistemic patterns. By treating discursive strategies as windows into epistemic frameworks, researchers gain insight into the process by which individuals and communities construct and negotiate truth in online spaces.

The epistemic patterns introduced here also serve as an example of how different methodologies can be put in conversation with each other across the three sub-studies included in this dissertation. One of the epistemic patterns introduced here, that of polarization, finds an interesting parallel in the more traditionally quantitative concept of motivated reasoning, which was examined through variable-centered and person-centered analyses in Study I and Study II. While motivated reasoning describes how personal biases shape the ways in which individuals process information to maintain congruence with pre-existing beliefs, the polarization pattern discussed in Study III demonstrates how people construct their stances on information based on existing political divisions. The integration of different methodologies offers complementary insights: while Study III does not explicitly determine the political orientation of the commenters, it makes it possible to observe how they re-articulate existing narratives. Study I and Study II directly measured participants' political orientation, followed by their stance on the news, but it did not focus on the detailed articulations of the meanings they attach to those news pieces. The findings illustrate the strength of combining diverse methodological approaches, as outlined in the methodological framework of this dissertation, which effectively bridges the qualitative insights obtained from DHA with the quantitative rigor of surveys. This methodological integration not only enriches the analysis but also validates the interconnections between intrapersonal processes and discursive practices across different research traditions. It allows for a more dynamic understanding of how epistemic stances are influenced by social and political context and restricted by individual predispositions, on the one hand, and are simultaneously negotiated in real-time through discourse on the other.

Moreover, this methodological integration helped bridge the gap between micro-level linguistic analysis and macro-level social phenomena. Wodak's (2015) emphasis on historical and sociopolitical contexts aligns well with the need to understand epistemic patterns as products of broader cultural and political dynamics. This perspective allowed us to situate individual linguistic choices within broader frameworks of knowledge construction and dissemination specific to the Hungarian context and its relation to the Russia-Ukraine conflict. While this integrated approach offers rich insights, it also presents challenges. The informal and fragmented nature of online discourse sometimes made it difficult to apply Wodak's (2017) discursive strategies, originally developed for more structured texts. Additionally, the rapid and interactive nature of online exchanges meant that the epistemic patterns were sometimes fluid and contradictory, requiring a more flexible analytical approach. Despite these challenges, the approach proved valuable in the context of online discourse about geopolitical conflicts, where truth claims are often contested and multiple narratives compete for legitimacy.

7.4 Ethical reflections

Ethical considerations were central to the design and execution of the three sub-studies forming a part of this dissertation. In Study I and Study II, ethical approval was obtained from the Ethics Committee of Eötvös Loránd University, Budapest, before data collection commenced. The sensitive nature of the topics explored, including political beliefs and potential exposure to disinformation,

necessitated a careful approach to minimize any potential harm or discomfort to participants. Ethical issues were carefully considered once again during the data collection process for Study III. The dataset derived from public Facebook pages, and the process ensured that any identifiable information related to discussants cited in the study was excluded. When dealing with a setting where participants are contributing to an open public debate, obtaining informed consent, while recommended, is not always obligatory. It can be dismissed if the research poses minimal risk and does not detrimentally impact the subjects' rights and welfare (Sugiura et al., 2017)

Moreover, I have remained committed to transparency in my research practices, a commitment that is crucial given the political nature of all three sub-studies, especially the qualitative nature of Study III, where CDA comprises the methodological backbone of the research process. While critics often challenge CDA for its deviation from a positivist paradigm that emphasizes objectivity and neutrality (Croucher & Cronn-Mills, 2014), Wodak and Meyer (2009) note that CDA advocates for a stance of critical engagement, emphasizing the social responsibility of the researcher over a position of detached neutrality. Personally, I align myself with this critical engagement perspective because I believe that social science research, especially when it explores politically charged areas like disinformation, must not only observe but actively engage with and critique the structures of power and influence. Such a stance does not compromise the rigor or validity of my work; instead, it enriches the analysis by situating the data within broader socio-political contexts, allowing for a deeper understanding of how discursive practices shape and are shaped by power dynamics. By embracing this position, I have provided not only a critique but also a platform for discussing and understanding the complexities of disinformation in a highly polarized country and global environment. I see this perspective as essential for maintaining the integrity and relevance of my research in a rapidly evolving field. Furthermore, in line with my commitment to transparency, both Study I and Study II have been published as open-access articles, with the data used in the studies openly available on the Open Science Framework (OSF). This approach not only ensures the accessibility of the research findings but also allows for close scrutiny and potential replication of the studies, further enhancing the credibility and transparency of the research process.

7.5 Future research

In reflecting on the insights garnered from this dissertation, several promising avenues for future research emerge, each poised to deepen our understanding of how disinformation shapes public discourse and political culture. Building on the foundations laid in the Hungarian context, the dynamic and evolving nature of public discourse necessitates more longitudinal studies, particularly for understanding how epistemic patterns shift in response to socio-political currents. Employing advanced AI technologies could revolutionize the way researchers analyze large datasets over time, offering new insights into how language use, sentiment, and narrative prevalence evolve in public discourse. Such methods would enable a more detailed analysis of belief formation and change, providing a clearer picture of the connections between information, perception, and socio-political dynamics.

An intriguing area for future research highlighted by Russia's war in Ukraine—but not limited to it—concerns the role of historical and pseudohistorical narratives within disinformation campaigns. Such narratives are often manipulated to bolster national identity or support political objectives, as

seen in the Russian context. Studying how these narratives are crafted, spread, and perceived can clarify their effects on historical consciousness and national identity. Further exploration of the dynamic between factual history and such manipulated narratives could reveal their influence on public perceptions and policy decisions. Integrating multiple methodologies for a more thorough historical analysis could enrich disinformation studies, providing insights into how pseudohistorical narratives are developed and utilized across various contexts and periods. An interdisciplinary approach that merges history, political science, and social psychology studies could trace the origins and evolution of those narratives, shedding light on their role in shaping political realities and public opinions. Such studies would extend beyond merely identifying the presence of disinformation to understanding its underlying mechanisms and societal impacts.

Crucially, while existing studies have touched upon visual and audiovisual disinformation (e.g., Brennen et al., 2021; Peng et al., 2023; Weikmann & Lecheler, 2023), more research is still needed, particularly in the realm of short-form video content. Deeper investigations are needed to understand the specific mechanisms through which aesthetics and emotions operate in these formats. Given the increasing prevalence and persuasive power of visual content on social media platforms, a comprehensive analysis of its role in disinformation campaigns is paramount.

7.6 Practical implications

I have grappled throughout the research process with how best to address the practical implications of this dissertation, which would necessitate me offering a solution to the entire "disinformation problem." A wealth of research already exists on various approaches to combating disinformation, such as fact-checking information (Walter et al., 2020), inoculation (Lewandowsky & van der Linden, 2021), media literacy programs (Sádaba & Salaverría, 2022), and accuracy prompts (Pennycook & Rand, 2022), just to name a few. Researchers are also aware of the systemic approaches that make societies more resilient to the effects of disinformation, like fostering strong public service media (Humprecht et al., 2020).

However, disinformation does not exist in a vacuum. It thrives in environments marked by political polarization, fueled by political will, and it often emerges from economic disparities and anxieties about the state of the world. The inherent complexity of these interconnected factors makes it challenging to pinpoint a single, universally effective solution. It requires a multifaceted approach that moves beyond simplistic true/false dichotomies and acknowledges the complexities often overlooked in research. Scholars should recognize that disinformation is not merely a problem of information accuracy but a symptom of deeper societal fractures. The findings presented in this dissertation suggest that effective interventions should not solely focus on individual-level factors, like cognitive biases or media literacy. Instead, they should also consider the broader socio-political context, including the role of political elites in shaping narratives, the impact of economic inequalities on trust in institutions, and the ways in which historical and future narratives are manipulated to serve political agendas. Furthermore, this research project underscores the importance of understanding the diverse ways in which individuals engage with and interpret information. The identified epistemic patterns, ranging from reliance on authority to personal experiences, highlight the fact that one-size-fits-all approaches are hardly appropriate.

In conclusion, while this dissertation does not offer a definitive solution to the problem of disinformation, it provides valuable insights into its underlying causes and manifestations. It calls for a shift in focus from simplistic solutions to a more detailed understanding of the multifaceted nature of disinformation, emphasizing the need for interdisciplinary collaboration and a holistic approach that addresses both individual and systemic factors.

8. Conclusion

In this dissertation, I explored disinformation within the unique socio-political context of Hungary, investigating the multifaceted psychological and societal underpinnings that foster susceptibility to disinformation. Utilizing both quantitative and qualitative methodologies, this work has highlighted how deeply intertwined individual predispositions and systemic factors are in shaping public discourse and perceptions of truth. This study understands disinformation not just as a technological issue but as a profound sociocultural phenomenon that permeates political and public narratives. By adopting Realist Social Constructionism, I have explored how disinformation and contestations over truth manifest as an interaction between tangible societal forces and the discursive construction of reality. This approach has provided a comprehensive lens through which we can understand the dynamics of disinformation propagation. As Hungary continues to navigate its controversial political climate, the insights garnered here are important. They not only enrich academic understanding but also equip researchers with a deeper comprehension of the mechanisms through which disinformation operates and influences people. While the challenges posed by disinformation are significant, the recurring assertion in Study III that "the truth always comes out" could be interpreted as a glimmer of hope or a looming threat. Among these interpretations, I choose to see it as the former—a beacon of resilience in our ongoing quest for truth.

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Social Psychological Predictors of Belief in Fake News in the Run-Up to the 2019 Hungarian Elections: The Importance of Conspiracy Mentality Supports the Notion of Ideological Symmetry in Fake News Belief

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Accessing information online is now easier than ever. However, also false information is circulated in increasing quantities. We sought to identify social psychological factors that could explain why some people are more susceptible to false information. Specifically, we investigated whether psychological predispositions (social dominance orientation, right-wing authoritarianism, system justification beliefs (SJB), openness, need for closure, conspiracy mentality), competencies (scientific and political knowledge, interest in politics) or motivated reasoning based on social identity (political orientation) could help explain who believes fake news. Hungarian participants (N = 295) judged political (anti- and pro-government) and non-political news. The Hungarian context—characterized by low trust in media, populist communication by the government and increasing polarization—should be fertile ground for the proliferation of fake news. The context in making this case particularly interesting is that the major political fault line in Hungary runs between pro- and anti-government supporter groups and not, for instance, between conservative and liberal ideology or partisanship. We found clear support for the motivational reasoning explanation as political orientation consistently predicted belief in both fake and real political news when their contents aligned with one's political identity. The belief in pro-government news was also associated with higher SJB among pro-government supporters. Those interested in politics showed better capacity to distinguish real political news from the fake ones. Most importantly, the only psychological predisposition that consistently explained belief in all types of fake news was a conspiracy mentality. This supports the notion of ideological symmetry in fake news belief—where a conspiracy mentality can be found across the political spectrum, and it can make people susceptible to disinformation regardless of group-memberships and other individual differences.

Keywords: disinformation, conspiracy mentality, Hungary, fake news, personality, motivated reasoning, political orientation

INTRODUCTION

According to a 2018 Eurobarometer, 83% of EU citizens feel that fake news represents a danger to democracy (European Commission, 2018). The spread of disinformation has been argued also by researchers to have the potential to undermine science and society, and cause further political polarization (e.g., Tucker et al., 2018). Fake news, or disinformation can be defined as "misinformation coupled with a clear intent to cause harm or purposefully deceive others" (van der Linden, 2017, p. 5). Recent comparative research has identified the following macro-level conditions as increasing the overall vulnerability to disinformation: polarization, populist communication, low trust in the news, weak public service media and media regulation, fragmented audiences, a large advertisement market and high social media use (Humprecht et al., 2020). Yet, to date little research has been run in environments in which these societal characteristics are particularly extreme, like contemporary Hungary. In addition to macro-level societal factors, researchers have investigated the fabric of the fake news and its production by focusing for example on whether some features of fake news (e.g., source, internal consistency) make disinformation more compelling (e.g., Schaewitz et al., 2020). Research has also identified several individual difference variables related to cognitive processing which can affect the accuracy ratings of disinformation (Pennycook and Rand, 2020; Scherer et al., 2021). However, we still know little about the possible social psychological factors associated with susceptibility to disinformation.

The aim of the current study is to identify social psychological predictors of the misclassification of fake and real news. The novelty of our research lies, first, in its holistic nature, we explore not only fake, but real news, political and non-political, to see how the content and narratives of the news pieces is evaluated by individuals with certain psychological predispositions, competences, and political identities. Second, we investigate fake and real news belief in Hungary, a context in which fake news are highly prevalent, and political polarization is extremely high (Krekó and Enyedi, 2018). Comparing our results with results obtained in less extreme contexts could be highly illuminating with regards to the generalizability of the existing finding obtained mostly in a democratic Western context (e.g., Pennycook and Rand, 2018). A third novelty lies in the fact that Hungary is not polarized according to partisanship lines or to political ideology, but instead the main political cleavage runs between pro- and anti-government supporter groups. This is important, as it allows us to rule out the possibly confounding effects of political ideology—i.e., political conservatism has been associated with several of the psychological predispositions that we investigate (Jost et al., 2003), as well as with engagement with disinformation (Guess et al., 2020).

Our results could help create context-specific procedures to guard against the proliferation of false information among individuals particularly prone to misclassifying fake and real news. Moreover, by examining competencies, political identities as well as psychological predispositions, our results can contribute to the design of possible future interventions.

Deficit and Motivated Reasoning

Why do people believe disinformation? Currently there are several explanations as to why people might be susceptible to disinformation in the online sphere. The first set of explanations involve some form of deficit, such as lack of political or scientific knowledge or lack of online skills, that explains why the person is unable to discern false news from real news. It seems intuitive to assume that people, who know less about a certain topic are more susceptible to disinformation in that area. However, results regarding this connection are mixed: lower health literacy has been connected to being more susceptible to disinformation (Scherer et al., 2021), but people who know less about politics may not be more likely to fall for disinformation, as fake news consumption is not lower among politically knowledgeable individuals (Guess et al., 2018). While more research is needed to contextualize and better understand the connection between age and online information processing, during the 2016 presidential campaign in the US, people above 65 shared false information seven times more, than did younger groups. This might be because of the lack of digital media literacy, which would be needed to determine the trustworthiness of the given information (Guess et al., 2019).

Another set of explanations underlines motivated reasoning, that is, that people are motivated to believe what they want to believe and what dovetails with their worldviews and prior knowledge. That is, people tend to arrive at the conclusions that they want to arrive at Kunda (1990), thus accepting fake news that line up with their ideology (Nyhan and Reifler, 2010). This explanation is consistent with research suggesting that liberals and conservatives show similar levels of partisan bias in judging fake news (Ditto et al., 2019). Confirmation bias refers to the bias people have in seeking and interpreting information that aligns with their existing identities, expectations, and attitudes (Nickerson, 1998). Partisan motivated reasoning refers to higher acceptance of political information that is consistent with one's ideology or partisanship, regardless of the accuracy of that information (e.g., Nyhan and Reifler, 2010; Van Bavel and Pereira, 2018). Supporting the importance of existing attitudes, research shows that corrections made to reduce misperceptions among targeted ideological groups often fail (Nyhan and Reifler, 2010). Similarly, flagging fake news as fake does increase cognitive activity, but does not stop social media users from believing headlines that align with their political views (Moravec et al., 2018). For the purpose of exploring the motivated reasoning account, we distinguished between the political narratives underlying different types of (fake) news.

Psychological Predispositions

In addition to deficit and motivated reasoning approaches, the third set of explanations for why some people believe fake news focuses on underlying psychological predispositions. The notion of ideological asymmetry in disinformation belief, according to which conservatives are more likely than liberals to believe fake news (e.g., Guess et al., 2018; Hjorth and Adler-Nissen, 2019), has its roots in this type of explanation. However, exactly, which psychological predispositions could underlie such asymmetry has

not been established. We next provide a rationale to expect some particular psychological predispositions to be crucial in understanding individual differences in the consumption and evaluation of disinformation.

Conservatism is closely associated with social dominance orientation (SDO) and right-wing authoritarianism (RWA) (Duriez and Van Hiel, 2002), and this could help explain the above mentioned differences between conservatives and liberals in engagement with fake news (e.g., Haidt, 2013; Jost, 2017). SDO is a preference for group-based social hierarchy and support for inequality between social groups (Sidanius and Pratto, 2001). Higher SDO has been associated with greater in-group favoritism and in-group bias (Sidanius et al., 1994). RWA is, in turn, defined by the traits of authoritarian submission, endorsement of traditional social norms and conventions (Altemeyer, 1981). Authoritarians are motivated both to preserve traditions and ingroup norms (Duriez and Van Hiel, 2002) and to punish groups that are perceived to threaten the norms and rules of the ingroup (e.g., Hadarics and Kende, 2018).

Conservatism, RWA and SDO have all been shown to serve system-justifying functions (Jost and Hunyady, 2005). SJB include the inclination to rationalize and justify the current *status quo* and to perceive the system as reasonable, beneficial and fair (Jost and Banaji, 1994). In this line of thinking, threats to the current political arrangement are thought to also threaten psychological needs, causing people to defend the system even at their own expense (Jost et al., 2004). System justifying motives can also cause people to actively avoid threatening information (Shepherd and Kay, 2012), and conservatives are generally more inclined to endorse system-justifying attitudes than liberals (Jost et al., 2008). Furthermore, both the need for cognitive closure and openness to experience have been found to be dispositional antecedents of SJB (Jost and Hunyady, 2005). We intend to investigate whether RWA, SDO, or system justifying beliefs— psychological predispositions all of which underlie conservatism—could help explain susceptibility to fake news.

Personality traits can affect people's judgment in a variety of situations (e.g., Byrne et al., 2015), implying that also other psychological predispositions than those associated with conservatism could be relevant for the ability to accurately judge news headlines. Those with a pronounced need for cognitive closure have been described as striving to eliminate uncertainty (Webster and Kruglanski, 1997), form judgments swiftly on a given issue (Kruglanski et al., 1991) and show less information-seeking behavior (e.g., Klein and Webster, 2000). The need for cognitive closure has also been associated with belief in conspiracy theories (Marchlewska et al., 2018). Openness, in contrast, refers to the urge for experiences as well as the tendency toward cognitive exploration (Kaufman et al., 2016), and is associated with more effortful information seeking, while those low in openness have been found to prefer the confirmation of familiar information (Heinström, 2003). Sindermann et al. (2020) in a recent review suggest that openness should act as a buffer against fake news belief, and some research seems to support this, as higher openness has been found to be associated with being better at discerning fake from real news (Heinström, 2003; Calvillo et al., 2021) and lower susceptibility to misinformation (Doughty et al., 2017). However, Wolverton and Stevens (2019) found the exact opposite, that participants who scored low on openness were better at identifying false information than those who scored high, while Sindermann et al. (2021) found no major role of openness explaining any tendencies of fake news discernment.

Another psychological predisposition that might explain the susceptibility to disinformation is belief in conspiracy theories. The concept of a conspiracy mindset (also called a conspiracy mentality or conspiracy thinking; Imhoff and Bruder, 2014) has been put forward as a relatively stable personality characteristic describing individual differences in the extent to which people believe in conspiracies or conspiracy theories (e.g., Moscovici, 1987; Imhoff and Bruder, 2014). Conspiracy theories, explain the reasons behind important political and social events by means of secret plots by two or more powerful actors (Aaronovitch, 2014; Dentith and Orr, 2018). Any group can be accused of conspiring, as long as they are perceived as powerful and malicious (Douglas et al., 2019).

While disinformation can contain conspiratorial narratives, conspiracy theories differ from disinformation in that they are speculative, complex and resistant to falsification, and that belief in them serves existential, epistemic and social motives (Douglas et al., 2017). The epistemic motivation stems from the need to reduce uncertainty, and to build a stable, accurate and consistent understanding of the world. Thus such a personality disposition is stronger among people who seek patterns in their environment (Bruder et al., 2013) or have higher need for cognitive closure (Marchlewska et al., 2018). Existential motives mean the need to feel safe and secure in the environment, thus they relate to lack of sociopolitical control (Bruder et al., 2013). Social motivations include the need to maintain a positive image of the self and the group we belong to, through allocating blame on "the others," which can help to uphold a competent image of the ingroup (Cichocka et al., 2016). Although both conspiracy theories and disinformation include misperception or ignorance of reality, belief in disinformation is believing something specific that is factually false, and this belief may or may not act as a building block for a conspiratorial worldview. This means that belief in disinformation should, when not part of an altogether conspiratorial worldview, be less resistant to being corrected (Scheufele and Krause, 2019). Despite these distinctions, disinformation and conspiratorial worldviews tend to be tightly connected in the real world, as conspiracy theorists are one of the main producers of disinformation (Tucker et al., 2018).

Fake News in Hungary

Hungary has seen the continuous decline of press freedom since 2010, and was ranked at 92nd in the 2021 World Press Freedom Index by Reporters without Borders (2021). The government led by Viktor Orbán has been in power since 2010 with a supermajority in parliament, which allowed the complete transformation of the country's media sphere.

In 2010 a law-package that severely curbed media freedom in the country was passed. It granted the Media Council regulatory

power over all forms of media, and its members were appointed for 9 years, by the Parliament and the Prime Minister. In 2019, only the nominees of Fidesz were elected as new members (Haraszti, 2011). The government not only influences the public media, but private media, through government-friendly private actors who own private media outlets. In 2018, KESMA (Central European Press and Media Foundation) was created, to which more than 470 Hungarian media outlets were transferred from said private individuals. Besides KESMA, the Hungarian media landscape is generally distorted by state advertising and censorship, which help create a government-friendly media empire that constitutes a potent tool of political favoritism (Bátorfy and Urbán, 2020). The situation of independent journalists has also worsened; they are often banned from certain events, and government politicians do not give interviews to independent media outlets.

Through the government-friendly private and public media Fidesz, like no other political party, has been able to communicate their political messages in the online and offline sphere, through "public service" messages, financed by the government, party messages are communicated on several media outlets. While direct political control over public media is not widespread, it is commonly known that indirect influence is exerted over these mediums, resulting in the spread of pro-government messages (European Commission [EC], and Directorate-General for Justice and Consumers, 2020). These also involve disinformation, for example the employees of the taxpayer-funded national MTVA network admittedly fabricated false stories on immigration, supposedly on the order of the government (Nolan and Walker, 2018). Government-friendly media has spread pro-Kremlin conspiracies (Győri and Krekó, 2017) and political and non-political fake news are prevalent also in state-funded and government-friendly private media (Krekó and Enyedi, 2018).

At the time of the present research, Hungarian politics was increasingly divided into two camps: the government and the opposition. In the opposition, parties across the political and ideological spectrum were increasingly working together, coordinating candidates in the 2019 local elections (Agence France-Presse, 2019). The united opposition includes an ideologically extremely diverse set of parties. For instance, the far-right party Jobbik, which on several issues positions itself as even further to the right than Fidesz (Goldstein, 2021), is united with parties that position themselves as left-wing [Hungarian socialist party (MSZP), democratic coalition (DK), dialogue for Hungary (PM)]. Also part of the mix is a young, liberal party (Momentum), and a Hungary's green party (LMP). Many of these parties have nothing in common in terms of ideology or policy, but they are held together by an anti-Orbán, anti-corruption and pro-democracy sentiment. Humprecht et al. (2020) describe such "two-party" and winner-takes-all systems as fertile ground for political polarization as well as affective polarization between the two opposing camps. In such an environment it can be increasingly difficult to judge the accuracy of information (Craft et al., 2017). Furthermore disinformation can be especially effective in Hungary, as it is marked by one of the lowest levels of media trust in the EU, with 52% of the people claiming to come across false information almost every day (European Commission, 2018).

Purpose of the Present Research

In sum, the present study aims to clarify which social psychological factors are associated with believing fake and real news in a Hungarian context. Our research advances the previous line of research in several ways: first, research on disinformation often concentrates on one type of disinformation, such as a specific health topic (e.g., vaccines), or political disinformation. For a broader perspective, we included political (dis)information with different narratives as well as non-political disinformation. Second, unlike previous research that included some single personality factors or competences in their models, we tested the simultaneous associations between several understudied psychological predispositions (such as SDO, RWA, SJB, openness, need for cognitive closure and a conspiracy mentality), competencies (political and scientific knowledge and political interest) and political orientation based on shared socio-political identification, which all potentially underlie fake news susceptibility. Whether not only personality but also acquired competencies and political identities matter is especially important from the perspective of developing interventions—could for instance educational interventions that provide more knowledge or aim at groups' recategorization help? Third, we explored disinformation in the highly politically polarized context of Hungary, which, like almost all other non-Western or non-democratic contexts, is under-researched. Moreover, the current political divide in Hungary is not based on ideology but on stance toward the current government. This last point is especially important; when the political divide is ideological (e.g., conservatives vs. liberals), it may in part be built on the same psychological predispositions that are then used to explain belief in fake news. That is, if, as in the US, conservatives are more prone to believe in fake news (e.g., Guess et al., 2020) this may be because some underlying psychological dispositions (e.g., RWA, SDO) have made them both more ideologically conservative and more susceptible to fake news. However, in the Hungarian context, those on the anti-government side can be anywhere on the ideological map, eliminating spurious associations between ideological bent and susceptibility to fake news.

Our main general research questions are thus: *Who is susceptible to disinformation? Are there differences in the social psychological characteristics of the people who believe the different types of disinformation? What are the most important social psychological predictors of disinformation susceptibility?*

MATERIALS AND METHODS

Participants and Procedure

Participants completed an online questionnaire in 2019 between April 8th and May 20th. In this time window, we sought to recruit as many participants as possible. We decided to end the data collection 1 week prior to the 2019 European Parliament elections, to keep the election and the election

results from interfering with the results. Participants were a convenience sample recruited through social media. Master's students posted the questionnaire on Facebook and shared it in their social circle. It was also posted in political discussion groups. The 35-min questionnaire was described as being part of a study on information processing, in which we ask about participants' perception of news, politics and societal issues. Altogether 702 Hungarian participants took part. Participants were not monetarily compensated. They could quit at any time and were allowed to skip questions (some of the questions were somewhat sensitive, given the political context), but we excluded those participants who failed to complete at least 99% of the questionnaire. Those excluded had a mean progress of 24, and 80% did not reach 40% completion. The final sample included 295 participants (mean age = 36.41), 115 males and 169 females (4 others, 8 missing). Just 5.1% completed primary school, 49.4% secondary school, and 42.5% graduated from higher education (3% missing). The research was conducted with the approval of the Ethics Committee of Eötvös Loránd University, Budapest, Hungary.

Measures

Belief in News

We presented participants real news headlines, taken from Hungarian news websites in the months prior to data collection. They were shown in 'Facebook' format, with a headline, an associated photograph, and a byline below the photo. Sources were removed in order to omit their probable influence on the judgment of the information. For every piece of news, participants responded to the question "To what extent do you think this news is true?" on a scale of 1–7 (1 = *I am very sure this news is not true*, 4 = *the news is as likely to be true as it is likely to be false* and 7 = *I am very sure that this news is true*). We utilized a scale instead of dichotomous judgment, because they measure belief in a more subtle way than dichotomous judgments, thus it also gave participants the chance to claim that they are undecided on the given item. Furthermore such scales have been utilized in previous studies as well (e.g., Pennycook and Rand, 2018; Faragó et al., 2019; Calvillo et al., 2021).

In all, 18 pieces of news (fake: three pro-government, three anti-government, three non-political; real: three pro-government, three anti-government, three non-political) were presented in random order. The news items can be found in the **Supplementary Materials** and examples for all types of news are presented in **Table 1**. Our index of belief in a particular type of news was computed as average belief across the three news items in that category. Cronbach's α for belief in anti-government fake news was 0.65, for anti-government real news 0.40, non-political fake news 0.37, non-political real news 0.45, pro-government fake news 0.71 and pro-government real news 0.34. Spearman–Brown Coefficient for belief in anti-government fake news was 0.692, for anti-government real news 0.389, non-political fake news 0.464, non-political real news 0.509, pro-government fake news 0.621, and pro-government real news 0.251.

In selection of news, we followed the method of similar studies (e.g.: Pennycook and Rand, 2018; Calvillo et al., 2021; Scherer et al., 2021). The political news had to include a politician, a party, the government, or a policy, while the non-political news had to be clearly free of direct political, or politicized narratives in the given context (e.g., vaccines). The co-authors had to agree on whether each news item was true or false.

TABLE 1 | Examples of the different news types included in the study, including the headline and byline.

	Fake	Real
Political, pro-government narrative	Peter Juhász regularly abused drugs in front of his children As we earlier reported, shocking details came to light from the files of the court case of Peter Juhász: the partner of the president of Együtt said, that he gave her tranquilizers, after he knelt on her and hit her	GDP grew with 4.8% last year Hungary's gross domestic product grew with 4.8% in last year's last quarter, when accounting for seasonal and calendar effects. According to raw data, it grew by 5% compared to the same period of the year before – reported the KSH Thursday morning.
Political, anti-government narrative	A whole floor is reserved for Viktor Orbán, at a secret private clinic in Graz. Our source was not willing to tell us anything about the illness of the prime minister, but they said, that the most modern equipment and neurologists who studied at the best places are at the disposal of the important guest.	Here is the letter of Orban, asking for George Soros' help. Most people know, that Viktor Orban studied at Oxford before the end of communism in Hungary. 30 years passed, and many things changed in the mind of the prime minister.
Non-political	Herb man from Bükk: everything is healable! To prevent cancer: soda bicarbonate, for childless: celery and quail egg yolk!	Pedestrians die because of healthy lifestyle, mobile phones and big cars. Since 1990, last year was the highest in pedestrian deaths caused by accidents

The news in the questionnaire appeared with a picture in the original Hungarian format, translation is made by the authors.

Political Orientation

We assessed political orientation by asking participants' satisfaction with the government. giving us the pro- and anti-government camps. Hungary's political arena was at the time increasingly divided by the support of the government, not by a more traditional conservative/liberal or left/right divide. Government-opposition dynamics have also more generally been shown to be the main drivers of voting behavior as opposed to conservative/liberal or left/right policy positions (Hix and Noury, 2016). Also importantly, political terms such as left and right do not necessarily have a coherent meaning in post-communist countries (Piurko et al., 2011).

Participants indicated their satisfaction with the government by responding to two questions: "Thinking about the Hungarian government, how satisfied are you with the way it is doing its job?" (on a scale of 0–10, 0 *extremely dissatisfied*, 10 = *extremely satisfied*), "On the whole, how satisfied are you with the way democracy works in Hungary?" (on a scale of 0–10, 0 = *extremely*

TABLE 2 | Descriptive statistics and correlations for study variables.

	Variable	*N*	Mean	*SD*	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Anti-government fake news	293	3.40	1.43	0.65	–	0.41**	0.25**	0.13*	−0.04	−0.17**	0.13*	−0.04	−0.10	−0.13*	0.02	−0.44*	0.22*	−0.09	−0.20**	−0.37**	−0.06	−0.03
2	Anti-government real news	293	4.16	1.25	0.40	*0.43***	–	0.08	0.28**	−0.14*	−0.46	0.02	0.13*	0.12*	0.11	0.15**	−0.33**	−0.02	−0.11	−0.28**	−0.30**	−0.17**	0.03
3	Non-political fake news	294	2.98	1.24	0.37	*0.23***	*0.09*	–	0.21**	0.42**	0.21**	0.15*	−0.07	−0.20**	−0.18**	−0.10	0.14*	0.29**	0.06	0.26**	0.21**	0.26**	0.06
4	Non-political real news	293	4.37	1.16	0.45	*0.18**	*0.30***	*0.29***	–	0.19**	0.14*	−0.32**	0.40	−0.07	0.02	0.03	−0.06	0.06	0.12*	0.04	−0.08	−0.12*	0.13*
5	Pro-government fake news	293	3.06	1.38	0.71	*−0.03*	*−0.13*	*0.43***	*0.18**	–	0.54**	−0.09	−0.07	−0.3**	−0.18**	−0.20**	0.56**	0.27**	−0.32**	0.54**	0.55**	0.24**	0.02
6	Pro-government real news	293	4.02	1.31	0.34	*−0.17**	*−0.06*	*0.22***	*0.15*	*0.56***	–	0.03	0.13*	−0.02	−0.04	0.09	0.58*	0.09	0.26**	0.44*	0.54**	0.12*	0.02
7	Age	278	36.41	15.85	–	–	–	–	–	–	–	–	0.11	0.21**	0.07	0.26**	−0.05	−0.03	−0.15*	−0.01	0.02	0.16**	−0.06
8	Gender	288	1.43	0.52	–	–	–	–	–	–	–	–	–	0.17**	0.24**	0.20**	0.02	0.01	0.18**	0.08	0.08	−0.11	−0.04
9	Political knowledge	293	6.08	2.00	0.57	*−0.13*	*0.11*	*−0.22***	*−0.02*	*−0.28***	*−0.05*	–	–	–	0.33**	0.44**	−0.12*	−0.24**	−0.22**	−0.29**	−0.20**	−0.16**	0.13*
10	Science literacy	293	6.59	1.14	0.23	*−0.13*	*−0.08*	*−0.17**	*0.02*	*−0.16*	*−0.07*	–	–	*0.30***	–	0.13*	−0.04	−0.12	−0.01	−0.27**	−0.05	−0.15**	0.18**
11	Political interest	295	3.54	1.02	0.87	*−0.01*	*0.14*	*−0.14*	*0.11*	*−0.18**	*0.06*	–	–	*0.39***	*0.07*	–	−0.08	−0.03	−0.09	−0.09	−0.15*	−0.10	0.24**
12	Satisfaction with government	295	3.52	2.55	0.92	*−0.46***	*−0.34***	*0.15*	*−0.09*	*0.56***	*0.58***	–	–	*−0.19*	*−0.05*	*−0.07*	–	0.05	0.36**	0.64**	0.81**	0.24**	−0.01
13	CMQ	295	4.50	1.19	0.79	*0.23***	*−0.02*	*0.30***	*0.05*	*0.27***	*0.09*	–	–	*−0.25***	*−0.12*	*−0.03*	*−0.05*	–	0.20**	0.27**	0.08	0.24**	0.03
14	SDO	284	2.70	1.24	0.92	*−0.06*	*−0.14*	*0.10*	*0.06*	*0.33***	*0.25***	–	–	*−0.24***	*−0.04*	*−0.10*	*0.36***	*0.20**	–	0.50**	0.40**	0.09	−0.02
15	RWA	285	2.19	1.20	0.89	*−0.20**	*−0.30***	*0.28***	*0.03*	*0.55***	*0.44***	–	–	*−0.31***	*−0.29***	*−0.10*	*0.65***	*0.27***	*0.49***	–	0.70**	0.34**	−0.10
16	System justification	286	3.18	1.71	0.89	*−0.37***	*−0.32***	*0.22***	*−0.09*	*−56***	*0.53***	–	–	*−0.22***	*−0.07*	*−0.17**	*0.81***	*−08*	*0.40***	*0.70***	–	0.26**	−0.02
17	Need for closure	287	3.78	0.81	*0.84*	*−0.09*	*−0.16*	*0.24***	*−0.07*	*0.25***	*0.14*	–	–	*−0.19**	*−0.14*	*−0.13*	*0.25***	*0.26***	*0.15*	*0.36***	*0.27***	–	−19**
18	Openness	292	3.79	0.59	*0.66*	*−0.02*	*0.03*	*0.07*	*0.12*	*0.01*	*0.02*	–	–	*0.15*	*0.19**	*0.27***	*−0.01*	*0.03*	*−0.02*	*−0.10*	*−0.01*	*−0.18**	-

Correlations in italics are controlled for age and gender.
$^{**}p < 0.001$; $^{*}p < 0.05$.

dissatisfied, 10 = *extremely satisfied*). The average score of these two items constituted our measure of general satisfaction with the government. The questions were taken from the European Social Survey. Spearman–Brown Coefficient was 0.923.

Political Interest

We measured political interest with three questions: "How interested would you say you are in politics – are you" (on a scale of 1–5, 1 = *not interested at all* and 5 = *very interested*), based on Danckert et al. (2017), "How aware are you of current politics?" (on a scale of 1–5, 1 = *I don't follow current politics* and 5 = *I am very much aware of current politics*) and "Compared to the general population how knowledgeable are you on current politics?" (on a scale of 1–5, 1 = *much less*, 5 = *much more*). The average score of these three items constituted our measure of general political interest. Cronbach's α was 0.87, Spearman–Brown Coefficient was 0.887.

Political Knowledge

To measure political knowledge participants completed a test that consisted of 10 multiple choice questions—with 4 possible answers—related to current political and relevant historical events. For instance, "Who is the current Speaker of the National Assembly? A. Kövér László, B. Semjén Zsolt, C. Orbán Viktor, D. Áder János." Participants had 15 s per question to respond. The total scores were calculated by adding up the right answers (one point per correct answer).

Scientific Knowledge

Scientific Knowledge was measured by six questions, two of which were multiple choice (two and three options), and four of which were true/false statements, such as "Antibiotics kill viruses as well as bacteria." The questions are used by the National Science Foundation of the United States (National Science Board, 2010). The total scores were calculated by adding up the right answers (one point per correct answer).

Conspiracy Mentality

Conspiracy mentality was measured using the Hungarian version (translated by Orosz et al., 2016) of the 5-item Conspiracy Mentality Questionnaire (Bruder et al., 2013). Participants rated their agreement with statements, such as "I think that many very important things happen in the world, which the public is never informed about," using a scale of 1–7 (1 = *not true at all*, 7 = *completely true*). The average score of these five items was calculated as a score of conspiracy mentality. Cronbach's α was 0.79, Spearman–Brown Coefficient was 0.786.

Openness

Openness was assessed by the 10 openness items of the Hungarian version (Szirmak, 2009) of the 60-item HEXACO Personality Inventory (Ashton and Lee, 2009). Participants rated their agreement with the statements, such as "I would be quite bored by a visit to an art gallery," using a scale of 1–7 (1 = *strongly disagree*, 7 = *strongly agree*). The score was calculated as the average value of the scale items. Cronbach's α was 0.66.

Need for Closure

Need for closure was measured by the short, 15-item Hungarian version (Csanádi et al., 2009) of the Need for Closure Scale (Roets and Van Hiel, 2011). Participants rated their agreement with statements, such as "I don't like situations that are uncertain," using a scale of 1–6 (1 = *strongly disagree*, 6 = *strongly agree*). The score was calculated as the average value of the scale items. Cronbach's α was 0.84.

System Justification Beliefs

System justification was measured by the Hungarian (Berkics, 2009), short, 8-item version of the System Justification Scale (Kay and Jost, 2003). Participants rated their agreement with statements, such as "The Hungarian society needs to be radically restructured," using a scale of 1–9 (1 = *strongly disagree*, 9 = *strongly agree*). The scores was calculated as the average value of the scale items. Cronbach's α was 0.89.

Right-Wing Authoritarianism

Right-wing authoritarianism was measured by the Hungarian, 10-item version (Enyedi, 1996) of the *Right-wing Authoritarianism* Scale (Altemeyer, 1981). Participants rated their agreement with statements, such as "It is always better to trust the judgment of the proper authorities in government and religion than to listen to the noisy rabble-rousers in our society, who are trying to create doubt in people's minds," on a scale of 1–7 (1 = *strongly disagree*, 7 = *strongly agree*). The score was calculated as the average value of the scale items. Cronbach's α was 0.89.

Social Dominance Orientation

Social dominance orientation was measured with the Hungarian version (Faragó and Kende, 2017) of the SDO7 scale (Ho et al., 2015). Participants rated their agreement with statements, such as "An ideal society requires some groups to be on top and others to be on the bottom," using a scale of 1–7 (1 = *strongly oppose*, 7 = *strongly favor*). The score was calculated as the average value of the scale items. Cronbach's α was 0.92.

RESULTS

Descriptive Statistics

We first examined all variables to identify outliers. Only one participant, who could not respond to any items on the scientific literacy scale, was removed as an outlier (this also served as a check for random responding).

Means, standard deviations and α values for all scales are presented in **Table 2**. Some means warrant mention. People were generally dissatisfied with the government (a mean of 3.52 on a scale that consisted of two 11-point items). Real news (regardless of content), although being generally judged as more believable than fake news, were treated with skepticism (a mean 4.37 on a 1–7 scale). Non-political fake news was judged as the least credible, whereas non-political real news was judged as the most believable.

Pearson correlations coefficients between all variables, with and without controlling for age and gender, are presented in **Table 2**. Conspiracy mentality correlated with belief in all types of fake news, but not with belief in real news. Satisfaction with government correlated positively with belief in pro-government news and negatively with anti-government news.

Regressions

We conducted stepwise hierarchical multiple regressions to predict belief in news. These were run separately for each type of news. The independent variables were entered in four steps as follows: (1) age and gender, (2) competencies (objective political knowledge, scientific knowledge and interest in politics), (3) political orientation and (4) those psychological predisposition scales that correlated significantly with the predicted variable (RWA, SDO, SJB, openness, need for closure and/or conspiracy mentality).

Anti-government Fake News

Belief in anti-government fake news was correlated with RWA ($r = -0.20$), $p < 0.001$), system justification ($r = -0.37$, $p < 0.001$), and conspiracy mentality ($r = 0.22$, $p < 0.001$). In step-wise regression, Models 1 and Model 2 were not significant, but Model 3 was significant $R^2 = 0.24$, $F(6,270) = 14.18$, $p < 0.001$ due to the addition of political orientation $\Delta R^2 = 0.21$, $\Delta F(1,270) = 71.50$, $p < 0.001$. The increase in variance explained by the adding the correlated personality dimensions at step 4 was also significant, $\Delta R^2 = 0.056$, $\Delta F(3,263) = 7.01$, $p < 0.001$. In Model 4 ($R^2 = 0.30$ (F(9,263) = 12.31, $p < 0.001$) participants who were older ($B = 0.02$, $t = 3.00$, $p < 0.01$), less satisfied with the government ($B = -0.21$, $t = -4.14$, $p < 0.001$), and scored higher on the conspiracy mentality scale ($B = 0.28$, $t = 4.27$, $p < 0.001$) believed more in anti-government fake news. For all coefficient and model-fit indices see **Table 3**.

Multicollinearity was not a concern in this or any of the below regressions. VIF scores for all variables were, in all regressions, below 4 and Tolerance was always above 0.169. The assumption of independent errors was always met (Durbin–Watson values = 1.90–2.18).

Anti-government Real News

Belief in anti-government real news was correlated with RWA ($r = -0.28, p < 0.001$), system justification ($r = -0.30, p < 0.001$) and need for closure ($r = 0.17$, $p < 0.001$). Model 1 and Model 2 were not significant, but Model 3 was, $\Delta R^2 = 0.108$, $\Delta F(1,270) = 33.97$, $p < 0.001$. Adding the correlated personality dimensions at step 4 did not improve the model. Model 3 indicated that those who were less satisfied with the government ($B = -0.17, t = -5.83, p < 0.001$), and more interested in politics ($B = 0.15$, $t = 1.85$, $p < 0.05$) believed more in anti-government real news. For all coefficients and model fit indices see **Table 4**.

Non-political Real News

Belief in non-political real news was correlated with SDO ($r = 0.12, p < 0.05$) and openness ($r = 0.13, p < 0.05$). Regression Model 1 was significant, $R^2 = 0.11$, $F(2,274) = 17.48$, $p < 0.001$, and additional steps could not contribute to it. Model 1 indicated that younger ($B = -0.02$, $t = -5.824$, $p < 0.001$) and male ($B = 0.22, t = 1.17, p < 0.05$), participants believed more in non-political real news. For all coefficients and model-fit indices see **Table 5**.

Non-political Fake News

Belief in non-political fake news was correlated with RWA ($r = 0.26$, $p < 0.001$), system justification ($r = 0.21$, $p < 0.001$), need for closure ($r = 0.26$, $p < 0.001$) and CMQ ($r = 0.29$, $p < 0.001$). Model 1 was significant ($p < 0.05$), but Steps 2, 3 [$\Delta R^2 = 0.06$, $\Delta F(1,271) = 9.13$, $p < 0.01$] and 4 [$\Delta R^2 = 0.07$, $\Delta F(4,261) = 6.48$, $p < 0.001$] all improved the model [Model 2, $R^2 = 0.09$, $F(5,272) = 5.46$, $p < 0.001$; Model 3, $R^2 = 0.12$, $F(6,271) = 6.21, p < 0.001$, Model 4, $R^2 = 0.20$, $F(10,261) = 6.30$, $p < 0.001$]. Model 4 shows that participants who were older ($B = 0.01$, $t = 2.67$, $p < 0.01$) had higher need for closure ($B = 0.20$, $t = 3.42$, $p < 0.05$) and scored higher on conspiracy mentality ($B = 0.21$, $t = 3.42$, $p < 0.001$) believed more in non-political fake news. For all coefficients and model-fit indices, see **Table 6**.

Pro-government Fake News

Belief in pro-government fake news was correlated with RWA ($r = 0.54$, $p < 0.001$), system justification ($r = 0.55$, $p < 0.001$), conspiracy mentality ($r = 0.27$, $p < 0.001$), need for closure ($r = 0.24$, $p < 0.001$) and SDO ($r = 0.32$, $p < 0.001$). Model 1 was not significant, but Model 2 was [$R^2 = 0.11$, $F(5,271) = 6.90$, $p < 0.001$], and adding political orientation in Step 3 [$\Delta R^2 = 0.25$, $\Delta F(1,270) = 104.70$, $p < 0.001$] further increased the amount of explained variance [Model 3, $R^2 = 0.36$, $F(6,270) = 25.40$, $p < 0.001$], as well as did adding the correlated personality dimensions in Step 4 [$\Delta R^2 = 0.05$, $\Delta F(5,259) = 4.60$, $p < 0.001$; Model 4, $R^2 = 0.42$, $F(11,259) = 16.71$, $p < 0.001$]. Participants who were more satisfied with the government ($B = 0.16$; $t = 3.39$, $p < 0.001$), scored higher in on conspiracy mentality ($B = 0.19$; $t = 3.12, p < 0.001$) and had higher system justification ($B = 0.17$, $t = 2.28$, $p < 0.01$) beliefs rated pro-government fake news as more accurate. For all coefficients and model-fit indices, see **Table 7**.

Pro-government Real News

Belief in pro-government real news was correlated with RWA ($r = 0.44$, $p < 0.001$), system justification ($r = 0.54$, $p < 0.001$), need for closure ($r = 0.12$, $p < 0.001$) and SDO ($r = 0.26$, $p < 0.001$). Model 1 and Model 2 were not significant, but Model 3 [$R^2 = 0.33$, $F(6,270) = 21.66$, $p < 0.001$] was and adding the correlated personality dimensions in step 4 further improved the model [$\Delta R^2 = 0.03$, $\Delta F(4,260) = 2.25$, $p < 0.05$]. Participants who had higher scores in political interest ($B = 0.16$, $t = 2.22$, $p < 0.01$), were more satisfied with the government ($B = 0.187$, $t = 4.09$, $p < 0.001$), were male ($B = 0.220$, $t = 0.09$, $p < 0.05$) and had higher SJB ($B = 0.18$, $t = 2.50$, $p < 0.01$) believed more in pro-government real news. For all coefficients and model-fit indices, see **Table 8**.

TABLE 3 | Hierarchical regression results for belief in anti-government fake news.

Variable	*B*	*SE* B	β	*t*	R^2	$R^2_{adjusted}$	ΔR^2	AIC	Df
Model 1					0.020	0.0129	0.020	981.4525	274
Constant	3.185***	0.301		10.596					
Age	0.012**	0.005	0.133	2.207					
Gender	−0.180	0.166	−0.066	−1.088					
Model 2					0.038	0.020	0.018	982.222	271
Constant	3.989***	0.583		6.836					
Age	0.013**	0.006	0.150	2.403					
Gender	−0.087	0.175	−0.032	−0.500					
Objective political knowledge	−0.085*	0.051	−0.115	−1.673					
Scientific literacy	−0.093	0.084	−0.071	−1.111					
Political interest	0.043	0.095	0.031	0.452					
Model 3					0.240	0.223	0.208***	919.1493	270
Constant	5.137***	0.537		9.563					
Age	0.013**	0.005	0.141	2.553					
Gender	−0.053	0.156	−0.019	−0.338					
Objective political knowledge	−0.112**	0.045	−0.151	−2.460					
Scientific literacy	−0.083	0.075	−0.063	−1.111					
Political interest	−0.004	0.085	−0.003	−0.051					
Satisfaction with government	−0.262***	0.030	−0.453	−8.456					
Variable	***B***	***SE* B**	**β**	***t***	R^2	$R^2_{adjusted}$	ΔR^2	**AIC**	**Df**
Model 4					0.296	0.272	0.056***	891.9675	263
Constant	3.808***	0.655		5.815					
Age	0.015***	0.005	0.164	3.002					
Gender	−0.057	0.160	−0.020	−0.354					
Objective political knowledge	−0.082*	0.047	−0.110	−1.757					
Scientific literacy	−0.061	0.076	−0.047	−0.802					
Political interest	−0.047	0.084	−0.033	−0.562					
Satisfaction with government	−0.211***	0.051	−0.366	−4.135					
RWA	−0.016	0.100	−0.013	−0.160					
System justification	−0.107	0.082	−0.125	−1.297					
CMQ	0.284***	0.067	0.236	4.272					

AIC = Akaike information criterion.
**p < 0.05; **p < 0.01; ***p < 0.001.*

DISCUSSION

The aim of this study was to examine social psychological factors associated with belief in fake and real news, while controlling for demographics. We examined this in the politically polarized context of Hungary, where the proliferation of disinformation is high.

We found that the only psychological predisposition that was consistently associated with belief in any type of fake news (political and non-political) was conspiracy mentality. Regarding other underlying determinants of tendencies to believe fake and real news, we found that clear support for the motivational reasoning explanation as political orientation consistently predicted belief in both fake and real political news when their contents aligned with one's political identity. The belief in pro-government news was also associated with higher SJB among pro-government supporters. Those interested in politics showed better capacity to distinguish real political news from the fake ones. Demographics did not play an explanatory role.

Our results corroborated that conspiracy mentality was associated with believing all types of fake news including political (pro- and anti-government) as well as non-political. Despite lacking shared narrative or sentiment (e.g., the news items were not all threatening), fake news were more plausible to people with higher levels of conspiracy mentality. Why exactly this was the case should be an interesting avenue for future research. The fake news that we presented to participants are likely to have differed from other news on various covarying dimensions (e.g., falsifiability, person-centeredness, use of statistical data, information source), and in retrospect it is impossible to determine which of these dimensions is relevant when determining why these news were particularly plausible to those with a proneness to believe in conspiracies. This needs to be investigated much more systematically and vigorously.

TABLE 4 | Hierarchical regression results for belief in anti-government real news.

Variable	*B*	*SE* B	β	*t*	R^2	$R^2_{adjusted}$	ΔR^2	AIC	df
Model 1					0.015	0.008	0.015	916.0449	274
Constant	3.749***	0.267		14.035					
Age	0.001	0.005	0.003	0.049					
Gender	0.297**	0.147	0.122	2.016					
Model 2					0.037	0.020	0.022*	915.6366	271
Constant	3.045***	0.517		5.886					
Age	−0.003	0.005	−0.036	−0.572					
Gender	0.204	0.155	0.083	1.319					
Objective political knowledge	0.011	0.045	0.017	0.254					
Scientific literacy	0.037	0.074	0.032	0.493					
Political interest	0.178**	0.084	0.144	2.113					
Model 3					0.145	0.126	0.108***	884.8132	270
Constant	3.789***	0.505		7.505					
Age	−0.003	0.005	−0.041	−0.706					
Gender	0.227	0.146	0.093	1.550					
Objective political knowledge	−0.006	0.043	−0.009	−0.135					
Scientific literacy	0.043	0.070	0.037	0.616					
Political interest	0.148*	0.080	0.119	1.849					
Satisfaction with government	−0.170***	0.029	−0.331	−5.828					
Variable	***B***	***SE* B**	**β**	***t***	R^2	$R^2_{adjusted}$	ΔR^2	**AIC**	**df**
Model 4					0.161	0.132	0.016	873.9096	262
Constant	4.665***	0.682		6.844					
Age	−0.001	0.005	−0.009	−0.145					
Gender	0.269*	0.156	0.108	1.723					
Objective political knowledge	−0.027	0.045	−0.041	−0.603					
Scientific literacy	0.023	0.074	0.020	0.313					
Political interest	0.121	0.082	0.097	1.483					
Satisfaction with government	−0.126**	0.050	−0.245	−2.529					
RWA	−0.022	0.097	−0.020	−0.228					
System justification	−0.060	0.080	−0.080	−0.758					
Need for closure	−0.153	0.099	−0.097	−1.545					

AIC = Akaike information criterion.
**p < 0.05; **p < 0.01; ***p < 0.001.*

Importantly, the belief in fake news was not confined to the belief in the conservative right-wing government's narrative. This is in line with previous research suggesting that conspiracy mentality is not confined to a certain political ideology but can be more common on the extremes of the political spectrum (e.g., van Prooijen et al., 2015). Furthermore, conspiracy theories are associated with political polarization, rather than a specific ideology (Sutton and Douglas, 2020). As Hungary can be characterized by high levels of political polarization, belief in conspiracy theories may be particularly high. Moreover, it is important that whether the news was anti- or pro-government did not matter. This could be because in Hungary people all over the ideological field can be found in both camps. In a context "cleansed" of potentially confounding ideological factors, it thus seems that conspiracy mentality is in its own right an important determinant of fake news susceptibility.

In the case of political fake and real news, participants exhibited bias according to their political preferences—that is, they believed the political news that was congruent with their political outlook toward the government. Being anti-government predicted believing both fake and real anti-government news, whereas being pro-government predicted believing both fake and real pro-government news. These results replicated some previous findings (e.g. Pennycook and Rand, 2018; Calvillo et al., 2021) and are in contrast to some previous findings that have suggested that right-wing or conservative-leaning individuals may be more prone to believe or share disinformation (e.g., Allcott and Gentzkow, 2017; Jost, 2017).

It is also worthwhile to note that SJB were associated with belief in pro-government fake and real news (but no other types of news). System justification can be described as a basic need to validate the existing social arrangements and systems (Jost and Hunyady, 2005)—it seems natural that those who are strongly motivated to believe in the system in which they live would endorse information that supports that system, regardless of the accuracy of this information. This is consistent with the notion that the motivation to believe that the system is just can

TABLE 5 | Hierarchical regression results for belief in non-political real news.

Variable	*B*	*SE* B	β	*t*	R^2	$R^2_{adjusted}$	ΔR^2	AIC	df
Model 1					0.113	0.107	0.113***	843.7849	274
Constant	4.951	0.234		21.123					
Age	−0.024***	0.004	−0.333	−5.824					
Gender	0.216*	0.129	0.096	1.671					
Model 2					0.126	0.110	0.013	845.7849	271
Constant	4.687***	0.456		10.276					
Age	−0.025***	0.004	−0.349	−5.888					
Gender	0.181	0.136	0.080	1.329					
Objective political knowledge	−0.048	0.040	−0.079	−1.203					
Scientific literacy	0.023	0.065	0.021	0.348					
Political interest	0.140	0.074	0.122	1.882					
Model 3					0.131	0.011	0.005	846.1861	270
Constant	4.836***	0.471		10.268					
Age	−0.260***	0.004	−0.350	−5.915					
Gender	0.186	0.136	0.082	0.174					
Objective political knowledge	−0.051	0.040	−0.084	−1.288					
Scientific literacy	0.024	0.070	0.022	0.369					
Political interest	0.133	0.074	0.170	1.798					
Satisfaction with government	−0.034	0.027	−0.071	−1.250					
Variable	***B***	***SE* B**	**β**	***t***	R^2	$R^2_{adjusted}$	ΔR^2	**AIC**	**df**
Model 4					0.143	0.116	0.012	831.2888	262
Constant	4.228***	0.604		7.001					
Age	−0.025***	0.004	−0.336	−5.510					
Gender	0.192	0.147	0.083	1.308					
Objective political knowledge	−0.039	0.041	−0.064	−0.947					
Scientific literacy	0.008	0.067	0.007	0.115					
Political interest	0.109	0.078	0.095	1.402					
Political orientation	−0.047	0.029	−0.099	−1.589					
SDO	0.064	0.062	0.067	1.024					
Openness	0.150	0.121	0.075	1.233					

AIC = Akaike information criterion.
$^*p < 0.05$; $^{***}p < 0.001$.

lead to the perceived legitimacy of authorities and institutions (Jost and Hunyady, 2005).

Belief in conspiracies, suggested to stem from epistemic, existential, and social motives (Douglas et al., 2017), has been argued to be a generalized political attitude (e.g., Bruder et al., 2013) as well as a group-based phenomenon (e.g., Jasinskaja-Lahti and Jetten, 2019). Conspiracy theories have also been associated with motivated reasoning, especially in terms of partisanship and political ideology (e.g., Uscinski and Parent, 2014; Douglas et al., 2019). In this view, people not only filter information and events through their political identities, but also assess the role of conspiracies through a political lens (Brotherton et al., 2013).

It seems that the conspiracy mentality, could, across various context, reflect some deeper predisposition to believe in fake news that is independent of specific political views or other political attitudes. Our results appear to be highly consistent with such a view, as we have found no other attitudes or traits (RWA, SDO, SJB, openness and need for cognitive closure) that would have consistently been associated with fake news belief. It is possible that belief in conspiracies and belief in disinformation work in similar ways and can satisfy epistemic motivations to build a stable and consistent understanding of the world. The Hungarian government's populist communication has largely been focusing on the construction of powerful common enemies (Hegedüs, 2019), who—as in conspiratorial narratives—are secretly plotting against the nation and its values. As such, supporters of the government can be affected by these narratives. Meanwhile, on the anti-government side, a conspiracy mentality could, in the absence of sociopolitical control, be more related to existential motivations (e.g., to help feel more secure in the face of oppression). Thus, such a society could provide a fertile ground for a conspiracy mentality and susceptibility to fake news. What epistemic, existential, and social motives are actually served by conspiracy theories putting forth different types of narratives in a context such as Hungary should be an interesting question for future research.

TABLE 6 | Hierarchical regression results for belief in non-political fake news.

Variable	*B*	*SE* B	β	*t*	R^2	$R^2_{adjusted}$	ΔR^2	AIC	df
Model 1					0.029	0.022	0.029*	900.7383	275
Constant	2.769***	0.258		10.730					
Age	0.012***	0.005	0.159	2.666					
Gender	−0.195	0.142	−0.082	−1.374					
Model 2					0.091	0.074	0.062***	888.3839	272
Constant	4.193***	0.490		8.562					
Age	0.017***	0.004	0.215	3.563					
Gender	−0.020	0.146	−0.008	−0.137					
Objective political knowledge	−0.107*	0.043	−0.167	−2.517					
Scientific literacy	−0.120	0.070	−0.106	−1.708					
Political interest	−0.105	0.079	−0.087	−1.325					
Model 3					0.121	0.101	0.059**	881.1735	271
Constant	3.813	0.499		7.647					
Age	0.017***	0.005	0.218	3.671					
Gender	−0.029	0.144	−0.012	−0.205					
Objective political knowledge	−0.098*	0.042	−0.152	−2.321					
Scientific literacy	−0.123	0.069	−0.109	−1.784					
Political interest	−0.091	0.078	−0.075	−1.164					
Satisfaction with government	0.087**	0.029	0.173	3.021					
Variable	***B***	***SE* B**	**β**	***t***	R^2	$R^2_{adjusted}$	ΔR^2	**AIC**	**df**
Model 4					0.194	0.163	0.073***	848.2895	262
Constant	1.542*	0.680		2.267					
Age	0.012**	0.005	0.160	2.666					
Gender	−0.120	0.147	−0.050	−0.806					
Objective political knowledge	−0.029	0.043	−0.045	−0.669					
Scientific literacy	−0.080	0.070	−0.071	−1.063					
Political interest	−0.081	0.070	−0.068	−1.063					
Political orientation	0.001	0.047	0.001	0.007					
RWA	0.041	0.093	0.039	0.443					
System justification	0.102	0.076	0.139	1.351					
Need for closure	0.204*	0.096	0.133	3.421					
CMQ	0.214***	0.062	0.206	3.421					

AIC = Akaike information criterion.
**p < 0.05; **p < 0.01; ***p < 0.001.*

Furthermore, competencies such as political and scientific knowledge did not protect against gullibility, highlighting the importance of psychological predispositions and orientations over knowledge. Interestingly, however, those who claimed to be more interested in politics, were more accurate in discerning real from fake news when the news were political (i.e., anti- or pro-government) despite not knowing more about politics than those who were less interested. This pattern is difficult to interpret, and our results have to be more generally interpreted as suggesting that interventions focusing on knowledge may not be effective in countering disinformation. On the other hand psychological predispositions, such as conspiracy mentality, are rather constant, suggesting they are also a poor target for interventions. It might be that those motivated to believe in conspiracies will continue doing so and targeting the individual in the fight against disinformation may not be very fruitful. Instead, the focus could be targeted on increasing the interest of people toward politics and social issues, which could counteract the stable negative role of conspiracy mentality.

Limitations and Future Directions

Perhaps the most obvious limitation of our research is our reliance on a convenience sample—participants were volunteers recruited through social media, and the sample was not representative of the population of Hungary. However, our focus was on fake news, and these tend to be disseminated through social media, which means that we are likely to have reached exactly those Hungarians who also tend to encounter fake news. Regarding self-selection, one could argue that participants to survey research are always volunteers, and there is no reason to think that our participants are particularly self-selected. For instance, as compared to the nationally representative 2018 European Social Survey (ESS), our sample was similarly unsatisfied with the government [our sample's average was $M = 3.80$ ($SD = 2.55$), the ESS average was $M = 3.52$, SD = 2.55].

TABLE 7 | Hierarchical regression results for belief pro-government fake news.

Variable	*B*	*SE* B	β	*t*	R^2	$R^2_{adjusted}$	ΔR^2	AIC	df
Model 1					0.011	0.005	0.011	956.172	274
Constant	3.518***	0.287		12.253					
Age	−0.007	0.005	−0.081	−1.352					
Gender	−0.167	0.158	−0.064	−1.054					
Model 2					0.112	0.101	0.101***	932.3040	271
Constant	5.198***	0.553		9.750					
Age	−0.001	0.005	−0.001	−0.070					
Gender	0.050	0.160	0.019	0.312					
Objective political knowledge	−0.162***	0.046	−0.229	−3.475					
Scientific literacy	−0.88	0.076	−0.071	−1.155					
Political interest	−0.182**	0.087	−0.137	−2.102					
Model 3					0.361	0.347	0.249***	843.5304	270
Constant	3.986***	0.469		8.505					
Age	0.001	0.004	0.004	0.093					
Gender	0.013	0.136	0.005	0.097					
Objective political knowledge	−0.133***	0.040	−0.189	−3.367					
Scientific literacy	−0.098	0.065	−0.080	−1.523					
Political interest	−0.133*	0.074	−0.010	−1.179					
Satisfaction with government	0.276***	0.027	0.502	10.232					
Variable	***B***	***SE* B**	**β**	***t***	R^2	$R^2_{adjusted}$	ΔR^2	**AIC**	**df**
Model 4					0.415	0.390	0.054***	815.2916	259
Constant	2.367***	0.647		3.657					
Age	−0.001	0.004	−0.010	−0.197					
Gender	−0.111	0.143	−0.042	−0.780					
Objective political knowledge	−0.076*	0.042	−0.106	−1.840					
Scientific literacy	−0.064	0.068	−0.051	−0.944					
Political interest	−0.121	0.074	−0.090	−1.637					
Political orientation	0.155***	0.046	0.281	3.394					
RWA	0.079	0.093	0.067	0.400					
System justification	0.166**	0.073	0.203	2.278					
Conspiracy mentality	0.186***	0.060	0.162	3.119					
Need for closure	0.002	0.091	0.001	0.022					
Social dominance orientation	0.038	0.065	0.034	0.582					

AIC = Akaike information criterion.
$^*p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.

Regarding the participants, the failure rate was rather high which might be due to the poor level of attention that participants exhibit during on online questionnaire which is not being administered in controlled circumstances.

To measure conspiracy mentality, we relied on the Conspiracy Mentality Questionnaire, an instrument developed to measure generic conspiracy ideation (Bruder et al., 2013). Although the instrument has been validated across cultures, some of the items may be more open to interpretation in an authoritarian context, for instance "*politicians may not always tell the true motives for their decisions.*" Such statements could appear especially plausible among those opposing the current government, adding variance that may reflect subjectively perceived democracy and/or discontent with the current power relations more than conspiracy mentality *per se*.

It is worth mentioning is that all news items were presented without a source. This allowed us to exclude the potential effects of the source on participants. However, the source of the news could be an important factor affecting how people process and judge news. Future work should investigate the role of source in the processing of news, both fake and real. Furthermore, even though the news selection followed certain criteria, it might still have been subjective to a certain degree. The Cronbach's α for the news scale was on the lower end, which can be because they only contained only three items per scale. However, this may not be a serious limitation, as Cronbach's α has been convincingly shown to have several issues as a measure of reliability (McCrae et al., 2011; McNeish, 2018). We also included the Spearman-Brown index, suggested to be preferable for very short scales (McCrae et al., 2011), as an alternative

TABLE 8 | Hierarchical regression results for belief in pro-government real news.

Variable	*B*	*SE* B	β	*t*	R^2	$R^2_{adjusted}$	ΔR^2	AIC	df
Model 1					0.018	0.011	0.018*	927.9624	274
Constant	3.488***	0.272		12.781					
Age	0.001	0.005	0.016	0.274					
Gender	0.329**	0.150	0.132	2.187					
Model 2					0.024	0.006	0.006	932.4005	271
Constant	3.722***	0.533		6.980					
Age	0.001	0.005	0.011	0.177					
Gender	0.350**	0.159	0.140	2.197					
Objective political knowledge	−0.028	0.046	−0.042	−0.612					
Scientific literacy	−0.053	0.076	−0.045	−0.695					
Political interest	0.079	0.087	0.062	0.906					
Model 3					0.325	0.310	0.301***	832.1877	270
Constant	2.448***	0.460		5.331					
Age	0.002	0.004	0.020	0.400					
Gender	0.312**	0.133	0.125	2.347					
Objective political knowledge	0.001	0.389	0.002	0.028					
Scientific literacy	−0.064	0.064	−0.054	−1.011					
Political interest	0.131*	0.072	0.104	1.809					
Satisfaction with government	0.290***	0.026	0.554	1.809					
Variable	***B***	***SE* B**	**β**	***t***	R^2	$R^2_{adjusted}$	ΔR^2	**AIC**	**df**
Model 4					0.351	0.327	0.026*	816.2556	260
ß	2.121***	0.618		3.433					
Age	0.001	0.004	0.008	0.139					
Gender	0.220*	0.143	0.086	1.533					
Objective political knowledge	0.029	0.041	0.042	0.072					
Scientific literacy	−0.066	0.068	−0.055	−0.965					
Political interest	0.164**	0.074	0.129	2.218					
Political orientation	0.187***	0.046	0.355	4.085					
RWA	0.020	0.093	0.018	0.217					
System justification	0.181**	0.072	0.233	2.501					
Need for closure	−0.037	0.090	−0.024	−0.430					
Social dominance orientation	0.040	0.065	0.038	0.630					

AIC = Akaike information criterion.
**p < 0.05; **p < 0.01; ***p < 0.001.*

measure of reliability. Regarding the news stories, as already alluded to above, future research could explore what makes fake news different from real news in the eyes of people, in terms of complexity, elicited emotions or interest. Such studies could more effectively capture the persuasion mechanisms that fake news utilize.

CONCLUSION

In conclusion, our study highlighted the importance of conspiracy mentality in judgments of political and non-political fake news belief. Other psychological predispositions (SDO, RWA, SJB, openness, need for closure) were not associated with fake news belief. Moreover, competencies such as political and scientific knowledge and political interest did not guard against gullibility toward fake news.

Future research should focus on the relationship between psychological predispositions and the wider socio-political context. In order to understand why people believe and share false information, we need to know more about how the individual interacts with their online and wider environment in which they consume (false) information. This way, we can think of both macro and micro level interventions and policies that can hinder the spread of false information.

Our results also draw attention to the need for studying existing concepts and phenomena in other than Western contexts. Most studies on this topic have been done in a Western context, with theories developed in a similar milieu. By studying extreme contexts, such as Hungary, in which the proliferation of disinformation is high and the media landscape is almost completely controlled by a state that actively pushes disinformation, we can gain valuable insight into the characteristics of individuals who are most resistant to

disinformation, even in such extreme contexts, and potentially improve people's ability to recognize false information online.

DATA AVAILABILITY STATEMENT

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found below: https://osf.io/zqdm7/.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Eötvös Loránd University Ethical Committee. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

ZS contributed to all aspects of work in this article, produced the initial drafts, and conducted the main statistical analysis. J-EL contributed to the conceptualizing and developing the study. J-EL and IJ-L have made substantial contributions to the theoretical introduction and the discussion, as well as to the analytical choices and to revising the article critically. All authors contributed to the article and approved the submitted version.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2021.790848/full#supplementary-material

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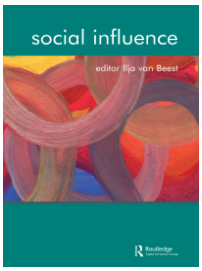

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The price of (dis)trust – profiling believers of (dis)information in the Hungarian context

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ABSTRACT

Taking a person-centered approach – we explored different constellations of social-psychological characteristics associated with (dis)information belief in order to identify distinct subgroups whose (dis)information belief stems from different social or political motives. Hungarian participants ($N = 296$) judged the accuracy of fake and real news items with a political (pro/anti-government) and nonpolitical narrative. Two profiles of 'fake news believers' and two of 'fake news non-believers' emerged, with a high conspiracy mentality being the main marker of the former two. These two 'fake news believers' profiles were distinguishable: one exhibited extreme trust in the media and in politicians, and the other deep distrust. Our results suggest that not only political distrust, but also excessive trust can be associated with disinformation belief in less democratic social contexts.

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Introduction

Disinformation, fabricated knowledge content for profit or political purposes (Wardle, 2017), is a pressing issue in today's polarized societies and evolving media environments. Among the most obvious recent examples of the real-life consequences of disinformation was the rise of the anti-vax movement in response to the COVID-19 pandemic (Mahmud et al., 2021). It is also open to weaponization in hybrid wars to initiate, maintain or fuel political and military conflicts such as between Russia and Ukraine (Mejias & Vokuev, 2017). On a more general level, disinformation threatens democratic processes (Colomnia et al., 2021). To combat it, therefore, might be helpful to know more about the characteristics and societal contexts that encourage people to believe disinformation.

Disinformation beliefs have been linked to deficiencies in analytical (e.g., Palonen, 2018; Pennycook & Rand, 2017), confirmation bias (Oswald & Grosjean, 2004) and motivated reasoning (Kahan, 2012, p. 201) – the last of which suggests that disinformation is being interpreted in light of existing views and attitudes (Szebeni et al., 2021). Factors like news consumption habits (Calvillo

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et al., 2021), personality traits (e.g., Barman & Conlan, 2021), and other social-psychological characteristics such as conspiracy mentality (Halpern et al., 2019) and interpersonal trust (Sindermann et al., 2020), influence susceptibility to disinformation.

The standard methodology applied in research on disinformation thus far has been the variable-centered approach, in other words exploring associations between predictor variables and receptivity to disinformation. While calculations in the variable-centered approach are based on each participant's individual replies, they aim at exploring the associations at the group level that describe the dynamics of an average participant, and so are unable to describe the variety of individual response patterns. The variable-centered approach, thus, fails to address the potential existence of distinct subgroups or communities within the population, with members whose belief of disinformation originates in varying experiences or capacities and may serve different social or political motives. In the variable-centered approach, the entire sample is characterized collectively, and usually only one set of averaged parameters are generated (Howard & Hoffman, 2018). The person-centered approach we adopt in this paper, on the other hand, focuses on the individual, not the variable, as the unit of analysis, and identifies subgroups of people who share a set of characteristics that differentiate them from other sub-populations, and as such presents an alternative perspective on the interaction of multiple motivations in people.

Person-centered approaches have proven to be useful in many areas of social psychology; e.g., in research on prejudice and stigmatized minority groups (e.g., Agadullina et al., 2018; Dangubić et al., 2021) and in research on integration profiles among immigrants (Renvik et al., 2020). Most pertinent to the present research, Frenken and Imhoff (2021) used such an approach to identify specific response patterns in claims regarding conspiracy theories, which have been missed in previous research conducted with a variable-centered methodology. Meeusen et al. (2018) called attention to the blindness of variable-centered generalized measures of prejudice to its variability across different social groups. We argue that the person-centered approach allows scrutiny of whether political and nonpolitical (dis)information appeals to different people for different reasons.

We conducted our study in Hungary, an Eastern-European, post-communist country. The political climate in Hungary is highly polarized, with both the government and the opposition spreading disinformation in a constrained media environment. While in the past decades populist (radical) right-wing parties became prominent in Western European countries (see e.g., Bjånesøy & Ivarsflaten, 2016), Hungary – while being an EU country – developed into a prime example of the maintenance of an (authoritarian) populist regime (Ádám, 2019) and exemplifies democratic decline. This sociopolitical context is ideal for the person-centered method, as we expect more heterogeneity in the population, in regard to their disinformation-beliefs, conspiracy mentality, and trust in public bodies.

In this study, therefore, we explore the extent to which trust in the media and in politicians, satisfaction with the government, conspiracy mentality, media-consumption behaviors, and educational level can be used to identify groups of people who differ in how accurately they are able to identify (dis)information in the Hungarian sociopolitical context.

The correlates of disinformation belief

Previous research on disinformation, mainly using a variable-centered approach, identified several correlates relevant to our study. Conspiracy mentality is plausibly associated with disinformation-belief (e.g., Frischlich et al., 2021), implying the acceptance of conspiracy beliefs, frequently defined as explanatory beliefs involving multiple, powerful actors who secretly pursue a hidden goal that is widely considered illegal or malicious (Zonis & Joseph, 1994). Even though disinformation may contain conspiratorial narratives, conspiracy theories differ from mere disinformation in that they are resistant to falsification, complex, and speculative (Douglas et al., 2019). On the one hand, conspiratorial thinking is a relatively stable personality trait describing individual differences in the extent to which people believe in conspiracies or conspiracy theories (e.g., Frenken & Imhoff, 2021; Imhoff & Bruder, 2014). On the other hand, it is also connected to processes of social cognition, prejudice against outgroups (Imhoff & Bruder, 2014).

Conspiratorial thinking has been connected to a lack of trust in official institutions such as traditional or legacy media (van der Linden et al., 2021). It has been suggested that mainstream media may play an important role in how citizens perceive societal problems, and that distrust in mainstream sources may encourage people to turn more to alternative media, and to be more inclined to believe the (dis)information that is shared there (Swire et al., 2017). Social media are among the main sources and amplifiers of disinformation (e.g., Singer, 2014). According to a study conducted by Calvillo et al. (2021), participants who spent more hours consuming political news were worse at distinguishing between fake and real information. In the US, Xiao et al. (2021) have shown that social media news use was associated with higher conspiracy beliefs related to the COVID-19 pandemic, and trust in social media news further strengthened the relationship between social media news use and conspiracy beliefs.

Be it mainstream media or social media, a lack of variety in terms of consumption may be associated with encapsulation into a 'filter bubble' (Sindermann et al., 2020). This is particularly likely in heavily constricted media environments, in which those in governmental power create 'echo chambers' by echoing the same narratives from different government-influenced channels. Encountering disinformation or biased reporting may reduce trust in political institutions – foreign actors might even purposefully employ false information to destabilize democratic institutions (Wardle, 2017). Moreover, distrust in political institutions could foster interest in other, sometimes less reliable sources of information. Nevertheless, although distrust in politicians and political institutions may cause harm, excessive trust – in politicians or media – may not be ideal, either. Xiao et al. (2021) talk about the danger of a 'blind trust' in media that stimulates the spread of disinformation and puts obstacles to combatting its impacts. Some degree of distrust in political institutions and media contents may, thus, facilitate the discerning of fake news from real news in environments with less democratic forms of government.

Research on ideological leaning and disinformation acceptance is inconclusive. Some studies have shown that conservatives may be more likely to believe (e.g., Allcott & Gentzkow, 2017) and share disinformation (Tucker et al., 2018), Osmundsen et al. (2021). However, others have suggested that extreme partisans, regardless of the direction of their political leaning, share the most fake news. This supports the motivated reasoning account (Kahan, 2012; Kunda, 1990), according to

which people at both ends of the political spectrum will more easily accept information that is in line with their beliefs (e.g., Pasek et al., 2015), regardless of its accuracy (Faragó et al., 2019). In other words, believing disinformation is related to confirmation bias: people believe information that aligns with their previous knowledge or ideological stance. Another possibility is that it is not ideological leaning *per se* that matters, but the stance toward the prevailing political reality and governance reflected in support of or opposition to the current government. This may apply particularly in Europe, where the economic left-right divide is complemented with a social-cultural divide that spans from the green/libertarian/alternative to nationalism/authority/traditionalism (Hooghe & Marks, 2018).

Finally, it is implied in most studies that higher levels of education, literacy and analytic thinking may act as a buffer against disinformation. It was found recently that a higher educational level and trust in information from the government were associated with lower beliefs in COVID-19 disinformation (Melki et al., 2021). Similarly, lower levels of health literacy (Scherer et al., 2021) and education (Kim & Kim, 2020) have been connected to higher susceptibility to health disinformation. However in the US context it was found that educational level was not associated with believing false headlines (Calvillo et al., 2021), and that politically knowledgeable individuals – admittedly not necessarily related to educational level – still consumed fake news (Guess et al., 2018). However Pennycook and Rand (2018) found that susceptibility to fake news is mainly driven by the lack of analytic thinking. It thus seems that the positive association between higher education and a lower propensity to believe disinformation is dependent on both the political context and the content of the news. In sum, it seems from the above reviews, with their mixed and conflicting explanations and results in terms of believing disinformation, that a person-centered approach could help to shed more light on this phenomenon.

The Hungarian context

Humprecht, Esser, and Van Aelst (2020) recognized macro-level factors that may make countries more resilient to disinformation, such as low polarization in society, low levels of populist communication, high trust in news media, strong public-service media, less fragmented, overlapping audiences, smaller ad markets and less use of social media. Although Hungary was not involved in their study, several of the factors listed are important when looking at the Hungarian society and its proneness for disinformation belief.

The Viktor Orbán-led Fidesz party has been in power in Hungary since 2010, and with a supermajority in parliament has transformed the media landscape. The government influences or controls both the public- and part of the private-sector media. Whereas in other democratic countries public-service media is considered an effective tool in the fight against disinformation (e.g., Horowitz et al., 2021), the opposite is true in Hungary, in which it has become a government-controlled source of disinformation (e.g., Polyák, 2019); moreover, the same false narratives are to be found in public, private, and social media (Szicherle & Krekó, 2021). Although in theory the public has access to foreign media – in 2021, 91% of Hungarian households had internet access (Eurostat, 2021) – large parts of the population are completely reliant on Hungarian news sources. One reason for this is the language barrier; in 2016, only 41% of the population (aged 25–64) spoke a foreign language (Eurostat, 2016).

False narratives and conspiracies are also spread directly by the government, including prime minister Viktor Orbán. Since 2017, for instance, Fidesz has relied on anti-Soros conspiracy theories that utilize anti-Semitic tropes in which the Hungarian-American financer, George Soros is portrayed as a puppet master, attempting to undermine the Hungarian government, to finance immigrants, and to fund democratic actors in and outside of the country (Plenta, 2020). Plenta (2020) concluded in his analysis of anti-Soros narratives in Hungary and Slovakia, that anti-Soros conspiracies were widely believed in Hungary – unlike in Slovakia – because the narratives were spread not only by Orbán and his government, but also by the government-affiliated mass media. More generally, it is not only political disinformation that has run amok in Hungary: science and technology conspiracy theories have earned more traction in the country than is common in Europe (Special Eurobarometer 516, 2021).

Orbán's populist logic – the distinction between 'enemies' and 'the people' – has generated antagonism and has polarized the country (Palonen, 2018). While government communication often features external 'enemies' from which the government protects 'the people', Orbán is able to renew hegemony – and stay in power – through showing statesmanship, as well as the features of an ordinary man (Szebeni & Salojärvi, 2022). The main cleavage in Hungarian politics currently runs between the Fidesz-led government and the opposition – consisting of various parties across the political spectrum. As such, the political arena resembles a two-party structure, which in turn provides fertile ground for further polarization (Humprecht et al., 2020), and the increased dissemination and production of online disinformation.

Indeed, it is not only the Fidesz-led government, but also the opposition, and the opposition-affiliated media, that engage in the spreading of false information. For instance, the candidate of the united opposition in the 2022 parliamentary elections – Péter Márky-Zay – has claimed that Orbán regularly sought help for a psychiatric condition at a private clinic in Graz – a common but unfounded (Diószegi-Horváth, 2022) disinformation narrative in Hungary. The term 'fake news' is used by both sides as a discursive signifier, to delegitimize the other side and to define what is 'truth' (the situation is closely analogous to the US context; see Farkas & Schou, 2018). The opposition connects 'fake news' fabrication to the government-friendly media, ultimately linking government supporters with irrationality and thereby delegitimizing them (such as accusing the public media of spreading fake news about the war in Ukraine; Szurovecz, 2022). Meanwhile the Orbán-led government uses the term 'fake news' in a similar manner as former US president Donald Trump used it, to delegitimize and attack mainstream, independent media. Such a strategy could be used to dismantle critical journalism on the discourse level. A concrete example of this is when Orbán refuses to take questions from independent journalists, claiming that they represent 'fake news factories' (Index.hu, 2018). Spreading false information and weaponizing fake news is part of the arsenal of both sides.

The present study

Although there has been a surge of academic interest in what predicts the believing of disinformation, the research so far has been conducted almost exclusively within the variable-centered framework. By way of contrast, we take a person-centered approach to differentiate between people who either believe or contest

disinformation. When investigating research questions aimed at (a) classifying people into common subpopulations based on variables, (b) comprehending the relations of these subpopulations with correlates or predictors, the person-centered approach is particularly useful as it identifies the dynamics of sub-populations in the sample (Howard & Hoffman, 2018). As such instead of asking the question 'How trust in media/politicians, satisfaction with the government, conspiracy mentality, media consumption, and formal education are associated with disinformation belief', in this study, we ask: '*Are there distinct profiles based on trust in media/politicians, satisfaction with the government, conspiracy mentality, media consumption, and if so, how do people belonging to these different profiles also differ in their disinformation belief?*'

In addition, we focus on both political and nonpolitical disinformation to explore how specifically the believing of fake news is connected to the content of (disinformation), i.e, the extent to which the news in question is politically partisan. Some recent findings indicate that the content of the news, even if politically charged, does matter. Erlich and Garner (2021) conducted a study among Ukrainians targeted by Russian disinformation campaigns in 2019: although, on average, the respondents distinguished between true and fake stories, the content of the disinformation mattered: if it concerned the economy it was more likely to be believed than if it was about politics, historical happenings, or the military. Moreover, as could be expected based on the notion of motivated reasoning, they found that Ukrainians with partisan and ethnolinguistic ties to Russia were more likely to believe pro-Kremlin disinformation across topics. We will expand on the idea that content matters by including disinformation devoid of political meaning.

Moreover, as seen from the literature review above, most previous research on disinformation has either been conducted in Western contexts – mainly in the United States – or has explored Russian disinformation campaigns from a Western perspective. As such, it would be important to examine other countries, where disinformation is prevalent, like in Hungary. Hungary is also an example for not only democratic decline, but for the maintenance of an authoritarian populist regime, and from previous studies we know that populist communication can make societies more prone for disinformation belief (e.g., Humprecht et al., 2020). Viktor Orbán and the 'Hungarian model' – including the political and media sphere – is also receiving increasing international attention, for example Orbán held the opening speech at CPAC 2022 (Conservative Political Action Conference) in the U.S.A. Hungary can be especially ideal for the person-centered approach, as the relation between trust toward institutions, conspiracy mentality and fake news belief may not be as straightforward as it is in most Western contexts. As in Hungary the government actively spreads disinformation, we expect, that there may be more heterogeneity in the society regarding disinformation-belief, media use, and trust components, as such it is important to take an approach with which we can identify these different subpopulations. This may also assist in better tailoring interventions to combat disinformation in Hungary and other similar contexts.

We explored how trust in the media, trust in politicians, satisfaction with the government, conspiracy mentality, media-consumption behaviors, and educational level characterize and helpful in identifying groups of people who differ in their capacity to distinguish between fake and real news. We asked participants to evaluate pro-government, anti-government, and nonpolitical news in terms of their truthfulness.

Method

Participants and procedure

The data was collected in Hungary between 8 April and 20 May 2019 and is publicly available (see Data availability section). Our participants were recruited through social media. Psychology Master's students from Eötvös Loránd University (Budapest, Hungary) shared the link to the questionnaire on their pages with the goal to recruit as many participants as possible in the given timeframe. The data collection ended one week before the 2019 European Parliamentary elections. The participants gave their informed consent, were not monetarily or otherwise compensated, and could withdraw at any time. The research was approved by the Ethical Committee of Eötvös Loránd University, Budapest, Hungary.

Participants who did not complete at least 99% of the questionnaire were excluded. The final sample included 296 participants, with a mean age of 36.41 years ($SD = 15.86$). In terms of gender, 169 (58.7%) identified themselves as female, 115 (39.9%) as male, four as other (1.4%), and eight (2.7%) gave no indication. As regards the educational level, 43.9% of the participants had at least a bachelor's degree (15.5% of participants had lower education than high school, 38.9% of participants had a high school diploma, and 42.5% had some form of degree in higher education). In terms of socioeconomic status, 33.2% of the participants reported living comfortably, 48% told coping on their current income, 12.5% were finding it difficult, and 3.4% found it very difficult to live on their present income.

Measures

Beliefs about the news

Participants were asked to rate the accuracy of various news headlines taken from Hungarian news websites in the months prior to the data collection. Participant responses to the question: 'To what extent do you think this news is true?' were rated on a Likert-type scale ranging from one to seven: (1= *I am very sure this news is not true*, 4= *the news is as likely to be true as it is likely to be false* and 7= *I am very sure that this news is true*). This response scale draws on prior research on accuracy and believability (e.g., Clayton et al., 2020; Faragó et al., 2019; Pennycook & Rand, 2018). A total of 18 news items were presented (fake: 3 pro-government, 3 anti-government, 3 nonpolitical; real: 3 pro-government, 3 anti-government, 3 nonpolitical) in randomized order. All the items were in the format in which they would have been encountered on Facebook, and included the headline, a picture and a byline, but no source. The news items are included among the Supplementary Materials.

In selecting the news items we followed best practices in the literature (e.g., Calvillo et al., 2021; Pennycook & Rand, 2018; Scherer et al., 2021): political news had to have a pro- or anti-government narrative, whereas nonpolitical news had to be strictly nonpolitical. All the items had to make a claim that could be fact-checked, and all coauthors conducted fact-checking individually that included source and context analysis. Some of the fake news items have also been either refuted previously or have been challenged at court. Our index of belief related to a particular type of news was computed as the average level of belief across the three news items in that category.

Cronbach's α and McDonald's omega were both computed for all types of news scales, the omega values shown in brackets. The reliability coefficients for believing anti-government fake news were .65 (.65); anti-government real news .41 (.44); nonpolitical fake news .37 (.41); nonpolitical real news .45 (.47); pro-government fake news .71 (.71); and pro-government real news .34 (.42). The reliability coefficients for fake news in general was .66 (.59), and for all real news .47 (.47).

Satisfaction with government

The participants indicated their satisfaction with the government by responding to two questions: 'Thinking about the Hungarian government, how satisfied are you with the way it is doing its job?' (on a scale ranging from 0–10, 0= *extremely dissatisfied*, 10= *extremely satisfied*); 'On the whole, how satisfied are you with the way democracy works in Hungary?' (on a scale ranging from 0–10, 0= *extremely dissatisfied*, 10= *extremely satisfied*). The questions were taken from the European Social Survey. The average score for these two items constituted our measure of general satisfaction with the government. The Cronbach's α was .92, the Spearman-Brown coefficient .92. This measure served as our indicator of political orientation – at the time we took the measurements, a more typical conservative/liberal or left/right divide would not have made sense as the all-encompassing cleavage in Hungary's political arena ran between government and opposition.

Trust in politicians and in the media

The participants indicated their trust in politicians and in the media on a scale ranging from 0 to 10, where 0 indicated *no trust* and 10 *complete trust*. The questions and scales were similar to those in the European Social Survey. The average score was 3.04 (*SD* = 2.04) for trust in politicians, and 3.57 (*SD* = 1.83) for trust in the media.

Conspiracy mentality

We asked the participants to complete the Hungarian version (translated by Orosz et al., 2016) of the five-item Conspiracy Mentality Questionnaire (Bruder et al., 2013). They rated their agreement with statements such as 'I think that politicians usually do not reveal the true motives for their decisions.' on a scale ranging from one to seven (1= *not true at all*, 7= *completely true*). The average score for these five items was calculated as a score for conspiracy mentality. Cronbach's α was .79, and the average score was 4.5 (*SD* = 1.19).

Time spent on media consumption

We also asked the participants to indicate how much time, on average and in minutes, they spent on media consumption daily. This item served as a measure for all types of media content, without further specification.

Education

We measured the participants' formal educational level on a scale ranging from 1 to 10, on which 1 = *completed primary education*, 5 = *an advanced accredited vocational qualification* and 10 = *higher education with an academic degree*; the participants revealed their

highest educational degree. The categories were based on ESS templates. From the 10 educational level, we created three categories: 1 = a lower education than high school, 2 = a high school diploma, and 3 = some form of degree in higher education.

Sociodemographic variables

The participants were also asked to indicate their age (in years), gender (male, female, other) and socioeconomic status. The measure of socioeconomic status required them to indicate: 'Which of the descriptions below comes closest to how you feel about your household's income nowadays? By household we mean all the people with whom you live and share the costs of living.' The scale ranged from one to four (1= *Living comfortably on my present income*, 4 = Finding it very difficult on my present income). The question and scale were similar to the one in the European Social Survey.

Results

Descriptive statistics

To detect outliers and unusual response patterns in the data, we inspected responses for straight-lining or alternating patterns and used boxplots to visualize response distributions. We also examined response times, flagging those significantly below average as potential indicators of random responding. In all cases, we found no evidence of outliers or unusual patterns. The absence of unusually quick response times suggests that participants likely did not fact-check the news items presented. Table 1 presents the descriptive statistics of the sample, as well as the means, standard deviations and Cronbach-α values for all scales. The participants showed average levels of trust in politicians ($M = 3.04$, $SD = 2.04$) and in the media ($M = 3.57$, $SD = 1.83$). They were generally also relatively satisfied with the government ($M = 3.51$, $SD = 2.55$). A conspiracy mentality among the sample was somewhat above the midpoint of the scale ($M = 4.5$, $SD = 1.19$). The average daily time spent consuming media was about one hour ($M = 57.51$, $SD = 65.53$ minutes). Among the whole sample, trust in different news types ranged from medium ($M = 2.98$, $SD = 1.24$) for nonpolitical fake news, to moderate ($M = 4.16$, $SD = 1.25$) for anti-government real news. Table 2 gives the Pearson correlations between all variables, with and without controlling for age and gender.

Clustering and profiles

We conducted a two-step cluster analysis based on the following standardized variables: education, conspiracy mentality, trust in politicians, trust in and time spent on media, and satisfaction with government. We decided to use a two-step process cluster analysis: it has been used before in identity-related studies (Meca et al., 2015; Schwartz et al., 2011) and has the capacity to create groups using categorical and continuous variables while also being one of the most reliable type of analysis in terms of the number of subgroups detected (e.g., Kent et al., 2014). Two-step cluster analysis is a hybrid method that employs a distance metric to first distinguish groups and a probabilistic method (similar to latent class analysis) to select the best subgroup model (Gelbard et al., 2007). We used log likelihood distance as a measure during the cluster analysis.

Table 1. Descriptive statistics.

Variable	Mean(SD)/n(%)	α
Age	36.41 (15.86)	
Gender		
Male	115 (39.9%)	
Female	169 (58.7%)	
Other	4 (1.4%)	
Missing	8 (2.7%)	
SES		
Living comfortably …	94 (33.2%)	
Coping …	142 (48%)	
Finding it difficult …	37 (12.5%)	
Finding it very difficult on present income	10 (3.4%)	
Trust in politicians (1–11)	3.04 (2.04)	
Education (1–10)	5.48 (2.27)	
CMQ (1–7)	4.5 (1.19)	.79
Media consumption time daily (minutes)	57.51 (65.53)	
Satisfaction with government (1–7)	3.51 (2.55)	0.92
Trust in media (1–11)	3.57 (1.83)	
Belief in fake news (all types) (1–7)	3.14 (0.91)	.66
Belief in real news (all types) (1–7)	4.18 (0.79)	.47
Belief in anti-government fake news (1–7)	3.4 (1.43)	.65
Belief in pro-government fake news (1–7)	3.05 (1.38)	.71
Belief in nonpolitical fake news (1–7)	2.98 (1.24)	.37
Belief in anti-government real news (1–7)	4.16 (1.25)	.41
Belief in nonpolitical real news (1–7)	4.37 (1.16)	.45
Belief in pro-government real news (1–7)	4.01 (1.31)	.34

In order to find the final cluster solution we followed the best practice outlined by (Weller et al., 2020); that is: (1) we used multiple fit statistics; (2) we used BIC (Bayesian Information Criterion), as it is often identified as the most reliable indicator of model fit; and (3) we finally considered theoretical interpretability.

We present the model fit indices (BIC and AIC – Akaike Information Criterion) in Table 3, where lower BIC and AIC indicate a better fit. We further report entropy in Table 4 in respect to the news belief scales. Entropy is a diagnostic statistic, which indicates how accurately the model defined the clusters (Celeux & Soromenho, 1996) and how homogenous the clusters are in terms of a variable. Generally, entropy above .8 is ideal. When choosing the final cluster solution, we also considered the number of participants in each cluster, seeking to avoid cluster smaller than 5% of the sample. The model fit indices and our theoretical interpretations fit best with the 4-cluster structure, even if this meant that 2.7% of our participants did not fit into any clusters.

Following the clustering, we compared the mean values for the different fake and real news items in the different clusters. Apart from establishing the sub-categories of fake and real news, we also compiled all fake news and all real news in separate variables so that we could study the extent to which general fake/real news was believed. Table 6 shows the standardized cluster centroid values and the demographics of the cluster profiles (age, gender, and socioeconomic status). Table 5 shows the standardized means in the four clusters or *profiles* of participants. Figures 1 and 2 show the identified profiles in terms of the clustered variables. Figures 3 and 4 show the 'news belief map' of the above profiles. Table 7 shows the highest educational level of the profiles compared with the national average (KSH, 2016).

Table 2. Descriptive statistics and correlations for study variables.

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Age	-	.11	−.16**	−.03	.18**	−0.04	.07	−.05	.08	−.13*	.13*	.02	.15*	.32**	−.09	.03
2	gender	-	-	−.01	.011	.14*	.002	.01	.02	−.09	.15**	−.04	.13*	−.07	.04	−.07	.13*
3	education	-	-	-	.18**	−.08	−.01	.07	.04	.13*	−.08	.06	−.06	.13*	−.02	.09	−.06
4	CMQ	-	-	*.17*	-	.02	−.23**	−.13*	.05	.38**	.06	.22**	−.02	.29**	.060	.27**	.09
5	Time spent on media daily	-	-	*-.09*	*.02*	-	.19**	.21**	.02	−.08	.083	−.04	−.01	−.03	−.04	−.09	.19**
6	Trust in media	-	-	*-.04*	*-.25*	*.21*	-	.39**	.15**	.04	.22**	−.05	.06	.017	.13*	.12*	.22**
7	Trust in politicians	-	-	*.10*	*-.12*	*.23*	*.39*	-	.49**	.01	.02	−.23**	−.22**	.03	−.08	.24**	.30**
8	Satisfaction with government	-	-	*.05*	*.10*	*.02*	*.15*	*.46*	-	.12*	.11	−.44**	−.33**	.14*	−.06	.55**	.58**
9	Fake news	-	-	*.11*	*.38*	*-.09*	*.05*	*-.02*	*.13*	-	.37**	.61**	.18**	.78**	.25**	.67**	.28**
10	Real news	-	-	*-.11*	*.06*	*.08*	*.22*	*.01*	*.08*	*.42*	-	.18**	.64**	.26**	.71**	.32**	.59**
11	Anti-government fake news	-	-	*.05*	*.22*	*-.06*	*-.04*	*-.27*	*-.44*	*.59*	*.24*	-	.41**	.25**	.13*	−.04	−.17**
12	Anti-government real news	-	-	*-.07*	*-.01*	*-.03*	*.05*	*-.22*	*-.35*	*.24*	*.66*	*.46*	-	.08	.28**	−.14*	−.05
13	Nonpolitical fake news	-	-	*.12*	*.29*	*-.03*	*.02*	*.02*	*.21*	*.77*	*.33*	*.18*	*.12*	-	.21**	.42**	.21**
14	Nonpolitical real news	-	-	*-.10*	*.03*	*.01*	*.14*	*-.04*	*-.08*	*.30*	*.72*	*.17*	*.34*	*.27*	-	.19**	.14*
15	Pro-government fake news	-	-	*.08*	*.28*	*-.09*	*.13*	*.23*	*.54*	*.70*	*.32*	*-.02*	*-.10*	*.47*	*.18*	-	.54**
16	Pro-government real news	-	-	*-.05*	*.09*	*.16*	*.24*	*.27*	*.55*	*.23*	*.59*	*-.16*	*-.04*	*.27*	*.15*	*.53*	-

Correlations in italics are controlled for age and gender.
**$p < .001$. *$p < .05$.

Table 3. Model fit indices (BIC and AIC) for different cluster solutions.

Number of clusters (models)	BIC	BIC change	AIC	AIC change
1	1258.511		1214.57	
2	1150.646	−107.865	1062.819	−151.778
3	1112.621	−38.025	980.880	−81.938
4	1113.378	.757	937.723	−43.157
5	1116.349	2.970	896.780	−40.944

Note. BIC = Bayesian information criterion; AIC = Akaike information criterion. Bold indicates the chosen cluster solution.

Table 4. Entropy for the different cluster models and news belief variables.

News belief within each cluster model	Number of clusters	Entropy
Anti-government fake news	2	.845
	3	.829
	4	.823
	5	.837
Anti-government real news	2	.762
	3	.786
	4	.799
	5	.814
Nonpolitical fake news	2	.042
	3	.089
	4	.086
	5	.080
Nonpolitical real news	2	.081
	3	.081
	4	.108
	5	.105
Pro-government fake news	2	.816
	3	.801
	4	.829
	5	.813
Pro-government real news	2	.823
	3	.823
	4	.819
	5	.822

Note. Entropy values are reported for each news belief variable within the different cluster models. These values can be used to assess the classification quality of the clusters for each news belief variable.

We identified four profiles in total, two of which (Profiles 1 - 'conspiracist distruster' and 4 - "conspiracist truster) could be characterized by a higher overall level of belief in fake news, and two (Profiles 2 – 'educated opposition' and 3 – 'less formally educated') by lower levels of fake news belief. Primarily, a high conspiracy mentality distinguished believers of fake news (Profiles 1 and 4) from those who questioned it (Profiles 2 and 3). One-way ANOVAs were used to compare the means of the different news belief items across the clusters (Table 8). To control for the inflation of type I error due to multiple comparisons Bonferroni correction was applied to the results of the ANOVAs. Bonferroni correction is used to adjust the significance level (alpha) when conducting multiple comparisons to reduce the risk of Type I errors (false positives). Since there were no significant differences observed for the nonpolitical (fake) news items in the initial ANOVA analysis, there was no need to adjust the significance level or perform further comparisons for those items.

The results after Bonferroni correction are shown in Table 9 for four news item categories: anti-government fake and real news, and pro-government fake and real news (there were no difference between clusters in terms of nonpolitical fake and

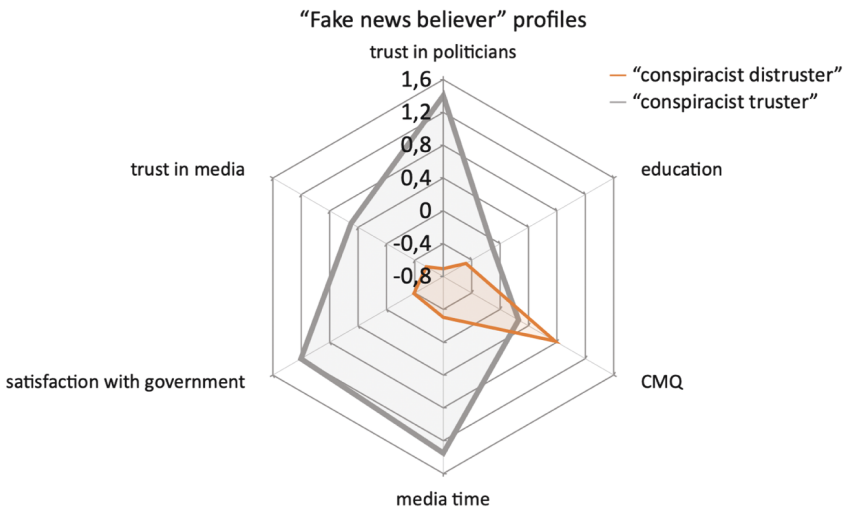
Table 5. Cluster centroids (standardized) and demographics of cluster profiles.

Variables	Profile 1 'conspiracist distruster' ($n = 92$) Mean (SD)/n (%)	Profile 2 ($n = 92$) 'educated opposition' Mean (SD)/n (%)	Profile 3 ($n = 61$) 'less formally educated' Mean (SD)/n (%)	Profile 4 ($n = 43$) 'conspiracist truster' Mean (SD)/n (%)
Gender				
Male	36 (39.1%)	33 (36.3%)	25 (41%)	21 (48.8%)
Female	55 (59.8%)	58 (63.7%)	35 (57.4%)	21 (48.8%)
Other/missing	1 (1.1%)	1(1.1%)	1 (1.6%)	1 (2.3%)
age	34.28 (14.87)	40.49 (14.07)	29.17 (14.28)	42.68 (19.22)
SES				
Living comfortably …	26 (28.3%)	34 (37.8%)	23 (37.7%)	11 (26.8%)
Coping …	42 (45.7%)	46 (50.5%)	31 (50.8%)	23 (53.5%)
Finding it difficult …	16 (17.4%)	8 (8.8%)	7 (11.5%)	6 (14%)
Finding it very difficult on present income	7 (7.6%)	2 (2.2%)	-	1 (2.3%)
Trust in politicians	−.70 (.42)	−.34 (.63)	.51 (.63)	1.40 (1.07)
Education	−.48 (.75)	.94 (.70)	−.60 (.60)	−.10 (1.04)
CMQ	.78 (.71)	−.53 (.81)	−.58 (.78)	.26 (.98)
Media time	−.30 (.57)	−.05 (.63)	−.32 (.54)	1.35 (1.62)
Satisfaction with government	−.39 (.71)	−.33 (.54)	.24 (.71)	1.20 (1.50)
Trust in media	−.56 (.82)	.05 (.86)	.37 (.99)	.50 (1.07)

Table 6. Descriptive statistics of the four cluster profiles in terms of news belief (standardized).

Variables	Profile 1 'conspiracist distruster' Mean	Profile 2 'educated opposition' Mean (SD)	Profile 3 'less formally educated' Mean (SD)	Profile 4 'conspiracist truster' Mean (SD)
Fake news (all)	.33 (1.05)	−.28 (.91)	−.24 (.93)	.15 (.97)
Real news (all)	−.01 (.94)	−.01 (1.02)	−.09 (1.06)	.19 (1.04)
Anti-government fake news	.39 (.99)	−.04 (.91)	−.27 (.87)	−.45 (1.09)
Anti-government real news	.17 (.91)	.19 (1.03)	−.19 (.89)	−.48 (1.13)
Nonpolitical fake news	.19 (1.04)	−.24 (.93)	−.13 (.98)	.11 (.97)
Nonpolitical real news	.02 (1.03)	−.02 (.96)	.09 (.99)	−.18 (1.09)
Pro-government fake news	.07 (1.01)	−.30 (.74)	−.09 (.77)	.67 (1.4)
Pro-government real news	−.19 (.91)	−.18 (.83)	−.07 (.89)	.97 (1.17)

real news; see Table 8). In the Bonferroni-corrected comparisons, we found significant differences in beliefs across the different clusters for anti-government and pro-government news items. Notably, for both anti-government fake and real news, as well as pro-government fake and real news, there were consistent differences in beliefs between cluster 1 and the other clusters. In particular, significant differences in beliefs were observed between cluster 1 and all other clusters (2, 3, and 4) for pro-government fake and real news. We found similar patterns for anti-government fake news. In contrast, there were no significant differences for nonpolitical fake and real news, suggesting that beliefs regarding these types of news items were not significantly different across the clusters. While the Bonferroni correction may be conservative and could lead to type II errors, it allows for greater confidence in the statistically significant results reported after the correction.



Note. Orange color in the radar chart refers to Profile 1 ("conspiracist distruster"), grey colors refers to Profile 4 ("conspiracist truster").

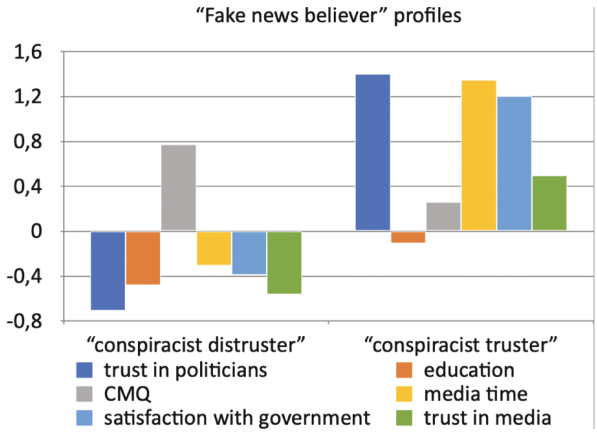
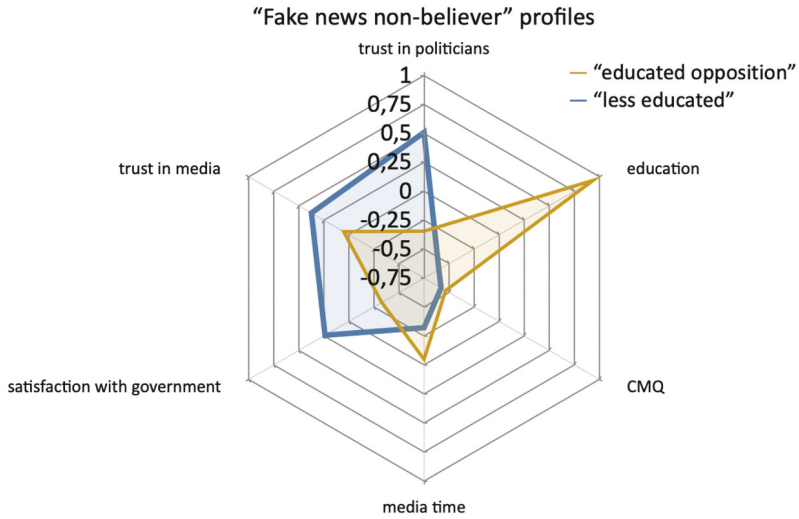


Figure 1. Cluster profile means of 'fake news believer' profiles on radar and bar chart.

Discussion

Employing a person-centered approach, we identified four distinct profiles of news consumers based on their socio-demographic background and socio-political orientation (conspiracy mentality, trust in politicians and the media, satisfaction with the current government, time spent on media consumption and formal education). This method revealed that news consumers exhibit varying degrees of susceptibility to fake news, which is shaped by their formal education on the one hand and by socio-political attitudes and behaviors on the other hand. We discuss our results in relation to the Hungarian sociopolitical context.



Note. Yellow color in the radar chart refers to Profile 2 ("educated opposition"), blue color refers to Profile 3 ("less formally educated").

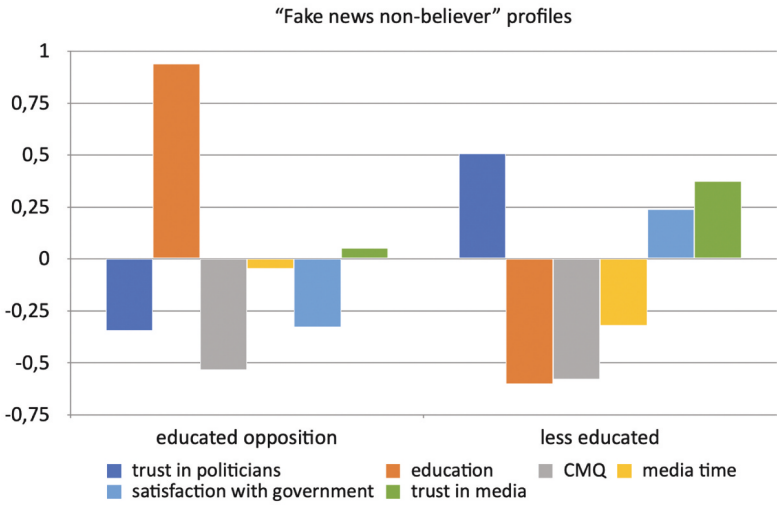
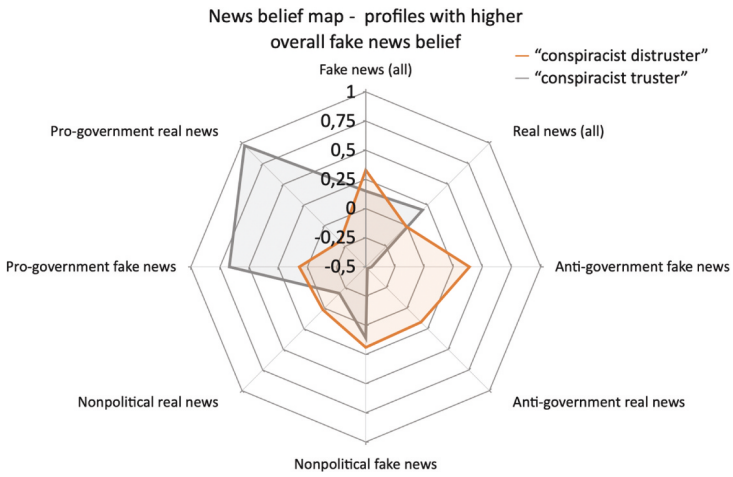


Figure 2. Cluster profile means of 'fake news nonbeliever' profiles on radar and bar chart.

The two more disinformation-resistant profiles (2 and 3, 'educated opposition' and 'less formally educated', respectively) differed substantially in their education level and while being the best out of the four profiles, neither of them perfectly recognized fake and real news. Profile 2 ('educated opposition') was the most 'fake news resistant' profile, best at discerning fake and real news overall. However, they were skeptical toward pro-government real and anti-government false information. Despite being highly educated, they were likely to have been influenced by their opposition to the government. Formal education – especially on the higher level – may have equipped these participants with the information literacy skills that helped them discern false information from real. On the other hand, some of the processes underlying self-selection into higher education



Note. Orange color in the radar chart refers to Profile 1 ("conspiracist distruster"), grey colors refers to Profile 4 ("conspiracist truster").

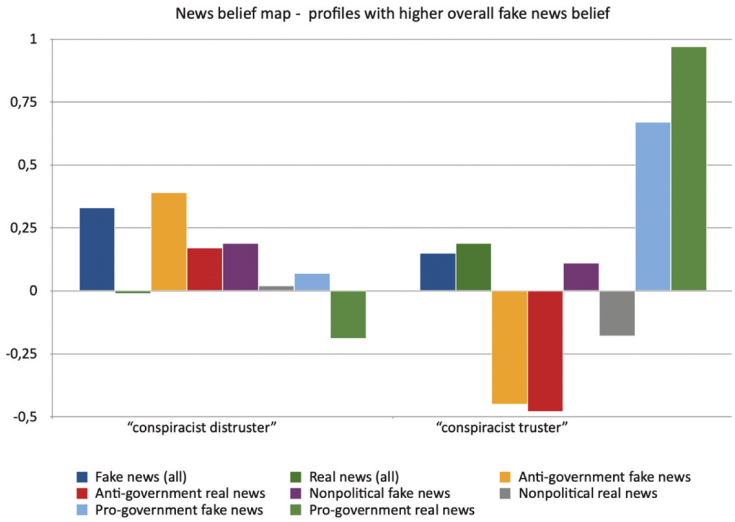
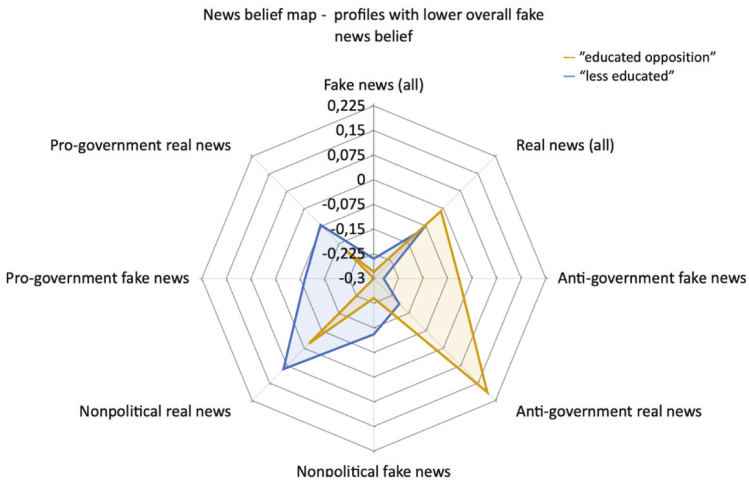


Figure 3. News belief map of profiles with higher overall fake news belief on radar and bar chart.

could also account for this pattern. It is known from previous research that knowledge alone may not suffice to recognize false information (Guess et al., 2018), but that analytical thinking may be related to the ability to discern false from real information Faragó et al. (2023). Hence, interventions aimed at improving information literacy may be effective, given that those with deeper media knowledge are more skeptical of the messages (Jeong et al., 2012).

Pantazi et al. (2021) suggest that people fall for disinformation because they are either too gullible toward false information or display too much epistemic vigilance; that is, are too skeptical of true, reliable information. It could be that although Profile 2 benefitted from their analytic skills in the context of nonpolitical topics, they became 'too vigilant' of



Note. Yellow color in the radar chart refers to Profile 2 ("educated opposition"), blue color refers to Profile 3 ("less formally educated")

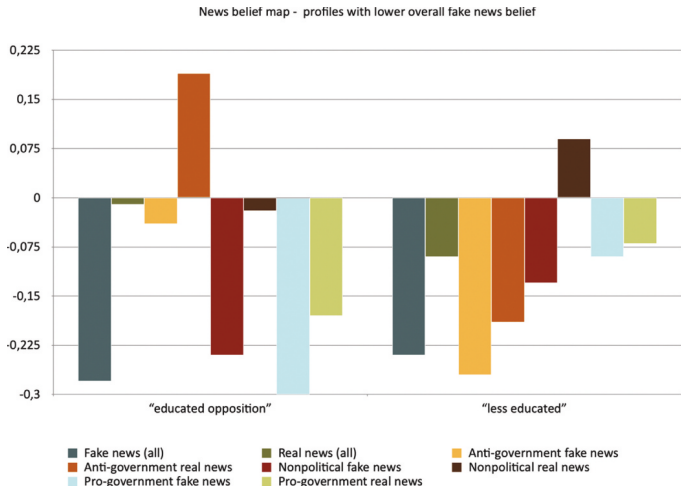


Figure 4. News belief map of profiles with lower overall fake news belief on radar and bar chart.

Table 7. Highest education of profiles in our study and the national average (KSH, 2016).

Variables	Profile 1 'conspiracist distruster'	Profile 2 'educated opposition'	Profile 3 'less formally educated'	Profile 4 'conspiracist truster'	National average
Primary school, vocational education	8.6%	0	6.7%	7%	44.8%
Matriculation exam	74%	7.6%	80.3%	51.1%	33.4%
Diploma of higher education	17.4%	92.4%	13%	41.9%	21.8%

Table 8. One-way analyses of variance between groups in news belief items.

Measures	F(3,285)	p-value	Partial η^2
Anti-government fake news	9.744***	<.001	.094
Anti-government real news	6.320***	<.001	.063
Nonpolitical fake news	5.150	.019	.034
Nonpolitical real news	.609	.610	.006
Pro-government fake news	10.274***	<.001	.099
Pro-government real news	18.204***	<.001	.162

***$p < .001$.

pro-government (true) information and anti-government false information---these types of information would be the most likely to be fabricated by the pro-government media.

Meanwhile, those in Profile 3 ('less formally educated') showed a general disbelief in both real and fake news. What also set them apart is that Profile 2 represented the highest, and Profile 3 ('less formally educated') the lowest educational groups. It is worth noting here that all the profiles differed from the Hungarian average in terms of education (see Table 6).

In the case of Profile 3 ('less formally educated'), a moderate stance on the government, low media consumption and rating all news as non-accurate reflect general disengagement in public issues. These people may be less affected by partisan narratives, and thus more skeptical toward all news, including fake news. On the other hand, retreating from public issues and discussions as well as from political participation could hamper the ability to identify real news. This phenomenon serves to illustrate the double-sided nature of media consumption: online consumption may increase political participation (Boulianne, 2020), but because of the proliferation of disinformation and hyper-partisan content, it could also drive people from politics and news consumption (Tucker et al., 2018).

To understand these dynamics, one should acknowledge that politics in Hungary is marked by increasing polarization between the government and the opposition. Polarization has been associated with lower county-level resilience toward disinformation (Humprecht, Esser, and Van Aelst, 2020). Furthermore, Hungary has come to resemble a two-party system (government vs. a united opposition), which could further drive the production of online disinformation (Allcott & Gentzkow, 2017). Polarization is visible in our results in two respects. First, we found a clear difference between government (Profile 4, 'conspiracist truster') and opposition (Profile 2, 'educated opposition') supporters in terms of their trust in political (pro- or anti-government) fake and real news, both groups accepting and contesting news contents that best fitted their view of the government. The two groups of 'believers' (Profiles 1 and 4, 'conspiracist distruster' and 'conspiracist truster', respectively) could also be distinguished based on their satisfaction with the government. This pattern points to the possible importance of motivated reasoning, which has been show to play a role in many previous studies (e.g. Baptista & Gradim, 2022; Faragó et al., 2019; Szebeni et al., 2021). Motivated reasoning may be particularly important in the Hungarian context, as societal polarization has been suggested to amplify motivated reasoning – individuals may become more entrenched in their political stances and increasingly resistant to information that challenges their perspectives (Hart et al., 2009).

Table 9. Results for Bonferroni's multiple comparisons between different clusters in terms of news belief.

Dependent Variable	(I) TwoStep Cluster Number	(J) TwoStep Cluster Number	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Anti-government fake news	1	2	−.58	.26	.14	−1.26	.010
		3	−.25	.27	1.00	−.98	.48
		4	−1.20*	.25	<.001	−1.87	−.52
	2	1	.58	.26	.14	−.10	1.26
		3	.33	.23	.90	−.28	.94
		4	−.62*	.20	.02	−1.16	−.07
	3	1	.25	.27	1.01	−.48	.98
		2	−.33	.23	.90	−.94	.28
		4	−.95*	.23	<.001	−1.56	−.34
	4	1	1.20*	.25	<.001	.52	1.87
		2	.62*	.20	.02	.07	1.16
		3	.95*	.23	<.001	.34	1.55
Anti-government real news	1	2	−.84*	.23	.001	−1.45	−.24
		3	−.37	.24	.77	−1.02	.28
		4	−.82*	.23	.002	−1.42	−.21
	2	1	.84*	.22	.001	.24	1.45
		3	.47	.20	.12	−.07	1.02
		4	.02	.18	1.0	−.46	.51
	3	1	.37	.24	.770	−.28	1.02
		2	−.47	.20	.123	−1.01	.067
		4	−.44	.20	.168	−.98	.09
	4	1	.82*	.23	.002	.21	1.42
		2	−.02	.18	1.000	−.51	.46
		3	.44	.20	.168	−.09	.99
Pro-government fake news	1	2	1.34*	.24	<.001	.68	1.99
		3	1.03*	.26	<.001	.33	1.73
		4	.82*	.24	.005	.17	1.47
	2	1	−1.34*	.24	<.001	−1.98	−.69
		3	−.30	.21	1.000	−.88	.28
		4	−.51	.19	.054	−1.03	.01
	3	1	−1.03*	.26	<.001	−1.73	−.33
		2	.30	.21	1.000	−.28	.88
		4	−.21	.21	1.000	−.79	.36
	4	1	−.82*	.24	.005	−1.47	−.17
		2	.51	.19	.054	−.01	1.03
		3	.21	.21	1.000	−.37	.80
Pro-government real news	1	2	1.50*	.22	<.001	.90	2.10
		3	1.36*	.24	<.001	.72	2.01
		4	1.52*	.22	<.001	.92	2.12
	2	1	−1.50*	.22	<.001	−2.10	−.90
		3	−.13	.20	1.000	−.67	.40
		4	.02	.18	1.000	−.45	.50
	3	1	−1.36*	.24	<.001	−2.00	−.72
		2	.13	.20	1.000	−.40	.67
		4	.15	.20	1.000	−.37	.69
	4	1	−1.52*	.22	<.001	−2.12	−.93
		2	−.02	.18	1.000	−.50	.45
		3	−.16	.20	1.000	−.69	.37

*The mean difference is significant at the 0.05 level.

Previous research has shown that conspiracy beliefs go hand in hand with low institutional trust, e.g., distrusting those in power, distrusting experts (Imhoff et al., 2018), and distrusting legacy media (Stempel et al., 2007). These characteristics are also evident in Profile 1 ('conspiracist distruster'). On the other hand, Profile 4 ('conspiracist truster') was marked by institutional trust, which is contrary to what has been reported in

some previous studies (Agley & Xiao, 2021; Linden et al., 2021). Whereas previous research has documented associations between distrust in the media and susceptibility to disinformation (e.g.Hameleers, 2022), our results show that excessive trust may also be harmful. Research on the system justification motive; i.e., people's desire to view the system or status quo as legitimate and fair, has shown that both extremes of the system justification continuum are associated with political passivity (Cichocka & Jost, 2014). Analogously, trust in institutions may also be U-shaped, in the sense that both extreme cynicism and blind trust with regards to political institutions and media may induce susceptibility to disinformation (e.g., Xiao et al., 2021) either one trusts in nothing that the government and its institutions communicate, or one trust all of it. Especially in a less democratic environment, some degree of distrust in political institutions may be useful for the purposes of discerning fake news from real news. Profile 4 is also characterized by a conspiratorial mind-set, hence the conspiratorial narratives espoused by government may appeal to them (e.g., Plenta, 2020). The heavy consumption of pro-partisan government media could have influenced these participants' evaluations of the fake news we presented (Broockman & Kalla, 2022).

It is worth mentioning that previous research has shown that older individuals interact (e.g., Loos & Nijenhuis, 2020) and share (Guess et al., 2018) more than younger age groups. Two of the four cluster profiles were around 30 (mean age 29 and 34 for Profile 1 and 3), while the other two were around 40 (40 and 42 for Profile 2 and 4), the latter being close to the median age, 43.3 as of 2020 in Hungary. Based on our results, there were no differences between these two age groups in terms of fake news belief.

A large body of scholarship is currently preoccupied with testing interventions against fake news targeted at consumers, while platforms and governments are also introducing changes aimed at stopping the spread of disinformation. Although inoculation Lewandowsky and van der Linden (2021), media literacy training (e.g., Guess et al., 2020) and interventions including accuracy prompts (e.g., Pennycook & Rand, 2021) have yielded promising results, several limitations have also been indentified, such as possible lack of long-term effects (van der Linden et al., 2021). Our results contribute to this literature by suggesting that a one-size-fits-all approach may not be effective – different people may believe the same disinformation for entirely different reasons. Studies on interventions have also tended to ignore the importance of the sociocultural context, thus exaggerating their generalizability across contexts. For example, and intervention that seeks to increase trust in government and media will be counterproductive in an environment in which the government and media spread unreliable information. However, encouraging general media-skepticism can also be fruitless, as it may discourage people from trusting also reliable and legitimate sources. Our results indicate that interventions should be developed with different types of people and different contexts in mind. Through the person-centered approach is also becomes clear, that all individuals possess a certain amount of gullibility and attentiveness – a narrative than can serve to reduce the polarized discourse around the topic of 'fake news'. Furthermore, as opposed to the variable-centered approach, here we can capture better how some individuals have specific biases when it comes to (dis)information belief. Adopting a person-centered approach can also be helpful in other contexts in (re-)evaluating existing theories in disinformation research.

Besides intervention and study methods, are results also have implication for the Hungarian, as well as for other national contexts. Populist parties have moved from the

fringes to the mainstream and have become government-forming parties. Disinformation and conspiracy theories may be advantageous for populist leaders in constructing the 'enemies' of 'the people', whom they claim to represent. As populist parties and leaders increasingly rise into governmental power it is important to (re) consider how the voters' attitudes may shift in terms of trust in government and public bodies. As our research shows excessive trust in media and government is possible and can go hand in hand with a conspiratorial mind-set under extreme circumstances. This trust, coupled with the belief of disinformation can contribute to the maintenance of 'post-truth' populist regimes. Such governance can potentially polarize populations further, as it 'removes the basis' of political conversations and can yield distrust in the citizens who are not in favor of the current government. As disinformation can contain emotional narratives – and especially if it is present on both political sides – it can create affective polarization, besides political polarization. Such polarization can affect democratic processes through people supporting an increasingly undemocratic regime (exemplified by Profile 4, 'conspiracist truster') or by people turning away from politics (exemplified by Profile 3, 'less formally educated'). While the Hungarian context is extreme, the described phenomena is also relevant for other country contexts where there are leaders in the subnational context who embrace conspiracy theories (e.g., in the US), or actively disseminate disinformation to upkeep an autocratic system (e.g., Russia).

Limitations and future directions

Some limitations warrant mention. It would, in retrospect, have been worthwhile analyzing media consumption across platforms. The profiles we identified may have relied on distinct platforms or sources for their news, and this would have been associated with different levels of information literacy. This should be investigated in future research. We further acknowledge that we cannot be certain if the participants had already encountered the news items in our study, or whether they had any prior knowledge of these topics. This limitation is common in many studies that deal with current events, as it is hard to ensure that participants have not been exposed to the news items before.

Another limitation was our reliance on a convenience sample gathered via snowballing on social media. This did not give us a representative view of the Hungarian population at large. It should be noted, however, that sampling from populations who are active on social media, and potentially come across fake news on the internet, could in itself be valuable. Some scales that were similar to the one found in ESS (2018) could be compared to our sample: people scored 3.04 on trust on the politician scale, compared with 3.73 in ESS (both on a scale ranging from 1 to 11). A larger proportion of people in our sample than in the ESS sample claimed to live comfortably or to cope on their present income, whereas those in our sample were less satisfied with the government than those in the ESS representative sample. Given the influential role that education played in our results, we should point out that our participants were more highly educated, on average, than the general population. As such, it would be worth investigating the profiles of citizens with less education as well. The final cluster solution excluded 2.7% of our participants. With a larger sample size, a cluster that would have included also these people could perhaps have been identified. A larger sample size would also have allowed us to employ more complex models – we could, for

instance, have looked at the interactions between different characteristics of the news items. This further emphasizes the need for more research among larger populations. As a final limitation, the study was not preregistered; however, all data and stimuli material are openly available.

Conclusion

In conclusion, our study highlighted the benefits of adopting a person-centered approach in the study of disinformation – an approach that could give valuable insights into different subpopulations who may vary not only in the news they believe but also in why they believe it. Recognizing such differences between subgroups could be of value when developing and employing various interventions, and it could also help to explain why interventions regarding disinformation yield conflicting results.

Our study also highlights the fact that, although social and political trust – in the media or in public bodies – is often assumed to be negatively associated with a belief in conspiracy theories or in disinformation, it may also be detrimental, particularly if the sociopolitical context is highly polarized and politically constrained.

In themselves, our results indicate that research on disinformation, and on citizen's capacities and motivations for information processing, should place a stronger emphasis on the sociopolitical context and the heterogeneity of populations. In that most theories and studies on these topics are developed and conducted in Western, mostly US, contexts and apply a variable-centered approach, many do not consider the context, nor do they break down the population into different subgroups. This can easily lead to overgeneralization. It would be worth testing purportedly universal theories in more varying contexts. Most studies also put forward individual-level solutions, aiming to enhance the capacities of the individual to resist false information. However, macro-level factors may seriously impair such solutions – structural problems require structural resolution. However, our results do emphasize the need to develop interventions that are specific to the wider sociopolitical context, and to different subgroups. More generally, we call for more person-centered research, and more research in non-Western societies.

Disclosure statement

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Data availability statement

The data that support the findings of this study and the supplementary materials are openly available in OSF at https://doi.org/10.17605/OSF.IO/QSKFM

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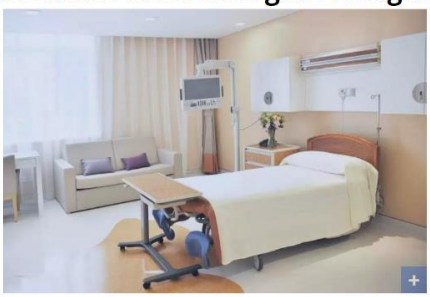
1 News items used in the study

1.1 Anti-government narrative, fake

A whole floor is reserved for Viktor Orban, at a secret private clinic in Graz

Our source was not willing to tell us anything about the illness of the prime minister, but they said, that the most modern equipment and and neurologists who studied at the best places are at the disposal of the important guest.

Egy egész emeletet tartanak fenn Orbán Viktornak a titokzatos graz-i magánklinikán



A miniszterelnök betegségéről forrásunk semmit sem volt hajlandó elárulni, de azt elmondta, hogy a klinika a legmodernebb eszközökkel és a legjobb helyeken tanult ideggyógyászati szakemberekkel áll a fontos vendég rendelkezésére.

"The country is controlled by the criminal organisation of Sandor Pinter, interior minister"

Said Tamas Portik at court

„Pintér Sándor belügyminiszter bűnszervezete irányítja az országot"

An audio has been leaked, where Fidesz admits to the election freud of 2018

Szilard Nemeth accidentaly admits

Kiszivárgott egy hangfelvétel ahol a Fidesz elismeri a 2018-as választási csalást!

1.2 Anti-government narrative, real

Kovács Zoltán önmagát másolva szerzett amerikai doktorit a CEU-n

Egymás után szerzett két történészdoktorit Kovács Zoltán kormányszóvivő a Debreceni Egyetemen és a CEU-n még a kétezres évek legelején.

Zoltan Kovacs earned a doctorate from CEU by self-plagiarism

Zoltan Kovacs, government spokesperson earned two history doctorates after another, one from the University of Debrecen, and one from CEU in the early 2000s

Medián: 3 hónap alatt több mint félmillió szimpatizánst veszített a Fidesz-KDNP

Median: In 3 months Fidesz-KDNP lost half-million supporters

According to January polls, in 3 months 500,000 supporters left Fidesz

ITT VAN ORBÁN VIKTOR LEVELE ARRÓL, HOGY SEGÍTSEN NEKI SOROS GYÖRGY

A legtöbb ember számára már ismert tény, hogy Orbán Viktor a rendszerváltás előtt Soros-ösztöndíjjal tanult Oxfordban, majd eltelt közel harminc év, és a világ sokat változott a miniszterelnök fejében.

Here is the letter of Orban, asking for George Soros' help

Most people know, that Viktor Orban studied at Oxford before the end of communism in Hungary. 30 years passed, and many things changed in the mind of the prime minister.

1.3 Pro-government narrative, fake

Hatalmas összeg van Gyurcsány eltitkolt bankszámláján

Óriási vagyont tart egy osztrák pénzintézetben a Demokratikus Koalíció elnöke, aminek nyoma sincs a bevallásában.

There is a huge amount of money in the secret bank account of Ferenc Gyurcsany

The president of the Democratic Coalition has vast amount of wealth in an Austrian bank, which does not appear in his taxes

Juhász Péter rendszeresen, gyerekei szeme láttára drogozott

Mint arról korábban beszámoltunk, döbbenetes részletek derültek ki Juhász Péter bíróság előtt lévő ügyének aktáiból: az Együtt elnökének élettársa állítja, hogy Juhász azután nyugtatózta be, hogy előtte rátérdelt és megütötte.

Peter Juhasz regularly abused drugs in front of his children

As we earlier reported, shocking details came to light from the files of the court case of Peter Juhasz: the partner of the president of Egyutt said, that he gave her tranquilizers , after he knelt on her and hit her

Egy 20 milliós Audival vette meg Vonát Simicska, elképesztő rendszámmal

Egy igen drága ajándékkal lepte meg a Jobbik elnökét Simicska Lajos ·

Simicska bought Vona with an Audi, worth 20 million, with a startling license plate

Lajos Simicska surprised the president of Jobbik with an expensive gift

1.4 Pro-government narrative, real

4,8 százalékkal nőtt tavaly a GDP

Magyarország bruttó hazai terméke a tavalyi negyedik negyedévében a szezonálisan és naptárhatással kiigazított adatok szerint 4,8 százalékkal, a nyers adatok szerint 5 százalékkal nőtt az előző év azonos időszakához viszonyítva – közölte a KSH csütörtök reggel.

GDP grew with 4.8% last year

Hungary's gross domestic product grew with 4.8% in last year's last quarter, when accounting for seasonal and calendar effects. According to raw data, it grew by 5% compared to the same period of the year before – reported the KSH Thursday morning.

Migránsokhoz köthetően nőtt az erőszakos bűnözés Németországban

Németországban az erőszakos bűnelkövetés 10 százalékkal nőtt 2015-ben és 2016-ban, és a növekedés 90 százaléka fiatal (14 és 30 év közti) férfi menekültekhez/migránsokhoz köthető.

Violent crime grew in Germany, caused by migrants

Violent crime grew in Germany with 10% in 2015 and 2016. 90% of the growth is connected to young (aged between 14 and 30) male refugees/migrants.

Heil Sneider: náci karlendítéssel pózolnak a Jobbik elnökének esküvőjén

Miközben baloldali elemzők és politikusok arról értekeznek, hogy a szavazóik hajlandóak lennének átszavazni a Jobbikra, amely már levedlette múltját és a néppártosodás rögös útját maga mögött hagyva a célegyenesbe érkezett, kiderült, hogy a párt elnökének esküvőjén náci karlendítéssel pózolnak.

Heil Sneider: they posed with a nazi salute at the wedding of the president of Jobbik

While left-wing analysts and politicians are discussing whether their voters are willing to vote for Jobbik, which has abandoned its past ideology and started to move towards being a people's party,

1.5 Nonpolitical, fake

Herb man from Bükk: everything is healable!

To prevent cancer: soda bicarbonate, for childless: celery and quail egg yolk!

Bükki füvesember: minden gyógyítható!

Szabó György

Rák megelőzésére szódabikarbóna, gyermekteleneknek zeller és fürjtojás sárgája!

KÜLFÖLD, VIDEÓ24 **Rémálomba illő hatalmas óriáskígyót találtak**

10 méter hosszú, 400 kiló, 1 méter átmérőjű rémálom.

They found a giant snake, just like in nightmares

10 meter long, 400 kg, 1 meter diameter nightmare

298 egészséges madár hullott el az 5G mobilhálózat tesztelésekor!

Arról, hogy veszélyesek-e vagy sem a mobilhálózatok, már eddig is sok írás megjelent. Az 5G bevezetése még előttünk áll, de elég hátborzongató, ami Hágában történt.

298 healthy birds died when testing the 5G mobile technology!

It has been discussed whether the new mobile technology is dangerous or not. 5G has not been introduced yet, but what happened in The Hague, is gruesome

1.6 Nonpolitical, real

Archaeologists found an untouched, thousand-year old Maya cave in Mexico

In the ruins of Chichén Itzá they also found objects which has been sacrificed to the god of rain. Based on this, researchers are examining the consequences of draught, as a reason for the fall of the Maya

Ezeréves, érintetlen maja barlangra bukkantak régészek Mexikóban

A Chichén Itzá-i romok között az esőistennek feláldozott tárgyakat is találtak, a kutatók ez alapján a maják pusztulásához vezető kiszáradás tanulságait vizsgálják.

Az egészséges életmód, mobil és a nagy autók miatt halnak meg a gyalogosok

1990 óta nem halt meg balesetekben annyi gyalogos, mint tavaly.

Pedestrians die because of healthy lifestyle, mobile phones and big cars

Since 1990, last year was the highest in pedestrian deaths caused by accidents

Vészjósló jelentés: 11 év múlva jégmentesek lehetnek a nyarak az Északi-sarkon

A sarkvidék körüli óceán sokkal hamarabb, akár már 2030 nyarára jégmentessé válhat egy új tanulmány szerint.

Sinister report: in 11 years, summers might be ice-free on the North Pole

The ocean around the North Pole might become ice-free much earlier, maybe by the summer of 2030 according to a news study

"The Truth Shall Prevail!" Epistemic Patterns in Online Discussions of the Bucha Massacre

This study explores how individuals navigate competing truth claims in online discourse surrounding the Russia-Ukraine war, focusing on Hungarian Facebook comments (*n* = 1,203) about the Bucha massacre. Using discourse-historical analysis (DHA; Wodak, 2015), the research uncovers four distinct patterns in how people construct and validate knowledge: polarization, historical contextualization, authority-based reasoning, and agency. The findings reveal how binary viewpoints, collective memories, reliance on external sources or personal experiences, and tensions between certainty and doubt shape interpretations of complex geopolitical narratives. This study illuminates the processes by which third-party observers form understandings and negotiate truth in online spaces, demonstrating the transnational impact of global discourses on local comprehension of conflicts. By examining these "epistemic patterns", the study advances our understanding of how individuals and communities interpret information and form beliefs in highly politicized online environments, offering insights into the dynamics of misinformation and the critical role of epistemology in the online sphere. This work bridges discourse studies with theories of collective knowledge formation, providing a nuanced perspective on how discursive practices shape and contest political realities across online platforms.

Keywords: disinformation, epistemic patterns, Russia-Ukraine war, DHA, social epistemology

The rise of democratized content creation and alternative media has transformed the landscape of information dissemination, enabling narratives to circulate without traditional oversight. This shift is particularly impactful in non-democratic contexts like Hungary, where the blurring lines between state propaganda, disinformation, and free press affect perceptions globally (Rényi, 2022).
The combination of social-media algorithms favoring sensational content and declining trust in traditional media has exacerbated the spread of disinformation, impacting public opinion and democratic processes (McKay & Tenove, 2021). This issue is especially acute in intergroup conflicts and wars, where mis- and disinformation acquire a particularly pernicious dimension.
Per definition, misinformation contradicts or distorts verifiable facts (Guess & Lyons, 2020), with disinformation acting as its harmful counterpart, deliberately misleading its audience (Tucker et al., 2018). Conflicts, by their very nature, are fraught with deeply entrenched narratives, biases, and vested interests. Russia's war in Ukraine exemplifies strategic news manipulation (Mujib et al., 2023) and how controlling the narrative in the information space is crucial, as it can affect the outcome of the conflict (Singer, 2022).

In such context, understanding how individuals navigate and interpret competing narratives is crucial, as public perception significantly influences political decisions and war outcomes. Defining "truth" in this context is complex. Inspired by the framework Realist Social Constructionism (Elder-Vass, 2012), this research posits that truth is not only about the factual accuracy of information but also about the social discourse and influences through which it gains relevance. Truth as such is deeply embedded within social processes, influenced by cultural norms, historical contexts, and power dynamics.
This study focuses on the Bucha massacre in Ukraine, examining how Hungarian online commenters construct, negotiate, and challenge competing epistemologies and the notion of truth. While previous research has investigated the motivators (e.g. Apuke & Omar, 2021), content characteristics (Kapantai et al., 2021), and susceptibility factors (Kim et al., 2022; Szebeni et al., 2021) of disinformation, this study focuses on the underexplored area of how individuals interpret and make sense of these competing narratives. By analysing the social-epistemic rhetoric employed

by commenters on contrasting Facebook posts (one promoting Russian disinformation, the other a fact-checking article), the study seeks to uncover how individuals make sense of competing narratives and construct their understanding of the truth.

The study utilizes discourse-historical analysis (DHA), emphasizing that "truth" is a construct shaped by socio-political contexts and power dynamics ; Reisigl, 2018). Applying DHA can reveal how narratives and "truths" evolve, influenced by historical and ideological factors, leading to diverse epistemological perspectives across communities. Ultimately, this study seeks to fill a gap in misinformation studies (Uscinski, 2024) by providing an epistemological framework to understand how people engage with competing narratives and construct their understanding of truth in the context of the Russia-Ukraine war, particularly in Hungary, a country susceptible to disinformation (Faragó et al., 2023).

Online epistemic dynamics: navigating truth, authenticity, and authority in digital discourse

In the digital realm, truth and authenticity blend, shaped by personal biases and societal norms. Disinformation, mimicking credible sources, complicates the quest for authenticity, making online truth a negotiable concept influenced by dialogue and perceptions Wooffitt, 2005). This is particularly pronounced in politics, where perceived authenticity can significantly sway public opinion (e.g. of political leaders, see Luebke, 2021), reflecting the challenges of discerning genuine content amidst anonymity and deliberate misinformation.

While social epistemology extensively discusses the communal aspects of knowledge acquisition and dissemination (Schmitt, 2017), it is also pertinent to explore these questions within the framework of misinformation studies. Online commenters frequently rely on testimonial knowledge (Boyd,2022) , where the credibility of the source and trust in the information provider are paramount. The dynamics of trust and credibility are crucial, as individuals often navigate conflicting narratives by assessing the trustworthiness of the sources they encounter. The formation of collective knowledge (Schmitt, 2017) is a significant aspect of online discourse. Commenters often build a shared understanding of events, drawing on collective experiences and memories. In the context of the Russia-Ukraine war, for instance, online communities may develop collective narratives that shape their interpretation of events like the Bucha massacre.Historically, mainstream media, scientific institutions, and governments were the trusted sources of truth and authenticity. However, trust in these pillars has declined (Lewandowsky et al., 2017), leading to increased scepticism and challenges to established scientific consensus in the West (Harambam & Aupers, 2021). Social media platforms, reacting to this shift, have adopted roles as truth arbiters, employing content moderation strategies that, while aimed at curbing misinformation, also prompt debates about censorship and the reliability of digital gatekeepers (Bhuiyan, 2022).

In this complex environment, media choices relate to individual traits, social structures, and technological nuances (e.g. Merten, 2021). Gershon's (2010) concept of media ideologies highlights how individuals' beliefs about media influence their engagement with different media forms. Schwarzenegger (2020) expands on this by incorporating personal experiences, worldviews, and political orientations into "personal epistemologies". These frameworks guide how individuals interpret and interact with information in the digital landscape, illustrating the deep intertwining of our online interactions with broader life experiences and beliefs.

A discursive perspective on disinformation

A discursive approach to disinformation goes beyond labelling truth or falsehood, as it considers power dynamics, cultural norms, and context. Social epistemology extensively discusses the communal aspects of knowledge acquisition and dissemination, highlighting how social interactions and institutions shape what is accepted as knowledge (Greco & Sosa, 1999). This perspective is crucial for understanding how individuals interpret and navigate disinformation in online environments.

While many studies have focused on the producers of disinformation, less attention has been given to online users who, through interpretative communities, can shape and amplify narratives (Rauch, 2007). By adopting a discursive approach and employing the discourse-historical approach (DHA), inspired by the work of Ruth Wodak and her co-researchers (e.g. Wodak & Meyer, 2016), a deeper understanding of how individuals interact with disinformation, construct meaning, and navigate the complexities of the online information landscape can be achieved. DHA, rooted in the tradition of critical discourse analysis (CDA), examines language, power dynamics, and social exchanges to discern meaning and negotiate identities and beliefs.

DHA's applications, such as exploring racism (Reisigl & Wodak, 2001), identity construction (Wodak, 2012), or right-wing populist discourse (Sengul, 2019), highlight its capacity to analyze online-discourse intricacies. Rooted in the critical theory of the Frankfurt School, particularly reflecting Habermas's language philosophy (Wodak, 2015), DHA's distinctive strength lies in its capacity to integrate historical contexts and recontextualization—aspects often overlooked in discursively oriented mis- and disinformation research. In this study, by applying DHA principles to the realm of social-media discourse, the intricacies of how individuals interact with and interpret information can be unravelled, along with understanding the socio-political structures and power dynamics that facilitate these interactions.

Reflecting on DHA's stance on truth, this study acknowledges that discourse is not just a reflection of but a constructor of social reality, embracing a perspective of moderate constructivism (Reisigl, 2018). This approach allows for the analysis of discourse as multi-perspectival, engaging various viewpoints on social reality (Reisigl, 2018). By applying DHA, we can critically evaluate the truth claims within a discourse, understanding that these claims are not just about factual accuracy but also involve normative judgments and social constructions. This framework enables a deeper exploration of how discourses in social media shape perceptions and narratives in the context of the Russia–Ukraine conflict.

Contextualizing Hungary: media narratives and political discourse amidst the Russia–Ukraine war

Since 2010, Hungary's democracy has declined (Enyedi, 2018), transitioning into what the European Parliament (2022) terms an "electoral autocracy" under Prime Minister Viktor Orbán. This era, now solidified by Orbán's fourth consecutive electoral supermajority in 2022, has seen a strategic centralization of power and the creation of an "informational autocracy" (Krekó, 2022). Notably, this includes a sweeping consolidation of the media—by 2019, 78% of media outlets, across public and private spheres, were under pro-government influence (EFJ, 2019), an unprecedented level of media control within the EU. This centralization facilitates widespread disinformation, contributing to deep societal polarization that mirrors the political divide (Faragó et al., 2023), especially evident in the 2022 election's portrayal of Fidesz as a peace-promoting state party against a war-mongering opposition (Political Capital, 2022).

The backdrop of the Russia–Ukraine conflict further highlights Hungary's contentious media landscape. Orbán's government, diverging from the majority EU stance, has adopted a pro-Russian narrative, framing Fidesz domestically and internationally as advocates of peace, in contrast with

war proponents. Orbán even extended his narrative to label the Ukrainian president, Volodymyr Zelenskyy, as one of his adversaries, claiming a symbolic victory over him in his 2022 victory speech (Orbán, 2022); Orbán continues to frame the West as a threat to Hungary's sovereignty as opposed to Russia (Lamour, 2023).

Pro-Russian narratives exploit the enduring scars of the Treaty of Trianon, a significant post–World War I treaty causing vast territorial and population losses for Hungary (Szabó et al., 2020). This historical trauma is continuously revisited, especially given the Hungarian minorities in neighbouring areas, notably the Transcarpathian region in Ukraine. The situation has been further complicated by tensions between Hungary and Ukraine due to language laws in Ukraine that the Hungarian government argues discriminate against the Hungarian-speaking minority, contributing to strained relations (Dunai, 2017). Amid the ongoing Russia–Ukraine conflict, Hungary's stance remains ambiguous. The government, claiming to champion "peace", blames economic woes on EU sanctions against Russia (RFE/RL, 2022) and frames "the West" and the US as national threats (Orbán, 2023), strategically using foreign policy for domestic gains.

Research overview and study aims

This research examines Hungarian online discourse amid the Russia–Ukraine war, with a focus on discussions related to the Bucha Massacre, on Facebook. The Bucha massacre, involving the large-scale killing of Ukrainian civilians and prisoners of war by the Russian Armed Forces in early 2022, has been denied by Russia, attributed instead to Ukrainian fabrication or a false-flag operation (Higgins, 2022). The event has fuelled numerous conspiracy theories (Garner, 2023), complicating international discourse on Russia's war in Ukraine.

This study addresses the central question: *How do Hungarian online commenters construct, negotiate, and challenge alternative epistemologies and the notion of truth in connection with posts related to the Russia–Ukraine war?* The main objective of the study is to analyze the **epistemic patterns,** the structured ways through which individuals online construct, perceive, and communicate knowledge and beliefs, particularly in relation to competing narratives. This exploration focuses on the critical engagement of these users as they navigate and challenge prevailing notions of truth amidst widespread information and disinformation.

Method

Data collection

Sampling strategy and selection criteria

The data-collection process was conducted in a series of well-structured steps, which included:

1. Source selection: The goal was to pinpoint Facebook discussions that centred around the authenticity and disinformation related to the Russia–Ukraine war. Utilizing CrowdTangle and various fact-checking databases (see Supplementary Materials (SM) Table 1), I identified 16 Facebook pages known for disseminating disinformation (details in SM Table 2). Pages with an explicit editorial stance, such as pro-government sites, were excluded. While the selected pages were known for propaganda, they did not overtly declare their pro-government bias, potentially making them more organic and less directly influenced by government amplification.

2. Identifying relevant Facebook posts representing opposing narratives: Two Facebook posts with contrasting views on the Russia–Ukraine war were selected during the first year of the war (24 February 2022–24 February 2023). **Post 1**, the most commented-on on the disinformation pages, was a video by Orosz Hírek ("Russian News", liked by 92k, followed by 164k) with 18,612 comments. For a counter-narrative, **Post 2** was chosen from popular independent Hungarian outlets (for the list of independent news outlets, see SM Table 3) using CrowdTangle, focusing on posts mentioning Bucha during the first year of the war. The top post was from Telex.hu (liked by 479k, followed by 548k), a fact-check article on the Bucha massacre with 763 comments.

3. Comment selection: Using Facepager, comments from both posts were collected. The criteria for inclusion were:

1. **Language:** Only Hungarian comments, as Hungarian speakers mainly interacted amongst themselves.
2. **Engagement:** The 12 most relevant comment threads from each post, based on likes and replies, were chosen. This gave 151 comments for Post 1 and 130 for Post 2.
3. **Keywords related to truth:** To analyze how people construct truth, comments that included words related to truth, falsehood, disinformation, or personal accounts of information retrieval (e.g. "I have seen/heard/read") were included. For Post 1, these words were present in 706 comments. Similarly, for Post 2, the same word list was used (Table 4 in SM), resulting in an additional 216 comments. This made the final number of comments 857 for Post 1 and 346 for Post 2, equalling 1,203 comments altogether.
4. **Translation of comments:** I initially analyzed the comments in Hungarian to maintain the authenticity of the discourse. For the purposes of this article, I personally translated them into English, ensuring that the nuances and subtleties of the original language were preserved as accurately as possible.

A brief summary of the social-media posts

Featured on Orosz Hírek, **Post 1** showcases a 1:33-minute video of Vladimir Putin commenting on the Bucha massacre, listing US wrongdoings and dismissing Bucha as "a fake". The post is promoted with the caption: "Russian President Vladimir Putin speaks about Bucha HURU Oh, and there will also be a rally against Russophobia and sanctions in Budapest! April 30th." The video is in Russian with Hungarian subtitles. Facebook has flagged the video as "false information", requiring users to "see why" it has been flagged. However, the video remains viewable.

Post 2, by the independent Hungarian news outlet Telex.hu, features an article titled "Fact-check: The debunking video of the Bucha massacre disseminated by the Russians also confirms the Ukrainian position". It counters claims of staged scenes in Bucha with evidence like satellite images. The accompanying image features bodies on a street. This fact-check article directly addresses the Bucha massacre, aiming to clarify truth from fiction.

Ethical considerations

In conducting this study, ethical considerations were paramount. When sourcing the data from public Facebook pages, I ensured identifiable information was excluded. In research where participants partake in public debates, informed consent is not always mandatory, especially if the study poses a minimal risk and does not compromise participants' rights (Sugiura et al., 2017). I have taken extra precautions: comments are not in their original language in this article, making tracing them harder, and links to specific Facebook post are not shared. Additionally, I acknowledge that some comments contain offensive speech, and while reproducing such content can be problematic, its inclusion is crucial for transparency in discourse analysis.

Data analysis

Discourse-historical approach (DHA)

In this study, I adapted DHA's five discursive strategies—nomination, predication, argumentation, perspectivization, and intensification/mitigation, including epistemic and deontic status (Reisigl & Wodak, 2001)—to analyze lay discourse amidst the Russia–Ukraine conflict, with a focus on the Bucha massacre. This method allows us to uncover epistemic patterns, revealing how individuals construct, perceive, and communicate knowledge and beliefs in relation to competing narratives. The application of DHA's strategies unfolds as follows:

1. By scrutinizing the terminology and labels used by discussants to reference people, sources, or groups, I systematically uncovered the underlying categorization patterns. This step was crucial for understanding the implicit perceptions and classifications at play, thereby decoding the social and ideological underpinnings of discourse. Each instance of nomination was cataloged and analyzed to map out the network of associations and implications embedded within the language used by participants. (Nomination)
2. The examination of attributed characteristics and qualities served as a lens through which the construction and contestation of credibility and truthfulness were viewed. By dissecting the adjectives, descriptors, and narratives used to frame entities within the discourse, I could trace how participants constructed their epistemic landscapes, delineating the boundaries between truth and falsehood, friend and foe. (Predication)
3. The analysis of argumentative structures provided insights into the reasoning patterns and logical frameworks individuals employed. This involved not just identifying the types of arguments (e.g., logical, emotional, ethical) but also understanding their function and effectiveness within the discourse. By doing so, I was able to discern the foundational beliefs and assumptions guiding participants' epistemic stances. (Argumentation)
4. Investigating the presentation of viewpoints revealed the diversity and conflict of epistemic perspectives within the discourse. This entailed not only cataloging differing views but also examining the rhetorical strategies used to present and bolster these perspectives. The analysis shed light on the biases, assumptions, and ideological leanings that shaped participants' interpretations and expressions of the conflict. (Perspectivization)
5. Observing the modulation of the illocutionary force in utterances, especially in disinformation contexts, provided key insights into the epistemic and deontic dynamics at play. By analyzing how participants expressed doubt, certainty, obligation, or suggestion, I identified patterns of conviction and skepticism. This nuanced understanding of intensification and mitigation strategies helped map the terrain of belief and doubt, illuminating how discourse participants navigate complex webs of information and misinformation. (Intensification/mitigation)

By delineating this methodological process, the study elucidates not merely the 'what' of discourse patterns but the 'how' and 'why'—the mechanisms through which individuals engage with, interpret, and contribute to the evolving narrative landscape surrounding the Bucha massacre. This approach ensures a transparent and replicable framework for analyzing discourse, grounding the emergence of findings in a rigorous, systematic examination of discursive practices.

Coding and analysis

To analyze the selected comments, I used ATLAS.ti, a qualitative data-analysis suite, to code and categorize the discourse. The software helped me systematically organize and explore the data, revealing emerging themes, patterns, and relationships. The coding process involved an iterative approach, moving between inductive and deductive coding strategies, as I refined my understanding of the data and developed more nuanced insights.

Results

Through the analysis of comments under the aforementioned Facebook posts, I found four distinct epistemic patterns:

1. **Polarization pattern:** Commenters often reduced complex geopolitical issues to binary oppositions, such as Putin versus Zelenskyy or Russia against the US/West, highlighting a tendency to simplify intricate dynamics into antagonistic dualities.
2. **Historical pattern:** Here, commenters exhibited a deep engagement with historical contexts and interpreted current events through subjective historical lenses.
3. **Epistemic Authority pattern:** This pattern captured the diverse range of sources commenters relied on, from invoking recognized authorities in their pursuit of truth to personal anecdotes and alternative viewpoints that challenge mainstream narratives.
4. **Agency pattern:** This pattern reflected the degree of self-belief in a commenter's own understanding of the situation, ranging from those who claimed superior insight to those who expressed doubt or denial.

These patterns provided insight into the avenues individuals use to navigate and interpret the intricate information landscape, revealing the multifaceted ways Hungarian online commenters discern and engage with geopolitical narratives. While these patterns often overlapped or co-occurred, revealing the layered nature of discourse, in the following section I will examine each pattern separately. This focused approach will highlight specific examples, providing clearer insights into the discursive strategies used amidst the competing narratives and geopolitical tensions.

Polarization pattern

The "Polarization pattern" identified underscored the impact of political divides in shaping online discourse. This pattern, illustrated by Comments 1 and 2, demonstrated the influence of entrenched political narratives on the reception and perception of information.

Comment 1: *"How sincerely he speaks, and how clearly Putin sees. He's a smart politician, 10000% right! It's all been a provocation against him for years... And now he strikes back, and he's the one declared guilty, where he is right! How many more innocent people must die before this vile actor is finished!... Where is the truth then?"* (Post 1)

In Comment 1, the commenter employs nomination, painting Putin as a "sensible and truthful politician". The use of "how sincerely" and "how clearly" intensifies the assertion about Putin's sincerity and clarity, amplifying the commenter's positive evaluation of Putin. Meanwhile, Zelenskyy is sidelined as a "vile actor". This polarization mirrors Hungarian narratives (Előd, 2023) and critiques Zelenskyy's acting background. Predication attributes honesty to Putin and deceit to Zelenskyy, aligning with representations of Putin as authentic, a "good father" (as described by Eksi & Wood, 2019). The argumentation is applied to defend Putin's actions as reactions to provocations. The comment's assertive epistemic status underlines a belief in Putin's righteousness and scepticism towards mainstream narratives. Lastly, perspectivization is evident as the commenter seeks an "alternative truth", challenging prevalent views.

Comment 2: *"you are cursing Russia I don't know why? This is the only country in the world that is not yet controlled by the world bank from the background you are just mimicking America and your idiot biden.....he is not worthy to capitalize his name you should think a little about who is running the world....it is not the politicians you see on TV refugees are coming to Europe from a country where there is peace....why is that? To provide labour for the benefit of capitalists Ursula von stinky bitch is a puppet who is manipulated at the level Putin is only protecting himself and his sovereignty.....he is right"* (Post 1)

In Comment 2, the nomination strategy articulates Putin as a defender, contrasting with derogatory portrayals of US President Joe Biden and EC President Ursula von der Leyen, reflecting the similar Hungarian hegemonic discourse (Reuters, 2023). The choice of words such as "idiotic" for Biden and the negative depiction of von der Leyen actively employ predication to set Putin's righteousness in stark contrast, reflecting trends in gendered hate speech (Sakki & Martikainen, 2022). This depiction frames Russia as the victim, showcasing clear skepticism towards Western narratives through argumentation. The comment's epistemic status showcases doubt and resonates with Hungary's pro-Russia sentiment (Krekó, 2022). Through perspectivization, the comment aligns with Putin's protective stance against global manipulation. Intensification highlights Putin's virtue, while mitigation downplays Western leaders. In essence, the discourse in this comment not only echoes but fortifies the pro-Kremlin narrative that seeks to destabilize the West (Baumann, 2020).

Historical pattern

The analysis revealed a prominent pattern: the use of historical narratives to frame current events, particularly evident in Comments 3–5. This approach is crucial for understanding geopolitical dynamics and the role of governments in shaping disinformation campaigns, highlighting how past events continue to influence modern discourse.

Comment 3 states:

"Yes! They cannot deny these things, just like the threats in Transcarpathia when they tried to terrorize the Transcarpathian Hungarians! I have quite a few Transcarpathian colleagues, and I talk to them!" (Post 1)

Through nomination, the comment highlights the importance of Transcarpathian Hungarians in the narrative, suggesting their historical victimization. The strategy implies a shared understanding of mistreatment against this group. Predication portrays Ukrainians as historical and present-day aggressors, specifically alleging their attempt to "terrorize the Transcarpathian Hungarians". Through argumentation, the commenter offers personal interactions with Transcarpathian colleagues as evidence, aiming to lend credibility to their claims. Perspectivization situates the commenter not just as an observer, but as someone closely connected to the affected group, enhancing the claim's authenticity. Intensification/mitigation is evident in the exclamation marks, amplifying the comment's sense of urgency and certainty. By merging historical references—like the Treaty of Trianon's impact on Hungary's borders and minorities—with current events, the comment showcases DHA's recontextualization. This intertwines deep-rooted sentiments with today's discourse, linking ongoing national and ethnic identity struggles to contemporary discussions.

In stark contrast, **Comment 4** states:

"These questions can be decided much more simply: the truth is always what the Kremlin denies. Historical experience." (Post 2)

In nomination, the Kremlin is the focal point, signalling scepticism towards its narratives. Through predication, the Kremlin is characterized as perpetually deceptive, suggesting an unchanging nature

of untrustworthiness and deceit. The phrase "historical experience" subtly invokes Hungary's past and collective memories under Soviet influence and communism, suggesting a long-standing pattern of deceit by the Kremlin. This reference to history acts as evidence of the Kremlin's continued untrustworthiness. The commenter positions themselves as an astute observer, offering a simplified method to understanding geopolitics: scepticism towards the Kremlin's claims. The use of absolute terms like "always" amplifies this message, urging the audience to recognize a historical continuity in the Kremlin's actions.

Epistemic Authority pattern

Within the online discourse, individuals frequently invoke varied forms of authority to strengthen their claims. This tendency manifests distinctively in the dataset as the "topos of authority" within the DHA framework (Wodak et al., 2001). This pattern emphasizes leaning on higher authorities—be they divine, temporal, or institutional—to substantiate one's assertions. However, a noteworthy dichotomy emerges. On one hand, some individuals appeal to **external** sources (here, Comments 5 and 6), using recognized entities as foundational pillars. At the opposite end, others resort to **internal** sources (Comments 7 and 8), mining their personal experiences or challenging dominant narratives. Such an epistemic manoeuvre, aligning with argumentation-theory underpinnings (Toulmin, 2003), showcases the intricate means by which individuals navigate the multifaceted realities of online discussions.

Comment 5, "leave it to the righteous JUDGE, and that is the living eternal God" (Post 1), offers a glimpse into external appeal. The commenter's use of nomination strategy manifests in the primary reference to "living eternal God", positing a transcendent moral authority. Through predication, God is ascribed the role of the "righteous JUDGE", suggesting an infallible moral standpoint—an adjudicator beyond reproach. Argumentation surfaces in the assertion of leaving matters to this supreme entity, subtly urging deference to divine judgment, thus sidestepping human accountability. The perspectivization is unmistakable: the commenter positions themselves as one advocating relinquishing human agency in the face of divine providence. Finally, the capitalization of "JUDGE" acts as an intensification, emphasizing the paramount authority of God. The high epistemic status of this statement is evident in the unwavering certainty of God's position, while its deontic status subtly suggests an obligation to defer to this divine authority.

Comment 6, *"Everything has a beginning and an end"* (Post 1), offers a more temporally bound perspective. In terms of nomination, the abstract notions of "beginning" and "end" are foregrounded, drawing attention to life's cyclical nature. Through predication, the comment ascribes an authoritative and inexorable nature to time. The implicit argumentation here underscores time's role as a grand revealer of truths, implying its ultimate arbitration power. The perspectivization suggests the commenter accepts life's impermanence and inevitability. There is subtle mitigation in the statement; it does not explicitly claim any specific end or beginning, but hints at a general truth. The comment's epistemic status floats in a zone of contemplative certainty, while its deontic status hints at an implied suggestion to acknowledge and accept this temporal rhythm.

As we shift away from external validations, another set of arguments emerges, either presenting personal anecdotes as their source of truth or directly challenging authorities or certain sources of knowledge. This showcases another dimension of "epistemic authority": the balance between anecdotal representation and direct confrontation of accepted norms.

In the comments analyzed, personal anecdotes frequently overshadow empirical evidence, as in **Comment 7**:

"My partner is a hospital employee. Unfortunately, he knows what a real corpse looks like. He has seen footage of the alleged dead. He thinks they only crawled into the black bag because of the cold" (Post 1).

The commenter uses nomination to establish their partner's credibility as a "hospital employee", setting a credible backdrop for their skepticism towards mainstream accounts of the "alleged dead". Through predication, they attribute expertise to their partner, asserting a unique ability to distinguish real deaths from staged. This approach questions the authenticity of reported fatalities, positioning the partner's firsthand experience as a counter-narrative to accepted views. Through perspectivization, the commentator positions their viewpoint through the partner's lens, creating an indirect challenge to mainstream narratives. This indirect approach offers a layer of protection, as any refutation can be deflected to the partner's experiences rather than the commentator's personal beliefs. The strategic use of "unfortunately" intertwines intensification and mitigation, highlighting the gravity of the partner's job while softening the critique. The comment's confidence in the partner's observations suggests a strong epistemic stance, while subtly encouraging readers to reconsider official narratives, reflecting a nuanced invocation of personal experience to challenge established truths.

"Facebook wrote it's 'false information.' I think it's not false at all, Putin is entirely right! Slava Russia! Long life Putyn! 🇷🇺🇷🇺🇷🇺🇷🇺🇷🇺" (Post 1),

In **Comment 8**, the commenter employs nomination strategy to directly reference Facebook's designation of "false information", challenging the platform's epistemic stance while juxtaposing it with their personal belief. The predication strategy attributes veracity to Putin, viewing him as "entirely right", which implicitly questions the legitimacy of Facebook's attempt to moderate truth. This argument challenges the traditional notion of top-down information dissemination, positioning the commenter in a space of resistance. Perspectivization reveals itself in the commenter's expression of support for Putin, which goes beyond mere disagreement with Facebook. As for intensification and mitigation, the repetition of "RU" acts as a clear intensifier, showcasing unwavering support for Russia and Putin. Their epistemic status is conveyed in their assertive rejection of Facebook's label and affirmation of Putin's correctness. The comment's deontic status subtly implies that readers, too, should question Facebook's labels and perhaps trust alternative narratives, emphasizing a permission to think beyond platform-imposed boundaries. This is also in line with studies showing that while warning labels generally reduce belief in misinformation, their effectiveness can vary, especially with complex issues (Martel & Rand, 2023).

<u>Agency in understanding: from denial to claims of superior understanding</u>

In these online discussions, it becomes evident that not all expressions of knowledge are solely about *what* one knows; often, they are also about *how confidently* one believes they know. Here, it is crucial to differentiate between "epistemic status"—a reflection of one's perceived level of certainty or knowledge regarding a statement—and "agency"—an individual's sense of self-belief or self-efficacy in their understanding and interpretation of situations. While epistemic status offers a window into the degree of confidence towards a particular claim, agency dives deeper, revealing a commenter's sense of self-assurance or doubt in their capability to discern and understand.
This distinction finds resonance in the Agency pattern. This pattern, exemplified in Comments 9 and 10, captures the fluctuating degrees of self-belief expressed by commenters, underscoring their perceived position within the overarching epistemological hierarchy. While some stride forth with convictions, asserting their superior understanding of the situation, others tread cautiously, grappling with doubt or denial. Within this spectrum, commenters illuminate their varying levels of epistemic autonomy, navigating the realms of information, disinformation, and personal belief systems.

"Calm thinking. We all know the truth!!! Allowing America space is a great danger!!!" (Post 1)

Comment 9, offers an illuminating glimpse into the self-assured end of this spectrum. Nomination is employed through "we", which creates a communal sense of understanding and suggests a shared belief rather than an individual opinion. The strategy of predication can be seen in America being depicted as a significant threat, a characterization that underscores the comment's urgent tone. The comment—through argumentation—asserts a widely accepted notion of America's perilous role, presented not as debate but as acknowledged truth. By claiming "calm thinking", the commenter not only asserts a rational stance but also positions themselves within an informed group, elevating their argument's credibility. In terms of intensification and mitigation, the triple exclamation serves to amplify the message's urgency and the commenter's firm belief in it. No room is left for doubt; the epistemic status here brims with confidence. Conversely, there is no apparent effort to mitigate or soften the stance. As for the epistemic and deontic status of the comment, the degree of certainty is palpable. The commenter not only believes in their knowledge but urges others to recognize and act upon it, highlighting an implicit deontic call to wary engagement with "America".

"The mass graves do not speak; the dead cannot tell who killed them. Reality is not visible." (Post 1),

In a different vain, **Comment 10**, delves into the ambiguity surrounding mass graves, suggesting a profound uncertainty in discerning the truth. It nominates "mass graves" and "the dead" as silent witnesses, highlighting the limitations in extracting clear narratives from such evidence. Through predication, it associates silence and invisibility with these entities, underscoring the challenges in grasping the events' realities. This implicitly argues for the need for scepticism due to the unreliability of direct evidence in making sense of complex events. This perspective is rooted in a sense of epistemic helplessness, pointing to the elusive nature of "real" truth. Without directly confronting any specific narrative, it uses language that intensifies the sense of uncertainty and advocates for a cautious approach in dealing with such complex topics.

Discussion

This article has explored how individuals engage with and shape online narratives, focusing on their strategies for discerning and navigating conflicting truths. Utilizing discourse-historical analysis (DHA), I examined the social-epistemic rhetoric of Hungarian online commenters on Facebook in the context of narratives related to the Russia–Ukraine war, specifically the Bucha massacre. The two narratives—on which people commented—were engaged in establishing "the truth", either through fact-checking or by disseminating misleading content. Moving beyond foundational research, this study examines a broader audience than just conspiracy-theory advocates, contrasting with prior works like Robertson & Amarasingam (2022) on QAnon or Harambam and Aupers (2021) on conspiracy legitimization. The analysis revealed four distinct epistemic patterns—polarization, historical, epistemic authority, and agency—highlighting the array of discursive tools individuals use to navigate complex geopolitical narratives. The Hungarian case, marked by high polarization and disinformation occurrence, offers insights into how collective memory and geographical positioning influence public discourse and perception in the online realm.

The observed **Polarization pattern** highlights how Hungary's geopolitical discourse relies on pronounced dichotomies, simplifying complex issues into "us-versus-them" scenarios, such as Putin versus Zelenskyy or Russia against "the West". This reductionist lens reflects DHA's view of ideologies as shared cognitive structures based on common beliefs. The post in this study containing Putin's speech garnered the approval of many in the comments. Notably, the discussions centred more around Putin's persona than the substance of the speech, underscoring the considerable trust placed in his authority as well as the personalization of politics (Bennett, 2012). In stark contrast, a

more neutral platform by an independent news site became a battleground of epistemic contestation, with the comments displaying a wider array of interpretations and perspectives. This divergence mirrors Hall's (1980) notion differentiating the *message* from its ultimate *meaning* among audiences. While figures like Putin can guide narrative reception, impartial platforms often give space to diverse interpretations. This prevailing discourse polarization, whether by design or coincidence, echoes pro-Kremlin disinformation goals, as Baumann (2020) notes, aiming to fragment and destabilize the West.

The **Historical pattern** emphasizes the pivotal role history plays in individuals' epistemological processes, particularly when discerning contemporary geopolitical narratives. Commenters regularly draw on collective historical memory, group trauma (Schori-Eyal et al., 2017), and collective nostalgia (Dimitriadou et al., 2019), integrating them into their interpretations of both misinformation and genuine news. Even without overt historical prompts in the posts, certain collective memories, such as Soviet occupation or the Treaty of Trianon, are spontaneously invoked. Such historical references, reminiscent of popular-culture allusions, access shared cultural reservoirs, sparking potent discursive patterns and emotional responses (Wagner & Schwarzenegger, 2020). This inherent inclination to understand present events against historical backdrops underscores a foundational epistemological approach. Moreover, as these historical elements are introduced by commenters, they not only inform current perspectives but also offer avenues for recontextualizing and revisiting past narratives.

The **Epistemic Authority pattern** reveals how commenters navigate between relying on external authorities—such as God, time, or formal investigations—and trusting their own experiences to shape their interpretations. In line with Robertson and Amarasingam (2022), by invoking external entities, commenters not only attempt to gain epistemic capital to influence others but also to fortify their own beliefs. This is not merely a casual nod to authority; it underscores DHA's principle that language's true power is contingent upon its user. Here, referencing transforms into a manifestation of Weber's (1980) notion of power, acting as both a tool and a declaration of intent within the discourse. Conversely, some individuals prioritize personal anecdotes over external validation, emphasizing their **epistemic independence**. As posited by Bricker and Justice (2019), personal stories can challenge mainstream, data-based narratives, aligning with research showing the significant impact of personal experiences in legitimizing alternative narratives, including conspiracy theories (Harambam & Aupers, 2021). Here, the choice to challenge established authorities underscores the value of personal knowledge and narrative control.

Drawing from the earlier distinction between "epistemic status" and "agency", the **Agency pattern** underscores the tension between confidence and doubt that commenters experience when interpreting geopolitical narratives. As noted earlier, while epistemic status provides a glimpse into the depth of confidence behind a claim, agency delves into a commenter's self-assurance or hesitancy in their interpretive capacity. While many commenters showcased robust agency, articulating their perspectives with authority—a trait often seen in conspiracy discourse—others articulated **epistemic helplessness**, a profound sense of being overwhelmed by the amount of conflicting information, resulting in a feeling that they cannot possibly discern the truth. This can prompt heavy reliance on external authorities for guidance, or even a descent into denial to evade unsettling truths. As Franks et al. (2013) note, conspiracy theories might arise from a diminished sense of control, with individuals seeking explanations to reclaim perceived agency amidst complex geopolitical scenarios. In this light, conspiracy theories might aim less at disproving events and more at constructing a narrative buffer against admitting that something as horrible as a massacre could happen geographically close—essentially "in their own backyard" (Scott, 2001).

The findings underscore the importance of integrating an epistemological approach in the study of misinformation, aligning with Uscinski's (2024) critique of the current methodologies in the field. Uscinski calls for a more rigorous engagement with epistemology to enhance the understanding of misinformation beyond simple factual inaccuracies. By systematically analyzing epistemic patterns, this study illuminates how misinformation is perceived and propagated among Hungarian commenters. It reveals the underlying epistemic stances individuals take when engaging with competing narratives, emphasizing that understanding misinformation involves not just assessing true or false information, but also considering the social and contextual factors that shape these perceptions.

Concluding this study, the social-epistemic rhetoric and discourse patterns around the narratives on Facebook concerning the Russia–Ukraine war underscores the multifaceted nature of disinformation, particularly in contexts of war. Hungary's unique geopolitical and historical context offers insight into how historical memory, epistemic authority, and personal agency influence public perception. In the shadow of events like the Bucha massacre, these findings show how individuals engage with, challenge, and sometimes resist competing narratives. This mix of acceptance, denial, and reinterpretation goes beyond separating fact from fiction, reflecting deeper societal, cultural, and psychological dynamics. As such, understanding disinformation, especially in the heated milieu of war, requires a nuanced appreciation of these undercurrents—a task that is crucial for comprehending and addressing the challenges posed by misinformation in our increasingly online and interconnected world.

Limitations and future directions

The study is not without limitations. Firstly, focusing on Facebook comments faces limitations due to the single-platform scope and the potential non-representativeness of the findings across various online and offline environments. Facebook's unique algorithms and user interface could influence narrative formation differently than other platforms. The study is also limited by its sample size, which, while offering valuable insights, captures only a subset of a potentially more varied discourse. The selected comments likely come from regular page followers, suggesting that the views might represent a more active and possibly polarized user base rather than the general population. Additionally, not all users engage by commenting, so the study may overlook the silent majority's perspectives. While the study attempts to read between the lines, interpreting the "silence" remains challenging. A lack of narrative or comments might speak volumes, influenced by unspoken fears, self-censorship, or sheer indifference.

This study highlights several paths for future research, notably the significant role of historical contexts in shaping contemporary discourse. Investigating various historical narratives relevant to regional identities could deepen our understanding of current discussions and examine how past narratives are woven into today's digital conversations.
The identified epistemic patterns present a foundation for employing advanced analytical tools, such as machine learning, to analyze public discourse on a larger scale, potentially uncovering how these patterns change or persist across digital spaces.
The influence of non-textual elements like emojis and images on narrative interpretation—especially important in visual communication—warrants further examination. A cross-cultural comparative study could highlight both universal and region-specific discursive patterns. Lastly, a longitudinal study observing how online narratives evolve with geopolitical developments could offer insights into the dynamic nature of digital discourse.

Conclusion

This study on Hungarian online discussions during the Russia–Ukraine conflict explored the multifaceted ways individuals negotiate "truth" amidst competing narratives. The four distinct epistemic patterns—polarization, historical, epistemic authority, and agency— highlighted Hungary's specific political and historical context in shaping discourse, while also offering a foundational basis for understanding similar online interactions beyond Hungary. This article not only expands the academic conversation around online epistemologies but also underscores the importance of discursive research in understanding misinformation dynamics. The study has implications for media literacy, public policy, and digital-platform design, suggesting that understanding these discursive patterns can aid in developing strategies to foster constructive dialogue and mitigate misinformation.

This study also suggests gentle caution against oversimplification in research. While it can be tempting to seek clear-cut explanations, reality often involves a rich spectrum of factors and influences. Recognizing and appreciating this complexity is not only crucial for a thorough understanding of disinformation in our interconnected age but also for developing more effective strategies to address the challenges it presents. As such, this study contributes to a growing body of work that advocates for a more nuanced, multi-dimensional approach to exploring misinformation online.

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Supplementary Materials

Table 1. List of factcheckers and news organization used to identify the list of Russian disinformation pages.

Factchecker name	**Website**
Lakmusz	https://lakmusz.hu
DPA factchecking	https://dpa-factchecking.com
FactCheck	https://www.factcheck.org
MythDetector	https://mythdetector.ge/en/
PolitiFact	https://www.politifact.com
LeadStories	https://leadstories.com/

Table 2. Hungarian Facebook pages containing Russian disinformation that were identified and used in the study

Original name (Hungarian)	**English translation of name**	**Facebook ID**
Orosz Hírek	Russian news	oroszhirek.hu
Itt – Honról – Haza	From Home to Homeland	Futballzarandoklat
Hír-Express	News express	napihirek11
Magyarforum	Hungarian Forum	magyarforumonline
Számok – a baloldali álhírek ellenszere	Numbers - the antidote to left-wing fake-news	szamokadatok
Magyar Tudat Nemzeti Hírportál	Hungarian Knowledge National Newsite	Magyar-Tudat-Nemzeti-H%C3%ADrportál-577057608989203
Bekezdések	Paragraphs	bekezdesek
VilagHelyzete	State of the World	VilagHelyzete
Hihetetlen Magazin	Unbeliavable Magazine	HihetetlenMagazin
Magyar Békekör	Hungarian Peace-circle	bekekor
Nemzeti InternetFigyelö	International Internet-watcher	nemzeti.internet.figyelo
Napi téma – Eltitkolt tudás	Daily topic – Hidden knowledge	jobbeletszinvonal
Orientalista.hu	Orientalist.hu	orientalista.hu
Igazságot a tolvajkergetöknek	Justice for the robber-chasers	tolvajkergetokert
Kiállunk Oroszország mellett – Support Vladimir Putin from Hungary	We stand by Russia	kiallunkoroszorszagmellet
Hídfö Net	Bastion Net	Hidfo.net

Table 3. List of independent news outlets in Hungary, and their Facebook pages that were used in the study

Name	Facebook ID
Telex.hu	telexhu
24.hu	24ponthu
444.hu	444.hu
HVG	hvghu
RTL.hu	rtlponthu
Klubrádió	klubradio
Magyar Narancs	magyarnarancs
Szabad Európa	szabadeuropahu
Magyar Hang	magyarhang.org
Mérce	magyarinfo
Atlatszo.hu	atlatszo.hu
Partizán	partizanpolitika
G7.hu	G7gazdasag
Válasz Online	valaszonline
Direkt 36	direkt36
Lakmusz	lakmusz.hu
Tilos Rádió	tilosradio

Table 4. List of words used to filter and include comments in the study.

Theme	Words in Hungarian	Words in English
Truth	Igaz, igazság, igaza- van, tény, bizonyíték, kiderül, valóság, szinész, színészkedik	True, truth, [someone is] right, fact, proof, will be revealed, reality, actor, acting
Lie	Hazug, hazugság, hazud-, hamis, kamu, agymos-, birka, propaganda	Liar, lie, [they are] lying, fake, fake (slang), brainwash, sheep, propaganda
(Dis)information	Dezinfo, álhír, hír, forrás, hiteles	Disinformation, fake news, news, source, authentic
Personal account of retrieving information	Néztem, láttam, olvastam, hallottam	I watched, I saw, I read, I heard
Forming/asking for opinion	Gondol, szerinte- , tud-, bizonyít-, hisze-	To think, In [someone's] opinion, to know, to prove, to believe
Media	Facebook, média, Telex	Facebook, media, Telex

Note. All conjugated forms of the above words were included in the study.