

Manufacturing Ignorance

Conspiracy Theories, Pseudoscience, and
Epistemic Relativism in Hungary and Beyond

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1. Introduction: the social psychological approach to epistemically uncertain beliefs

1.1. Preface, Overview, and Acknowledgements

We are living in an era of endemic uncertainty—an age in which the world’s problems increasingly demand identifiable faces to blame them. But this phenomenon is not new. In 1945, Karl Popper (Popper, 1945) described the *conspiracy theory of society*, according to which powerful individuals or groups are believed to deliberately orchestrate all societal ills, as a secularized form of religious superstition. Yet, humanity appears to crave not only divine but also with infernal explanations—narratives that fill the chaos with meaning.

Modern conspiracy theories are not only born of cynicism; also, often function as populist fables of negative morality, where a corrupt elite plays the villain and the virtuous people are destined to triumph (Fenster, 2008).

As humans, we are fallible (Gilovich, 2008) and often gullible (Forgas and Baumeister, 2019). While gullibility has its limits (Mercier, 2020), people often *want* to believe in ideas that are demonstrably false. This dissertation investigates the broader phenomenon of *motivated gullibility*—its psychological and social roots, its boundaries, and potential counterstrategies. It brings together more than a decade of empirical research since the submission of my doctoral dissertation, combining survey and experimental data with theoretical findings. Much of the work included here has already been published in academic journals or book chapters, but this is the first time it is presented in an integrated and systematic way.

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This dissertation is structured as follows:

Chapter 1 (Introduction) provides a problem map, outlining the conceptual terrain and demonstrating how seemingly unrelated issues are in fact interconnected. It sets the theoretical and empirical groundwork, framing conspiracy theories and pseudoscientific beliefs as outcomes of collective motivated cognition. The chapter explores the roles of uncertainty, emotion, and group identity in shaping false beliefs and introduces key concepts such as disinformation, fake news, and epistemic relativism. Hungary is highlighted as a focal case in a broader comparative context.

Chapter 2 investigates the role of political conspiracy theories in East-Central Europe—especially Hungary—as tools of populist mobilization and elite manipulation. It examines the historical roots of the paranoid style, its function in power hierarchies, and its cultural foundations (e.g., masculinity, collectivism). The chapter pays special attention to emblematic myths such as the “Rózsadomb Pact” and Soros-related conspiracies, situating them within the region’s nationalist and antisemitic discourses.

Chapter 3 shifts focus to *pseudoscientific beliefs* and COVID-related conspiracy theories in Hungary. It analyzes the entanglement of science denial and conspiracy thinking during the pandemic, the dominance of personal narratives over empirical evidence, and the overlap between pandemic and war-related conspiracy beliefs. Empirical data from Hungary illustrate public trends and psychological mechanisms.

Chapter 4, *Belief in Fake News and Its Motivations*, explores the psychological and political drivers of fake news acceptance. It highlights how wishful thinking, deficits in analytic thinking, and partisanship contribute to belief in disinformation. The chapter argues that such beliefs are often not a result of ignorance, but of emotionally and ideologically motivated cognition.

Chapter 5 turns to *epistemic relativism*—the notion that truth is subjective and malleable. It introduces the concept of the “information apocalypse” and the phenomenon of learned helplessness in a saturated information environment. It combines qualitative insights with pilot empirical data from Hungary and comparative cases in the region.

Chapter 6, *Counterstrategies: Debunking, Prebunking, and Prosocial Wise Interventions*, reviews intervention strategies aimed at reducing false beliefs. It presents a taxonomy of countermeasures, summarizes relevant empirical findings (including my own experimental work), and evaluates the conditions under which such interventions succeed or fail.

Chapter 7 (Conclusion) synthesizes the findings and discusses their implications for social psychology, public policy, and democratic institutions. It offers recommendations for future research, particularly in the areas of intervention design and epistemic resilience, and concludes with reflections on science communication and institutional trust-building in an era of pervasive conspiracy culture.

1.2. Problem Map: the scope of this dissertation

The dissertation deals with a wide range of topics. The section below aims to briefly explain the most important guiding questions of my research, the strategy behind the empirical investigations, and the academic novelty they serve.

The **meta-problem** of the dissertation is intentionally broad, and it does not claim to provide a definitive or perfect answer to the question: *Why do people believe false, epistemically weak, or uncertain claims—and how can these beliefs be countered?* This dissertation is concerned not only with how individuals and groups come to believe demonstrably false claims, because—as will be clarified in the terminology section—not all conspiracy theories or pieces of disinformation are false by definition; some may contain elements of truth.

The common denominator of the phenomena explored here is the question of why—in an era when facts are more widely available than ever before—people are willing to accept unsubstantiated claims with a high level of subjective certainty. I also examine why and how terms such as *conspiracy theories*, *pseudoscientific beliefs*, and *fake news* become entrenched, remain resistant to correction, and what methods might succeed in overcoming this resistance.

The most important **subquestions** are the following:

- What is the role of power relations and positions (hierarchical, vertical relations) in accepting, spreading, or refuting false beliefs?

- To what extent do *horizontal* intergroup conflicts and animosities—such as polarization, tribalism, intergroup prejudice, and tensions—fuel the psychological demand for false beliefs?
- What explains the rejection of scientific knowledge and evidence during times of crisis (e.g., COVID), when the stakes of such beliefs are significantly higher and may lead to serious—even existential—consequences in healthcare? □ How are the false beliefs connected to each other in a systemic way?
- How important is the role of cognitive laziness (Pennycook and Rand, 2019)—i.e., lack of sufficient knowledge and imperfect information processing—versus motivated information distortion based on self- or group-interest in the acceptance of false or epistemically risky beliefs? To what extent can these two factors be separated?
- What is the cumulative impact of the *post-truth* information environment and chronic exposure to disinformation on how people perceive the world? How can it erode subjective “positivism” and give way to endemic postmodernism and pervasive uncertainty about the very existence of facts?
- What is the role of societal and cultural factors in shaping susceptibility to false beliefs and resistance to scientific reasoning?
- What are the most effective tools in psychological interventions, and to what extent do they require the active involvement and empowerment of participants?
- What can scientific institutions do to curb the spread of pseudoscientific beliefs?

The core concepts of the dissertation are multifold. Below, I provide a brief overview; a more detailed terminology and a multilayered typology (with references) can be found in the *Definitions* section.

Throughout the dissertation, conspiracy theories will refer to narratives involving powerful actors collaborating in pursuit of malevolent goals against an ingroup. Conspiracy beliefs denote belief in the existence of such conspiracies.

Fake news refers to deliberate falsehoods disseminated through various information channels, whereas disinformation involves information intentionally designed to mislead—even if it is not necessarily false by definition. Both phenomena can contribute to the formation of beliefs.

Pseudoscientific beliefs are convictions rooted in misguided or unfounded scientific claims, often tied to skepticism toward elites.

As a consequence of the above, epistemic relativism emerges as a generalized belief that "nothing is true and everything is possible"—a pervasive skepticism toward facts.

These are treated as distinct but overlapping categories, which are not always easy to clearly separate. All these concepts are part of broader individual and social belief systems.

The overarching theoretical framework of the dissertation explains false beliefs as a result of “collective motivated cognition,” where cognition refers to the basic demand to obtain information about the world, but also to the biases in reasoning (confirmation bias, heuristic thinking). Motivation can be a desire for epistemic closure, identity protection, or power assertion. The collectivity of such beliefs refers to the social identity they are rooted in, as well as the in-group solidarity and intergroup conflict they are connected to. This approach combines motivated reasoning with social identity theory and system justification theory. (A broader description will be found in the “motivated collective cognition” section.)

While the theoretical framework of the study is designed to be universal, there is a dual Geographical Scope of the Study. The empirical research is primarily conducted in Hungary, with some opportunities for international comparison. This dual focus—Hungary at the center, supplemented by data from Central Europe or, in some cases, broader European datasets—enables a more nuanced interpretation of the findings. It allows for sensitivity to the specific cultural and contextual features of Central and Eastern Europe, and especially Hungary, including value-based and normative differences such as levels of trust, attitudes toward masculinity, and the importance placed on family.

1.3. Theoretical and terminological foundations

The HIV virus was deliberately developed in American state laboratories to be spread among the Black community. The 9/11 terrorist attacks, which destroyed the World Trade Center, were not carried out by Muslim extremists or Osama bin Laden, but by the American government, aiming to reaffirm its power and wage a profitable war in the Middle East. The existence of the coronavirus is just a fairy tale, and with the vaccines “the cabal” only inject a microchip developed with nanotechnology into our bodies. This microchip not only gathers information about us but makes us "remote-controlled."

Why do we believe in such theories? Do they have any psychological benefits? Why do people sometimes imagine a world inhabited by evil emperors who have total control over us and deceive us with the help of the media? What causes the persistence of conspiracy theories on the one hand and their popularity on the other? In this and the next subchapter, I aim to introduce a terminological and theoretical framework that can help people better understand the functions and motivations behind false beliefs in general, and conspiracy theories in particular and their psychological "benefits."

In 2009, more than two-thirds of Hungarian respondents at least partly accepted some components of the conspiracy worldview (Krekó, 2015). In 2009, more than two-thirds of Hungarian respondents at least partly accepted some components of the conspiracy worldview (Krekó, 2015). Comparative research suggests this is not solely a Hungarian phenomenon, as conspiracy theorizing is widespread in other European countries, such as France and Slovakia (Gyárfásová, Krekó, Mesežnikov, Molnár, & Morris, 2013).

It appears that conspiracy theories and epistemically unfounded beliefs serve as general tools for explaining the social-political world. They should be viewed as a reflection of normalcy rather than pathology, and explained in social-psychological terms rather than those applied to individual psychology. Even if some pathologies seem to be weakly connected to conspiracy theorizing, psychopathology is not a precondition for believing in conspiracy theories. Also, sociological reductionism is pointless as we cannot identify a narrow group that is receptive to false and unfounded beliefs. While some factors (e.g. lower education, low status) seem to increase the chance of conspiracy theorizing, these correlations are anything but deterministic.

1.3.1: Three Main Reasons Why People Embrace False Beliefs

The persistence and proliferation of false beliefs in contemporary societies can be attributed to a combination of psychological, cognitive, and socio-political factors. I argue that group-based biases, individual cognitive tendencies, and broader socio-cultural dynamics jointly contribute to the widespread endorsement of conspiracy theories, pseudoscience, and other unfounded narratives.

1. Group-Based Biases: The Motivated Mind

One of the most powerful drivers of false beliefs is motivated reasoning rooted in group identity. People are not merely passive processors of information; they are motivated to protect their in-

groups, justify collective grievances, and preserve a coherent worldview (Kunda, 1990). Emotions such as anxiety, fear, and anger intensify this effect, especially when individuals feel threatened or marginalized (Marcus et al., 2000).

Conspiracy theories, for instance, often function as collective defense mechanisms that blame powerful out-groups for complex problems. In research across Central and Eastern Europe, belief in conspiracies correlates strongly with political alienation and authoritarian attitudes (Krekó & Juhász, 2017). These narratives are not just about information but about identity—they help people reaffirm their group’s moral superiority and explain perceived injustices.

Such group-based motivations can lead entire communities to adopt false beliefs that reinforce ethnonationalist or exclusionary ideologies. In the context of populist movements, misinformation becomes a tool for mobilization and affective polarization, pitting the “virtuous people” against “corrupt elites” or “foreign enemies” (Krekó & Juhász, 2017).

2. “Cognitive laziness”: Cognitive Shortcuts and lack of cognitive effort

Cognitive laziness—or the reliance on intuitive, automatic thinking—plays a significant role in the endorsement of misinformation. Drawing on dual-process theories (Stanovich & West, 2000), individuals often resort to System 1 thinking, which is fast but prone to errors, especially under conditions of cognitive overload or emotional arousal.

Studies have observed that susceptibility to pseudoscientific beliefs is associated with lower cognitive reflection and less analytic thinking. People often accept claims that “feel” right without rigorously evaluating their truthfulness—a phenomenon enhanced by the fluency of repetition (Pennycook et al., 2018). Moreover, false beliefs are cognitively attractive because they provide simplistic answers to complex issues and reduce existential uncertainty (van Prooijen & Douglas, 2017).

This effect is amplified in digital environments. Social media fosters shallow information processing by rewarding emotional and sensationalist content over verified facts. The attention economy favors speed over scrutiny, reinforcing the intuitive acceptance of misleading narratives (Krekó, 2020).

3. Socio-Cultural Effects:

Finally, the prevalence of false beliefs must be understood within their socio-cultural context. Cultural background can strongly shape the patterns and attitudes towards the system in the public opinion (Hunyady, 2021). The salience of misinformation in the public domain—through media, political discourse, and popular culture—greatly increases its perceived legitimacy. In informational autocracies, for example, state actors deliberately flood the public sphere with disinformation to obscure the truth and demobilize critical thinking (Krekó, 2022).

Research on conspiracy theories in Hungary and beyond shows that the normalization of false narratives by elites leads to widespread social acceptance, particularly when such narratives align with dominant ideological frames (Krekó & Enyedi, 2018). When influential figures endorse conspiracies, they signal to the public that such beliefs are socially acceptable or even patriotic. Moreover, repeated exposure to misinformation can create the illusion of truth (Hasher et al., 1977). As the “illusory truth effect” demonstrates, familiarity can override accuracy in shaping belief. This is particularly problematic in polarized media environments where counter-speech is weak or delegitimized.

Furthermore, as we will see below, the broader socio-cultural context that is shaping the values of the society can also have an impact on - for example - conspiratorial thinking. For example, when discussing the role of masculinity, collectivism, or historical narratives of collective victimhood behind country-level differences in conspiracy beliefs (See Chapter 2).

In sum, false beliefs thrive when group loyalties, cognitive laziness, a polluted information environment, and a supportive cultural context intersect.

1.3.2. Definitions

The core concepts of the dissertation—conspiracy theories/beliefs, pseudoscientific beliefs, fake news, disinformation, and truth relativism are *distinct but overlapping and interconnected phenomena* within the broader (dis)information ecosystem. These definitions also integrate the framework of *collective motivated cognition* that will be elaborated in more detail in Chapter 2. A concept that was originally created to fit the concept of conspiracy theories, but is applicable to other forms of false or epistemically unfounded beliefs. Below are brief definitions for the central concepts of the dissertation.

Conspiracy theories are narratives that explain significant events or circumstances as the result of secret plots by powerful actors acting with malevolent intent against a perceived ingroup. While not always factually false by definition, these theories are typically highly implausible, and structured around the perception of concealed coordination by elites or external enemies (Douglas et al., 2017, Krekó 2014, 2019; Faragó, Kende, Krekó, 2019). Unlike fake news, conspiracy theories are not necessarily false, and not all fake news contains a conspiracy narrative, that is, a secret plot by powerful agents to achieve a hidden goal (Keeley, 1999). *Conspiracy beliefs* represent the cognitive component of attitudes, lending these theories a sense of subjective plausibility and perceived validity. *Conspiracy mentality* refers to a general predisposition to interpret significant events as the result of secret plots by powerful and malevolent groups. Unlike belief in a specific conspiracy theory, conspiracy mentality is a relatively stable cognitive and motivational tendency to see the world as governed by hidden forces acting in secret. This mindset is characterized by heightened suspicion, a tendency to reject official explanations, and a belief that nothing happens by accident (Imhoff & Bruder, 2014). It is linked to psychological needs such as the desire for control and certainty (van Prooijen & Douglas, 2017), and it often reflects broader worldviews that emphasize distrust toward institutions and elites (Bruder et al., 2013).

Fake news refers to fabricated content presented in the format of news, with the intent to deceive or mislead the audience. It includes deliberately false information. Fake news are not always conspiratorial; may also fulfil wishful thinking (“pipedream” news), fear appeals (“bogeyman” news), or aggression stimulation (“wedge-driving” news (Faragó, Kende and Krekó, 2019). Its goal in the disinformation ecosystem is often to confirm pre-existing biases and partisan preferences. According to Knapp’s (1944) categorization of rumors, pipedream fake news that fulfils the hopes and wishes of individuals (e.g., for Republicans: “Pope Francis endorses Donald Trump for president, releases statement”) does not have any inherent conspiratorial narrative. In contrast, other forms of rumors contain a conspiratorial component. “Bogeyman news” represents fears and anxieties (e.g., “FBI agent suspected in Hillary email leaks found dead in apparent murder-suicide”), and “wedge-driving” or aggressive news has the essential motivation to evoke aggression and hatred (e.g., “Clint Eastwood refuses to accept presidential medal of freedom from Obama, says “He is not my president!”; all examples from Pennycook & Rand, 2017). Fake news are typically short-form, decontextualized, and emotionally charged – therefore, they easily shape beliefs. While all fake news is disinformation, not all

disinformation is fake news, and not all includes conspiratorial elements (Faragó et al. 2017; Pennycook & Rand 2017). The concept of fake news is highly relevant to this dissertation because fake news easily shapes false beliefs, not only as result of ignorance, but often reflecting motivated reasoning, identity-protective cognition, and cognitive biases—core psychological mechanisms that align closely with those underlying conspiracy beliefs and pseudoscientific thinking (Pennycook & Rand, 2017; Lazer et al., 2018).

Disinformation is intentionally deceptive information—whether completely fabricated or selectively manipulated—disseminated with the purpose of misleading the public, shaping opinion, or obscuring the truth. It may contain kernels of truth, but is weaponized to distort public perception. Unlike fake news, it does not require a news format—it can appear in memes, social posts, edited videos. All fake news that is intentionally crafted and disseminated qualifies as disinformation, but disinformation is a broader category than fake news (Krekó & Falyuna, 2022; Krekó, 2019; Tandoc, Lim, & Ling, 2018). The concept of disinformation is crucial for analyzing how psychological mechanisms—such as motivated reasoning, group identity, and emotional arousal—are exploited to influence attitudes and behavior at scale. Moreover, disinformation campaigns often draw on well-established principles in the psychology of persuasion, such as message repetition, emotional appeals, and source credibility, to increase their effectiveness (Petty & Cacioppo, 1986; Zimbardo & Leippe, 1991).

Pseudoscience refers to belief systems or claims that adopt the external trappings of science (e.g., jargon, methodological references) but lack empirical support, falsifiability, or adherence to scientific method. These are often used to promote ideologically or emotionally satisfying alternatives to mainstream science. Pseudoscientific beliefs are often driven by motivated rejection of science (Lewandowsky & Oberauer, 2016), not just by lack of information. Also, it often functions as an identity-marker—used to resist elite authority or signal belonging to counter-mainstream worldviews, and often conflated and frequently intertwined with conspiracy beliefs (Krekó & Falyuna, 2022).

Factual relativism is a psychological disposition and a sociocultural phenomenon (mentality) marked by pervasive skepticism toward the existence, accessibility, and knowability of objective facts (Molnár and Krekó, 2024). It involves the belief that what is considered “truth” is merely a subjective or chosen position, that “objective reality” does not truly exist, and that much of what is presented as fact in public discourse is essentially opinion or fabrication. Factual relativism is both the result and the driver of the spread and acceptance of conspiracy

theories, disinformation, and fake news. It is especially pronounced in “post-truth” contexts (see also: Harsin, 2018), where individuals experience “information overload,” leading to confusion and *information learned helplessness* (also known as “information apocalypse” or “reality apathy” (Gregor & Mlejnková, 2021) rather than clarity or understanding.

As already mentioned, these concepts are distinct but operate within a shared ecosystem of epistemic instability, often overlapping in functions (sense-making, identity protection), contexts (crises, polarization), and content (anti-elite narratives, simplified explanations). Conspiracy theories often serve as the structural backbone of both disinformation and pseudoscientific worldviews. Fake news is one of the most common vehicles for disseminating disinformation, conspiracy content, and pseudoscientific beliefs. Pseudoscience provides a “rational” façade for disinformation and is often embedded in a conspiratorial worldview, rejecting institutional “truth claims” and promoting a narrative of malevolent, greedy, and corrupt official science. Factual relativism reflects a deep epistemic uncertainty, reinforced by an information environment saturated with disinformation, contradictory narratives, and declining trust in traditional knowledge-producing institutions such as the media and science.

These interconnections underscore the need for a systemic approach to false, conspiratorial, and unfounded beliefs. The theory of motivated collective cognition is an attempt at such a holistic approach, addressing the functions of these narratives.

1.4. Conspiracy beliefs as motivated collective cognition

My theoretical framework (Krekó, 2014) interprets conspiracy theories in particular- and false and epistemically uncertain beliefs in general - as a form of collective motivated cognition. Even though these theories are often seen as bizarre delusions with minor relevance, their negative implications in modern societies cannot be overstated. For instance, conspiracy theories claiming that the HIV virus is a governmental creation targeting the Black community could contribute to African Americans' negative attitudes toward condom use and contraception, leading to higher rates of HIV/AIDS, other sexually transmitted infections (STIs), and unintended pregnancies (Thorburn Bird & Bogart, 2003; 2005; Bogart & Thorburn, 2006). Antivaccine conspiracy beliefs are associated with weak vaccination intentions (Jolley & Douglas, 2014). Moreover, the Jewish World Conspiracy, as elaborated in the infamous *Protocols of the Elders of Zion*, played a key role in legitimizing the Holocaust and the oppression of the Third Reich (Cohn, 1967/1993; see also Winiewski, Soral, & Bilewicz, 2015)

and Kovács, 2016). There has been much research accumulated so far on the negative impacts of conspiracy theories - for an overview, see Jolley, Marques, Cookson (2022).

Conspiracy theories can vary significantly in their popularity, malevolence, and degrees of probability. While it is difficult to establish fully objective criteria, our investigations mainly focus on conspiracy theories that are popular (widespread among large segments of the public), malevolent (e.g., those targeting specific ethnic groups and justifying violence), and highly improbable based on logical analysis (e.g., the idea of a successful Jewish World Conspiracy).

1.4.1. Conspiracy Theories as Normalcy: Motivated, Collective, Cognitive (And Adaptive?)

Conspiracy theories reflect a general tendency of individuals to make sense of the world in a psychologically comfortable way. This doesn't necessarily mean that people want to know the pure reality; rather, they seek "knowledge" that satisfies their needs and aligns with the preexisting beliefs, goals, and values of their community. "Theories of conspiracy represent a permanent temptation for us all" (Groh, 1987, p. 2), as they explain various social events while also meeting emotional needs and answering the question, "Why do bad things happen to good people?" The emotionally, motivationally, and collectively driven nature of the cognitive processes behind conspiracy theories is central to our concept of collective motivated cognition.

Conspiracy theories are often depicted as abnormal delusions. The term "conspiracy theory" is frequently used as an argumentative tool to label ideas one disapproves of as irrational, foolish, and baseless. Conspiracy theories are seen as stigmatized knowledge (Barkun, 2003), but only by skeptics. Believers in conspiracies don't consider themselves to be theorizing about conspiracies but rather speaking the truth. Given the negative connotations of conspiracy theories, there is a strong temptation to associate them with psychopathology, labeling them as paranoid. However, some scholars argue that these beliefs are not products of individual psychopathology, like chronic overproduction of dopamine (e.g., Kapur, 2003). Even if harmful, conspiracy theories are "normal" in that they result from ordinary social psychological processes. In certain societies and during particular times, especially in periods of war or crisis, conspiracy thinking can become culturally normative—a form of normal thinking. Societal conspiracy theories differ from paranoid delusions in that the perceived plot is directed against a collective (e.g., a nation, group, or culture), whereas a paranoid person fears conspiracies against themselves personally (Hofstadter, 1965; Barkun, 2003).

While conspiracy mentality may resemble paranoid thinking (Zonis & Joseph, 1994; Robins & Post, 1997; Hofstadter, 1965; Kramer & Jost, 2002), it is much more widespread. Unlike mental disorders like schizophrenia or paranoia, conspiracy theories are abundant in modern societies (Moscovici, 1987; Goertzel, 1994; Abalakina-Paap & Stephan, 1999), and not limited to the West (e.g., Zonis & Joseph 1994; Pipes, 1998). Using Cas Mudde's (2010) term, conspiracy theories can be understood as a form of "pathological normalcy," as they sometimes reflect mainstream societal views, such as alienation from politics and mistrust in political institutions.

The idea of collective motivated cognition is partially based on the concept of "*motivated social cognition*" (Webster & Kruglanski, 1994; Jost, Glaser, Kruglanski, & Sulloway, 2003) and the concepts of "hot cognition" and "motivated reasoning" (Kunda, 1990). We emphasize the motivational and situational determinants of cognition in addition to other social factors, but we extend the concept by emphasizing (a) the group and societal context of cognition, and (b) cognition focused on collective others.

Conspiracy theories are collective in at least two senses: in terms of their origin and their targets. When it comes to their origins, these theories emerge within groups and are deeply rooted in the social identity of the group. They help both the group and individual members make sense of the world, drawing boundaries between the in-group and out-group (e.g., "out-group paranoia," Kramer & Jost, 2002). Conspiracy theories, as expressions of group identity, reveal the characteristics of the groups where they arise, spread, and drive collective action. In terms of their targets, these theories reflect intergroup conflicts and are explanations of the behavior and intentions not just of individuals but of other groups and entire social-political systems ("conspiracy stereotypes", see Kofta & Sedek, 2005).

According to our studies (Krekó, 2014) attitudes related to social hierarchy and group identity (e.g., collective, but not individual, anxiety) explain conspiracy theories more effectively than individual psychological variables. This aligns with the notion that conspiracy theories are social-psychological constructs, rather than individual psychological ones, and thus have sociopsychological consequences. They can either reinforce or undermine social hierarchies and are related to levels of trust. On one hand, as previous studies have shown (Imhoff & Bruder, 2014), conspiracy theories are connected to attitudes that weaken status hierarchies, labelled by Sidanius and Pratto (1999) as 'hierarchy-weakening legitimizing myths'. Our studies revealed a positive relationship between conspiracy theories and institutional distrust, the delegitimization of the system, and a disbelief in a just world, as well as distrust toward

"colonizers" (e.g., foreign and financial institutions). Moreover, we observed a negative correlation between support for EU membership and a conspiratorial worldview, which reflects the hierarchy-weakening function of such beliefs. Conspiracy narratives are increasingly prevalent in Hungarian political discourse, where the EU is portrayed as a superior enemy and colonizing power that threatens national sovereignty. The perception of the EU in Hungary resembles how the UN is viewed in the United States: as an organization undermining national sovereignty with a hidden agenda, part of an international conspiracy involved in a cover-up (see Goldberg, 2001). Overall, this perspective mirrors the argument by Kramer and Jost (2002), in which a paranoid stance against the establishment can be seen as countering system justification.

On the other hand, conspiracy worldview can also reinforce social hierarchy. The solution to this paradox may lie in the hypothesis that the hierarchy-enhancing or hierarchy-weakening functions of the conspiracy worldview depend on the group's actual status and power aspirations. Conspiracy theories targeting both internal and external enemies can be instrumental in consolidating the ruling elite's power through ideological tools. This principle is well developed in the work of Robins and Post (1997) and is commonly found in totalitarian regimes, such as Nazi Germany, the Soviet Union, or Pol Pot's Cambodia. Populist politicians in power can also exploit similar conspiracy ideologies – as it will be described in more details later in this Chapter.

Conspiracy theories are also motivated. These beliefs are deeply rooted in the motivations and emotions of the group. They align with the community's identity, stereotypes, and goals—serving as self-assuring, self-serving, and self-justifying explanations. They can justify prejudices and stereotypes, serve as outlets for hostility (Abalakina-Paap & Stephan, 1999), and shift blame to external groups, defending the in-group. For example, conspiracy theories prevalent in the Muslim world, which blame Israeli and/or American governments for 9/11, can alleviate moral burdens by shifting responsibility to the out-group. In some cases, these theories even justify violence against the out-group (Kofta & Sedek, 2005), and conspiracy theories strongly correlate with positive attitudes towards violence (Vegetti and Littvay, 2022).

Finally, conspiracy theories are cognitive. They aim to provide the group with explanations for the sociopolitical world. Conspiracy theories expose the forces behind political and economic processes and history, offering simple explanations for complex phenomena. This deductive approach to a wide range of events has led to conspiracy theories being described as the

“pornographies of deduction” (Barkun, 2003). These theories, by providing similar explanations for various events, maintain a stable worldview and reinforce cognitive conservatism (Greenwald, 1980), resisting cognitive change. Conspiracy theories can give seemingly plausible explanations for historical events (Van Prooijen & Douglas, 2017).

Conspiracy theories seem to fulfil individuals' need for explanations of atypical phenomena, such as economic crises or disasters. They help direct emotions of anger and fear, and resolve ambivalence, as predicted by the works of Allport and Postman (1947), Festinger (1957), and Rosnow and Fine (1976).

Conspiracy theories are not only applied to past events, but also to beliefs about the future. While it is generally observed that people tend to view the future more optimistically than the past, this forward-looking optimism disappears among those susceptible to conspiratorial thinking (Krekó, 2014). It seems that conspiracy beliefs serve to alleviate anxieties about an uncertain future (see also Groh, 1987), offering explanations for unknown, potentially ominous developments within the context of a symbolic struggle (Wagner, Kronberger, & Seifert, 2002).

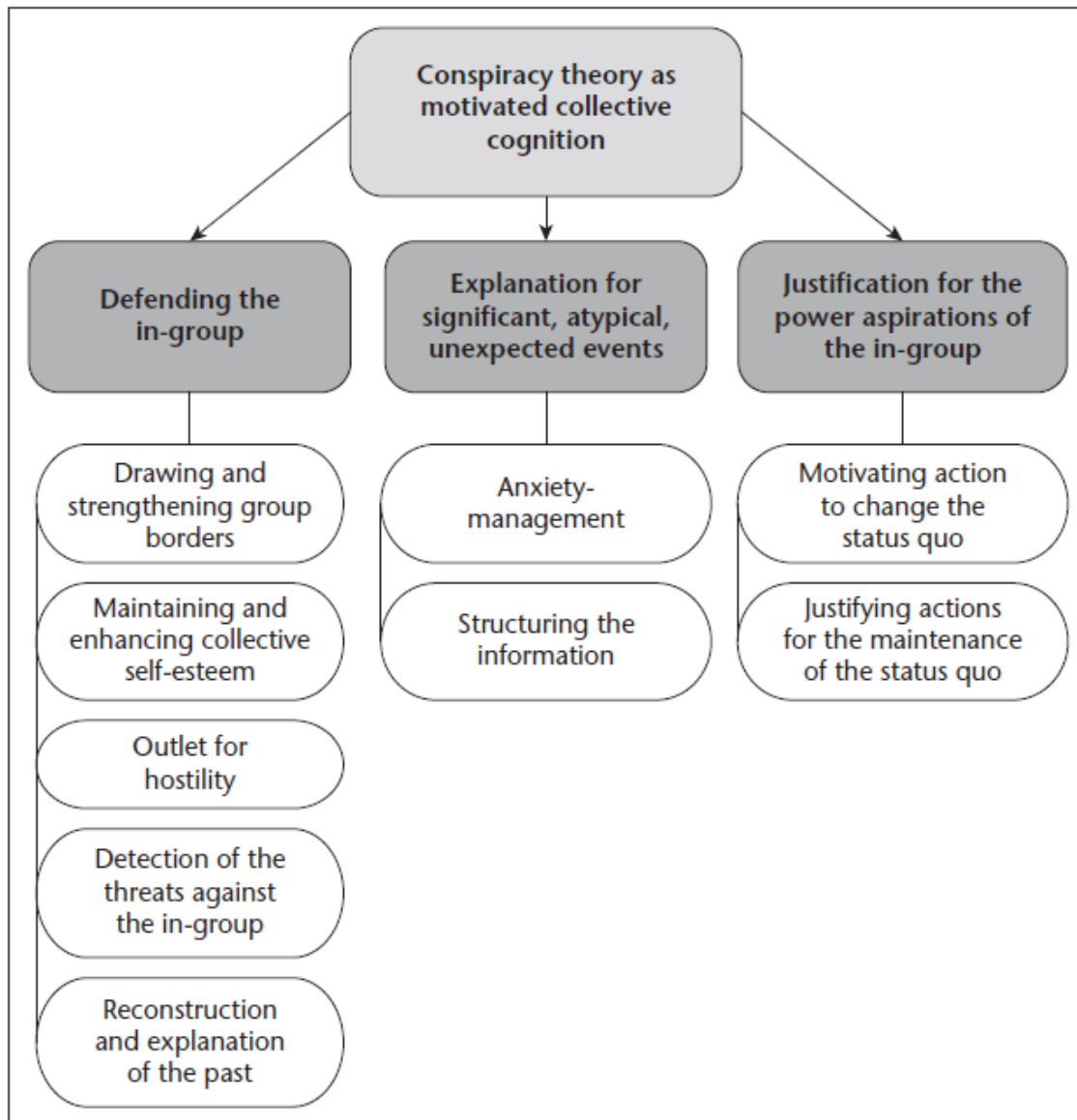
In some cases, conspiracy beliefs can be useful or adaptive. From an evolutionary perspective, deception and adverse cooperation against others are part of the survival struggle. Thus, being suspicious of adversaries' deceptive signals and attempting to read their intentions can be adaptive behaviors (Robins & Post, 1997). Suspicion is a safety strategy that raises false alarms but decreases the likelihood of missing real threats (Green & Swets, 1966, see also Van Prooijen and Van Vugt, 2022). According to Douglas et al. (2017), conspiracy theories represent a form of self-defeating social cognition, as they often cause more harm than good to those who believe in them. Nevertheless, they can offer various psychological and social benefits to individuals and groups.

1.4.2. The Functions of Conspiracy Theories

The notion of collective motivated cognition is essentially a functional approach to conspiracy theories (See Figure 1 below). These theories serve several psychological functions. First, they protect the in-group both psychologically and physically. Conspiracy theories strengthen group boundaries, provide an outlet for hostility, boost collective self-esteem, and help detect threats against the in-group. They also help the group interpret past events in a way that fits its interests.

Second, they explain unusual, atypical, and important events, helping manage in-group anxiety during crises. Third, conspiracy theories justify the group's power and status. Whether emerging from dominant or subordinate groups, these theories can motivate action to change the status quo or justify aggression and oppression against lower-status groups.

1. FIGURE: THE FUNCTIONS OF CONSPIRACY THEORIES



1.4.3. Crises, Insecurity, and Conspiracy Theories

As mentioned above, uncertainties, crises, and insecurities are always providing a fertile ground for conspiracy theories (Krekó, 2015, 2023). People often look for hidden causes that match the magnitude of the cataclysm they are facing. It is simply hard to accept, for instance, that great

historical figures can die for banal causes – for example, because of a drunken driver, as it happened with Lady Diana. Many find it difficult to grasp that a virus that caused more than half a billion infections and more than 6 million deaths in the world by August 2022 might be the result of an undercooked bat on a kitchen table. Or some other unfortunate and extraordinary encounter of an inhabitant of Wuhan with an animal carrying the virus – as the official, most likely explanation for the origin of the virus (see, for example, NIAID, 2022) tells us.

The more tragic the event and the deeper its impact, the more we suspect an underlying conspiracy (van Prooijen and E. Van Dijk, 2014). We feel the need to establish a symmetry between the significance of an event and the gravity of its cause: extraordinary events must be precipitated by extraordinary, huge plots. An experimental research project conducted in the 1970s (McCauley, Jacques, 1979) already showed that a successful assassination attempt on a US president was far more likely to give rise to a conspiracy theory than an unsuccessful one. The authors argued that this is not an irrational lunacy, but instead, a logical conclusion based on a Bayesian logic: a conspiracy to kill a president is simply more likely to succeed than an assassination attempt conducted by a lone wolf. Coming up with a large-scale explanation on the events of the World help to reduce insecurity.

In times of economic, political, and social crisis, the temptation to fall back on conspiracy theories to rationalize the unexpected is especially high (Moscovici and Graumann, 1981). Anxiety and feelings of insecurity triggered by adverse and unexpected events play a crucial role in this. When people feel they cannot influence happenings that pose a threat to their daily lives, they may try to recreate an illusion of control by overzealously seeking explanations (Park, 2010; see also Forgas, 2023).

Extraordinary events require extraordinary interpretations that reach beyond the well-known, official, and trivial stories. Furthermore, in historical times riddled with frustration and uncertainty, the need to identify an enemy or culprit can be overwhelming (see also von Hippel & Meraqkovsky; Fiske, 2023). Conspiracy theories provide an outlet for aggressive impulses pointing to specific foes in ways that seem to explain abstract, impersonal problems or complex social processes, which can otherwise appear impossible to understand (Volkan, 1985; Abalakina-Paap et al., 1999). The pandemic provides a textbook case for all these ills.

Some empathic researchers of rumors and conspiracy theories point to their function as collective problem-solving mechanisms that can help in the social adjustment to changing

circumstances (see Shibutani, 1966). Rumors surface when the previous world order is turned on its head and former reference points lose their validity or cogency, triggering new collective explanations. Sudden unexpected events, with a powerful social impact that demands rationalization, tend particularly to trigger conspiracy theory narratives – even if the individual is not personally affected by the event in question. Festinger, for example, (1957) observed that, after an earthquake, scaremongering visions of an apocalyptic future rather spread in communities not directly affected by the disaster – as people who experienced no tragedy personally will look to justify their strong – but unfounded – anxieties (see Cooper & Pearce, 2023).

Narratives about sinister and powerful groups typically multiply after terrorist attacks or major accidents that impact the community as a whole. Events like 9/11 or the 7/7 London bombings and the murder of Osama bin Laden all spawned widespread conspiracy theories (see for example: Swami et al., 2010). Of course, this is hardly surprising given that terror attacks are conspiratorial by nature.

Conspiracy theories are tales expressing absolute mistrust of established authority and power. All institutions and individuals associated with the “system” are suspects: politicians, media, experts, scientists, healthcare institutions, pharmaceutical companies, and doctors. In recent years, anti-science conspiracy theories have multiplied at an astonishing rate (Lewandowsky Oberauer, 2016), posing a considerable challenge to scientists and decision-makers (Goertzel, 2010). Trust can serve as an important factor in reducing the feeling of insecurity both socially and epistemologically (see also van den Bos, 2023). Economic crises have all the features that make them good targets for conspiracy theorizing. Explanations and available analyses are contradictory, complex, and difficult for the lay public to understand. The information environment is heavily ambiguous, and public opinion turns to simplistic explanations as a consequence. People end up naming names. The biggest advantage of conspiracy theories is that they give “face” to complex, abstract, multi-actor, and multi-causal processes and give some epistemic certainty: a familiar enemy to blame . Healthcare crises usually go hand in hand with economic ones, and COVID-19 was no exception.

1.4.4. Motivated rejection of science

Belief in disinformation and conspiracy theories is not solely due to a lack of information or "cognitive laziness." Psychological research increasingly acknowledges that our thinking and

information processing are intertwined with emotions and motivations. When we believe we are thinking 'rationally,' we are often influenced by 'motivational' reasoning driven by desires and emotions. The theory of 'motivated rejection of science' (Lewandowsky-Oberauer, 2016) highlights that individuals may challenge established scientific claims or turn to alternative 'scientific' views for psychological reasons. For instance, some reject evidence of droplet transmission and advocate alternative theories like the coronavirus being a “radiation” virus:, undermining the effectiveness of masks and vaccines.

Motivations for rejecting science are diverse, ranging from rebellion against authority and distrust of government to alignment with group norms. Beliefs often serve to adapt to social group dynamics (religious, political, etc.) rather than to objectively understand the world, with the former frequently taking precedence. Furthermore, individuals are prone to rejecting scientific knowledge that conflicts with their fundamental beliefs or worldviews, whether concerning global warming, vaccine efficacy, or evolution. Notably, studies in the US (Lewandowsky-Oberauer, 2016) suggest that education and scientific knowledge do not necessarily mitigate science denial but can intensify partisan divides. Pseudoscientific healthcare conspiracy theories and the motivated rejection of science will be examined in greater detail in the following chapters.

2. Political Conspiracy Theories

Building on the theoretical foundations laid out in the previous chapter—where conspiracy beliefs were framed as products of collective motivated cognition—this chapter turns to the distinctly political manifestations of conspiracy beliefs. While Chapter 1 explored the psychological and social underpinnings of false beliefs in general, here the focus shifts to how conspiracy theories operate within political contexts, particularly in East-Central Europe. We examine how conspiracy narratives function not merely as fringe beliefs, but as instruments of power, identity, and political mobilization. While conspiracy theories are often viewed as the products of marginal paranoia, here they are reframed as collective coping mechanisms—rooted in historical grievances, cultural memory, and geopolitical anxieties. In a region long shaped by foreign domination, sudden transitions, and contested sovereignties, the paranoid style has found deep resonance, shaping public discourse and legitimizing political agendas.

As we will see, these narratives offer simplified, emotionally compelling explanations for complex transformations, reinforcing feelings of collective victimhood and moral superiority. In doing so, they blur the boundaries between mainstream and extreme, often becoming central elements of political communication. This chapter sets out to understand not just why people believe in political conspiracy theories—but how those in power benefit from them, and with what consequences for democratic institutions and public trust.

The chapter examines how conspiracy theories offer emotionally resonant explanations for social upheaval and perceived injustice. In doing so, they help sustain a sense of coherence and identity in times of instability, while also justifying exclusionary policies and polarizing rhetoric. Conspiracy narratives not only reflect already existing public fears, but also actively shape political reality by creating new ones, undermining institutional trust, delegitimizing democratic opposition, and consolidating authoritarian rule.

2.1. Paranoid Style in East Central European Politics: suspicion as a historical and geopolitical construction

As Robert Hofstadter (1965/2000, p. 27) noted in one of the first social scientific essay on the nature of conspiracy theories: “ *American politics has often been an arena for angry minds.*

In recent years we have seen angry minds at work mainly among extreme right-wingers (...). But behind this I believe there is a style of mind that is far from new and that is not necessarily right-wing. I call it the paranoid style simply because no other word adequately evokes the sense of heated exaggeration, suspiciousness, and conspiratorial fantasy that I have in mind.” (cited by: Krekó, 2023).

While Hofstadter’s essay tries to capture the specificities of the paranoid thinking in the United States, many citizens in Europe or other parts of the World could substitute “American” to their respective country of affiliation. In Central and Eastern Europe, it might be even more true. Public commentary and political science literature are both rich of depictions of the current social-political life as a fight that can be only characterized with polarization and increasing demand for distorted realities.

Paranoid style is less and less limited to the politics of the United States (see Maseko & Durrheim, 2023). This is inherently, and historically present in other parts of the World and in East-(Central) Europe as well – as a cultural tradition, as a mass mobilization political technique for the elections, and as a tool for keeping the power and saving it from enemies outside and within. I will argue below that this Zeitgeist of Political Paranoia falls on really fertile ground in Central and Eastern Europe.

It is important to note at this point that the term “political paranoia” is not used in a normative, but in a descriptive sense in this study. When we talk about political paranoia, the term is lacking any pathological connotation (see, e.g., van Prooijen & van Lange, 2014; Swami & Furnham, 2014). Conspiracy thinking is isomorphic, but not identical to individual paranoia (Zonis & Joseph, 1994). Most importantly, political paranoia – as a political style and rhetoric that is extensively using conspiracy theories – is a collective, social psychological phenomenon that does not need any individual psychopathology (see, e.g., Krekó, 2015). Of course, the term “paranoia” implies a certain level of exaggerated suspicion – which means that is not entirely realistic, valid and plausible – but at the same time, it does not mean that it is totally unjustified, as we argued in the previous subchapter, as in the context of asymmetric power relations and oppression strong suspicion can be the precondition of survival (see for example: Kramer and Jost, 2016).

While most scholarly attention has been dedicated to conspiracy theorizing in the United States, conspiracy narratives have been exported to other parts of the world and merit context-specific research. They flourish in Eastern, and East-Central Europe that, on its own right, partially for historic reasons, is a hotbed of conspiracy theorizing. Blood libels – conspirational fantasies on Jews committing secret ritual murders against Christian children and adolescents – have often raised the level of officiality in the 18th-19th century, even appearing in the courtrooms as accusations (see, e.g., Weinberg, 2012). The Protocols of Elders of Zion – one of the most famous conspiracy theories was counterfeited and spread by the Tsarist secret service Ohrana (Astapova et al., 2020) – first in Central and Eastern Europe, and then in the whole World. It all suggests that the broader region – in a Szűcs Jenőian sense - has its own tradition of the paranoid style.

And, especially among the East-Central European states that are going to be the primary subject of this paper, *“there is a historically conditioned mindset that is receptive to any explanation based on strictly limited collective agencies being overruled by the coordinated action of mighty powers”* (Astapova et al., 2020, p. 6.). The most important reason, as will be discussed in the following, is that these countries often feel a lack of agency during constant instability, and have a self-perception as being the toys of superpowers. In this respect, conspiracy theorizing that is originating from Tsarist Russia – or later the Soviet Union of the Russian Federation - is different in its character than the paranoid mindset of the small central and eastern European countries – even if some narratives, such as the anti-Semitic ones mentioned above – can be very similar or even identical.

It works well as a historical narrative of self-victimization, as well as a political strategy, raising the attention and exploiting the imagination of voters-.

Conspiracy theories, as tools for the paranoid style, are a form of “collective motivated cognition” that aim to make sense of the world in a psychologically comfortable way for individuals and their ingroups, as it has been elaborated above. (Krekó, 2015). Members of the group are motivated to obtain “knowledge” that satisfies their needs and fits the pre-existing beliefs, goals, and values of their community – and also, to take back some cognitive control through pseudo-plausible explanations.

Conspiracy theories become essentially important in a region where the feeling of being a victim of, and on the wrong side of history is extremely widespread. An important function of conspiracy theories is to give explanations for unexpected events (Krekó, 2015, van Prooijen

& van Lange, 2014).– and it partially explains how they can become so attractive in a region full of turbulent and tragic developments in the last decades. The perception of threat is associated with a more pronounced expression of conspiracy theories, as research from other countries, such as Turkey and Taiwan also indicated (Douglas et al., 2019).

In this subchapter, I try to identify the specificities of conspiracy thinking in East- Central Europe – as the “Gestalt” of a unique combination of universal factors that can breed conspiracy theorizing. I will not only focus on the functions and specificities of conspiracy theories in the political context in East-Central Europe, and what role they play in shaping political systems, but also on their ideological features, and that how they contribute to political instability in the region instead of just explaining it.

2.1.1. Conspiracy theorizing in East-Central Europe in a comparative context

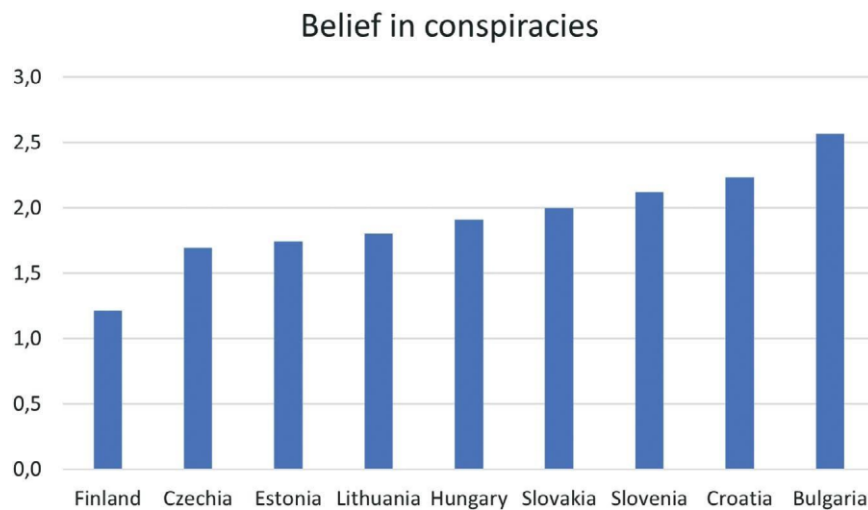
Conspiracy theorizing seems to be a widespread tendency all around the World, and partially connected to the “populist Zeitgeist” (Mudde, 2004) – as conspiracy narratives, revealing the malevolent dealings of the elites, are populist by their very nature. The COVID-19 pandemic gave a huge new boost to conspiracy theorizing, with long-lasting effects – including undermining the general trust in vaccines. COVID-related conspiracy theories also gave new momentum to political conspiracy theories undermining trust in the institutions (Pertwee et al., 2022).

Conspiracy theories seem to be particularly relevant in post-socialist countries within Europe. Comparative public opinion polls allow us to draw some conclusions in this respect. A recent Globsec poll (2022), for example, indicated that conspiracy theories about political and geopolitical events are resonating well with the public, finding support from approximately 30%– 50% of respondents from East-Central Europe. They found that Bulgaria, Romania, and Slovakia were the countries that are the most vulnerable both to conspiracy theorizing (and powerlessness. Approximately 54% of Slovaks and Bulgarians, and 44% of Romanians, believed, for example, in conspiracy statements, such as “democracy does not exist, because in reality, hidden elites rule the world”. These beliefs were a bit lower in other post-socialist countries and the lowest (30%) in Czechia (Globsec, 2022); however, one-third of the population believing these conspiracy theories can still be regarded as high.

Conspiracy theories are proliferating in the region not only to explain political events but also health-related issue (see in the next subchapter).

Conspiracy theories that are combining pseudoscientific and political elements are also more widespread in East-Central Europe. According to the data from the 2020 round of the European Social Survey, Bulgaria, Croatia, and Slovenia were the leaders in the sample of nine countries in conspiracy theorizing. Also, in this sample, we found a robust association between political and science-related conspiracy theories. In the only Northern country in this small sample, Finland, we found almost no conspiracy theorizing (average of 1.2 on a 1–5 scale), and found rather low levels of conspiracy theorizing in Lithuania and Estonia (Figure 2). These Baltic countries are not regarded to be East-Central European and are just kept in the sample for comparison.

2. FIGURE: BELIEF IN CONSPIRACIES IN EAST-CENTRAL EUROPE



Notes: Belief in conspiracies measured on a scale of 1–5 where higher figure indicates higher agreement. Calculations were based on the European Social Survey, 2020 database. The average of three items: “Small secret group of people is responsible for making all major decisions in world politics”; “Groups of scientists manipulate, fabricate, or suppress evidence in order to deceive the public”; “COVID-19 is result of deliberate and concealed efforts of some government or organization”.

2.1.2. Mainstreaming conspiracy theories in East-Central Europe

According to Minkenberg (2015), one feature of the far-right parties in East-Central Europe is that they are more extreme than their Western European counterparts. One possible explanation is that in East-Central Europe, radical nationalism and ethnochauvinism is much more part of the political centre than in Western Europe. Given that nationalist and far-right narratives are often linked with conspiracy theories (see, e.g., Krekó, 2019), it could be one reason why conspiracy theories are more part of the mainstream in this region than elsewhere. Given that the political centre in EastCentral Europe is generally more open to the radical ideas often reflected by conspiracy theories, and given that there has never been a real and efficient “cordon

sanitaire” against the far right in East-Central Europe countries, the boundaries between mainstream and extreme are more blurred institutionally and ideologically. In this respect, the region is an early bird of the mainstreaming conspiracy theories (see later) a tendency we begin to experience everywhere in the world.

Conspiracy theories are very influential and important explanations for the world in East-Central Europe. It is not new historically, as illustrated, for example, by the blood libels in the 19th Century (Weinberg, 2012). Antisemitic conspiracy theories were particularly prolific before WWII – and not only on the right side of the political spectrum. As Csunderlik and Scheibner (2020) pointed it out, the myth of Judeo-Bolshevism – combining antisemitism with anti-Communism was not only instrumental for the Third Reich and the far right, but was embraced by political forces on the left and the moderate right alike. Furthermore, some contemporary conspiracy theories – with an antisemitic tone – also enjoy widespread support. The Soros conspiracy theory is a clear example of this. Conspiracy theories are also an important tool for right-wing populist mobilization – also getting mainstream in many countries in Central and Eastern Europe, including Poland (see, e.g., Winiewski & Bieńkowski, 2023).

Mainstream populist politicians, even in the role of the prime minister, are politically obsessed with conspiracy theories. The goal of these theories is mainly to discredit their domestic political opponents, suggesting that they are associated with the global conspiracy that aims to undermine national sovereignty (Plenta, 2020). There have been other proponents of this conspiracy theory in the East-Central Europe as well, like Liviu Dragnea, former Romanian Prime Minister.

Pintilescu and Kustán-Magyari (2020) point out that there are similarities and differences between the Soros-related conspiracy theories during the transition of post-communist countries to free-market democracies in 1989– 1990 and current conspiracy theories. Both old and new forms present Soros as the “epitome of evil global financial forces conspiring against national sovereignty and traditional values” (p. 15). But the difference is that while during the transition these theories were openly antisemitic and were mainly spread by extremists, contemporary anti-Sorosism is only implicitly antisemitic, and became much more mainstream. Kalmar (2020) also pointed to an important mainstreaming campaign strategy behind the “Soros plot”. During the migration crisis in 2015–2016, in East-Central Europe, many politicians have spread the message (such as prime ministers in Slovakia and in Hungary) that George Soros was behind

the immigration, as he wanted to bring refugees to Europe for cheap labour and to weaken nation-states. This rhetoric, according to Kalmár, aimed at “disassociating ethno-religious hatred, which Islamophobia is, from its most stigmatized example in Europe: antisemitism”. Campaign against George Soros, according to Kalmár, is a prime example of exploiting antisemitism – while at the same time, claiming to oppose it by defending Jews from the inflow of Muslim immigrants who pose a very threat to Jews themselves.

2.1.3. Storytelling with a plot twist during societal transformations: the

“Rózsadomb-Pact”

Conspiracy theories always play an important role in explaining deep social-political changes. These theories have been, typically, at the margins of the political spectrum such as the theory of the “Rózsadomb Pact”, that condenses the most important conflicts of the transition that were dominant in society at that time (Paksa, 2013, see also Krekó, 2019 on the “stolen transitions” and Csepeli, Murányi and Prazsák, 2011 on the “new authoritarianism” and narratives of the radical right in Hungary). The central thesis of this theory was that Hungarian communists, opposition politicians, and religious leaders made a pact with the Soviet, Israeli, and U.S. secret services on the peaceful transformation on 15 March 1991 in a luxurious mansion in an expensive neighbourhood of Budapest. According to this fabricated story, they agreed on 20 points, including that the judiciary and state money remain in the hands of communists. This – totally unfounded and non-plausible – conspiracy theory is not specific to Hungary. Quite similar conspiracy theory emerged in connection with the transformation in Poland, the Magdalenka conspiracy theory, which claims that a secret power-sharing agreement was made between the participants of the Round Table Talks in Magdalenka where the discussions were held in 1989. This theory became a constant reference point for the Polish nationalist-populist right (see, e.g., Zięba, 2019), similar to its Hungarian counterpart.

The story of the “Rózsadomb Pact” became highly popular among Hungarian populist radical right parties, such as the far-right antisemitic MIÉP, the agrarian populist party FKGP, and later Jobbik. The story, published in 1992 in a Northern American ex-pat antisemitic paper (“Amerikai-Kanadai Magyar Élet”), is full of mythical elements that make it seem resemble a fairy tale. First, 13 people (!) were sitting around the table. Second, they signed the pact on 15 March – on the most sacred national celebration of Hungarian freedom fighting and sovereignty, commemorating the freedom fight against the Habsburg empire in 1848-1849. And third, to capture the morale of the participants, after they signed the agreement, they

“disappeared in the nightlife of Pest”, according to the story (Paksa, 2013). The “Rózsadomb Pact” condenses the most important conflicts of the transition to democracy that were dominant in society at that time (Krekó, 2019): the feeling of loss of control and limited sovereignty, the experience of the elite-driven and geopolitically determined transition process, and rising anti-elite sentiments as a consequence of increasing social inequalities. Furthermore, the external powers and the minority groups (especially the Jews) are blamed, as the ultimate conspirators, for the shortcomings and problems associated with the transition. The myth of the “stolen transition” frames every social-political change as manipulation by elite forces to save the power of the members of the former communist establishment.

Conspiracy theories are not just explanations for changes, but can also be drivers of changes. The mainstreaming of the conspiracy theories of the “stolen transition” played an important transformative force towards the new illiberalism in Poland and Hungary (Kofta et al., 2020; Krekó, 2019). Transitions always provide fertile ground for conspiracy theorizing as they are unexpected and have widespread consequences that fall beyond the control of most members of society. However, both in Hungary and Poland, these conspiracy theories have been politically exploited to fuel discontent towards the democratic institutions – and in this way, they were instrumental in the “second transition”, the illiberal de-democratization of unstable societies after 2010 in Hungary and 2015 in Poland.

These examples make it crystal clear how populist conspiracy theories can contribute to the illusion of personal epistemic stability and certainty while contributing to social and political instability and polarization. Conspiracy theories can have many systemic consequences on party systems, institutions, and societies (Douglas et al., 2019; van Prooijen, 2018): they can polarize the political debates and further poison intergroup relationships, demolish trust in institutions and thus contribute to undemocratic changes. Conspiracy theories can contribute to political changes on the one hand, but also, symbolically cement the ones in power by maintaining a permanent sense of instability and insecurity – the chaos that only the Leader can handle.

2.1.4. Anti-Semitic Conspiracy Theories and Their Background

Anti-Semitic conspiracy theories perfectly illustrate the concept of collective motivated cognition. These theories offer an ultimate, axiomatic explanation for the world's problems (Krekó, 2014). Additionally, they identify a clear enemy, thereby legitimizing radical measures against that enemy and supporting the maintenance of collective self-esteem. They also satisfy the group's narcissistic needs: if all political forces are conspiring against the in-group (Hungary

and the true Hungarians), then they must indeed be the chosen people! Furthermore, these theories are comforting because they allow for a clear distinction between good and evil, while projecting responsibility onto a named enemy and providing an outlet for hostile feelings.

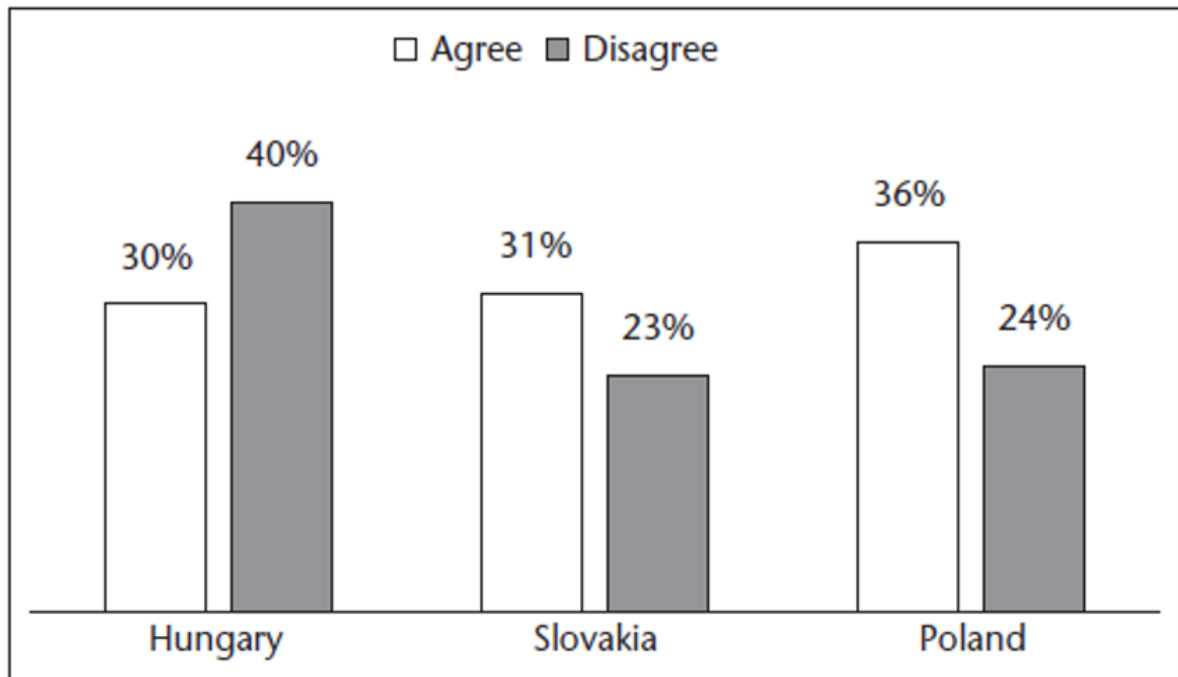
Researchers in Hungary, Slovakia, and Poland have found widespread support for anti-Semitic conspiracy theories. For example, 30%, 31%, and 36% of respondents in these countries, respectively, agreed with the statement that "Jews seek to rule the world" (see Figure 3 below).

In our recent study, we explored the connection between a general conspiracy worldview and conspiracy stereotypes of Jews (Kofta & Sedek, 2005; see also Bilewicz & Krzeminski, 2010; Bilewicz & Sedek, 2015). Consistent with our previous studies, we found that a general conspiracy worldview is the strongest predictor of specific conspiracy theories (in this case, anti-Semitic conspiracy theorizing), supporting the idea of conspiracy theories as monological belief systems (see Goertzel, 1994; Swami, Chamorro-Premuzic, & Furnham, 2010).

In line with the broader concept of collective motivated cognition, which focuses on psychological rather than sociological determinants of conspiracy theories, sociodemographic variables proved to be weak predictors of both the conspiracy worldview and anti-Semitic conspiracy theories. No significant differences were found among relevant groups in Hungarian society in terms of gender or education. Even highly educated groups can perceive a Jewish world conspiracy, once again demonstrating that conspiracy theories are not merely the "opiate of the fool."

According to a 2013 Internet sample in Hungary, antipathy towards Jews decreases with age. A larger proportion of anti-Semites is found among younger age groups. While one-third of individuals aged 18 to 39 find Jews repulsive, less than one-sixth of those over 60 share this view. The impact of age remains significant even when controlling for party preference. The fact that young people are overrepresented among Jobbik voters (see, for example, Bernát, Juhász, Krekó, & Molnár, 2013) takes on special significance in this context, given that anti-Semitism has been one of the most prominent characteristics of the Jobbik camp. According to more recent polls (see for example: Political Capital. 2018) anti-Semitic conspiracy theories have not lost their relevance since then either in the region, and especially in Hungary- and kept their "axiomatic" role in explaining anti-Semitism.

3. FIGURE: : AGREEMENT WITH THE STATEMENT "JEWS SEEK TO RULE THE WORLD"



2.1.5. Why paranoid style is flourishing in East-Central Europe?

Why East-Central Europe is so susceptible to conspiracy theories- compared to Western Europe for example? While Astapova et al. (2020) warn against the notion of an East-Central European “exceptionalism” when it comes to conspiracy theories – as the logic of these theories is similar, and many fashionable conspiracy theories (e.g., the “Eurabia” project, see, e.g., Krekó & Enyedi, 2018) are common in both Western and Eastern Europe – there are clearly some region-specific features to mention.

In the following section, I will highlight five strongly interlinked reasons for the popularity of conspiracy theories in East-Central Europe.

- 1) The first one, as mentioned earlier, is the lack of sense of agency and control, and the feeling of being “toys for superpowers”. One dominant experience of the region is that big empires and superpowers are deciding over the fate, (lack of) sovereignty and the borders of these countries, without them having too much agency (see, e.g., Pók, 2022). The feeling of lack of control increases the chance for conspiracy theorizing (see, e.g., Kofta et al., 2020). In East Central Europe – often for good reasons – the general feeling

is that citizens and countries are lacking agency and real control over the events, as everything is decided from “above”: at the domestic and international negotiation tables. Conspiracy theories as products of collective motivated cognition can help members of the ingroup to make sense of what happened and deal with its psychological consequences (Krekó, 2015).

- 2) The second important reason is the experience with the transitions. Besides feeling a lack of power and control, the rocky road of the transitions from state socialism to democratic capitalism provided other important experiences for the citizens of the region that increased the temptation of conspiracy theories (see, e.g., Ortmann & Heathershaw, 2012). Rising social inequalities, unmet expectations of rapid growth of living standards and economic hardships leading to frustrations, all helped with the paranoid culture in the region to breed. Furthermore, the transition happened rather quickly and unexpectedly, without the possibility for these societies to prepare for the deep changes. For example, in 1988, just one year before the Round Table Talks began, less than 10% of the Hungarian population expected a regime change in the next 20 years (Angelusz & Tardos, 2000). Conspiracy theories, on the other hand, help cope with uncertainty (van Prooijen, 2018). In a time of significant changes and socio-political cataclysms, conspiracy theories flourish (Gyárfášová et al., 2013). The transformation from a more predictable state socialist system to a more uncertain democratic and capitalist system was precisely such a cataclysm.
- 3) There was no revolutionary mood at the time of the transition. Before the collapse of the socialist system, and especially in the early eighties, Hungary was the "happiest barrack" among the members of the Eastern block, with a lower level of political repression and a higher level of living standards. This kind of soft "goulash communism" was successful in diluting revolutionary sentiments and anger against the regime (Vásárhelyi, 1995). The most popular politician at the time of the transition was a reform communist politician: Imre Pozsgay (Kurtán, Sándor, & Vass, 1990). “Push” factors from state socialism to democracy were weaker in Hungary than in Poland. Also, uncertainties emerged as the transition destroyed traditional frames of reference. Geopolitical friends and enemies swapped places. Ratings of the United States rose sharply as a result of the transition while the Soviet Union’s took a nosedive. The reputation of heroic occupations of the socialist regime (e.g., workers) declined dramatically, while new heroes emerged, such as "entrepreneurs". A loss of collective self-esteem followed: the self-evaluation of Hungarians through autostereotypes

changed in a negative direction (Hunyady, 2002). This may also have feed conspiracy theories, as they can be a cure for wounded collective self-esteem (Crocker et al., 1999). The fact that conspiracy ideologies emerged were also connected to the fact that frustrations grew as a consequence of the economic and social shocks during the transition (Pataki, 2000). The regime change in East-Central Europe led to the “*democratization of hostility*” (Bustikova, 2015): the emergence of hate speech and political forces that instrumentalize it as a side-effect of the newly acquired freedom of speech. Antisemitism – often in the form of conspiratorial stereotypes – was prevalent in the years following the transition, and Jews were often blamed for the economic and political troubles (Kovács, 2010). Conspiracy theories about Jewish World domination remained rather widespread in East-Central Europe (much more than in Western Europe), and they became especially attractive when there was a need to explain economic crises and/or political turmoil (Bilewicz et al., 2013). It is important to note that conspiracy theories about Jews have a more universal role in expressing negative emotions during social changes – and there is no real need for the actual presence of Jews in the given society. Swami (2012) found, for example, that in Malaysia, antisemitic conspiracy theories serve ideological needs and can also mask anti-Chinese sentiment – as the latter is more difficult and dangerous to articulate publicly.

The enduring impact of the experiences with the social-political transformation is a permanent fear of the uncertain future, that, according to our representative survey in Hungary in 2010, is strongly associated with conspiracy theorizing (Krekó, 2015, see [Figure 4.](#)).

4. FIGURE: EVALUATIONS OF THE PAST AND THE FUTURE IN THE LIGHT OF CONSPIRACY BELIEFS

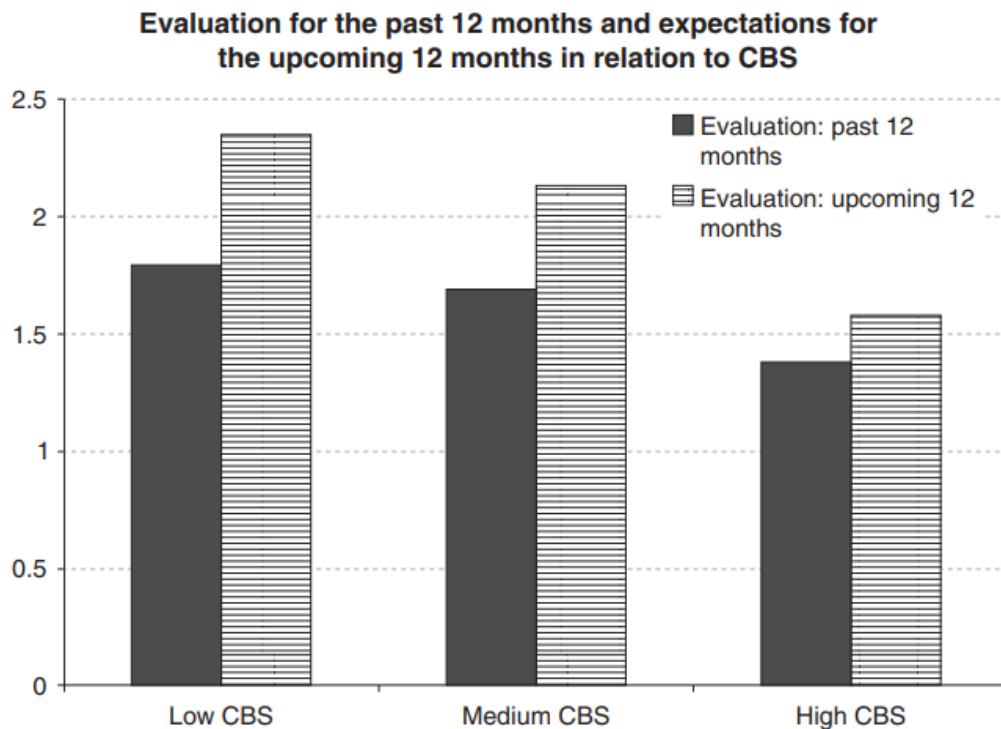


FIGURE 19.1 People with high-conspiracy beliefs are significantly less optimistic about the future and less certain that the next year will be better than the previous year, compared to people with low-conspiracy beliefs. CBS= Conspiracy Beliefs Scale.

Source: Krekó (2015).

Notes: The graph shows that individuals who have stronger conspiracy beliefs are less optimistic about their future – both in absolute terms, and relatively (the next 12 months, in contrast to the past 12 months).

- 4) The third reason is the need for raising the collective self-esteem. The feeling of being second class citizens of Europe is widespread in East-Central Europe, and it is also an important driver for the illiberal tendencies (Holmes & Krastev, 2020; Kalmar, 2020). Conspiracy theories can serve as a panacea for the wounded self-esteem. The feeling of collective victimhood, martyrdom and oppression increases the ingroup's feeling of importance, and thus can lead to increased collective self-esteem (Crocker et al., 1999). Collective narcissism is widespread in countries in the region, especially in Poland, and the boosted, but fragile collective self-esteem as the essential part of this “syndrome” also provides a fertile breeding ground for conspiracy theories (see, e.g., de Zavala & Keenan, 2023). Hungary is particularly vulnerable to such theories, given that it was a loser in both the First and the Second World Wars (not to forget about the Trianon Treaty), and this experience increased the appeal of the “back-stabbing theory”, and

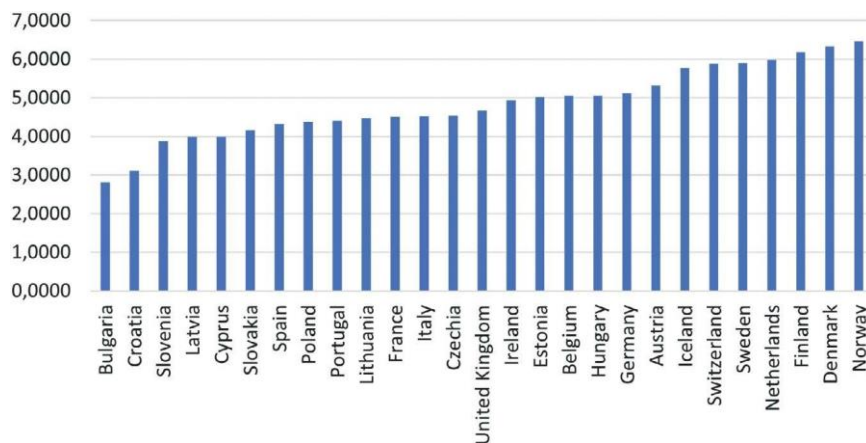
similar blame-externalizing explanations (Csunderlik & Scheibner, 2020). In Poland, the martyrdom of the nation is frequently expressed through the analogy that Poland is the “Christ of Europe”.

- 5) The fourth reason is the endemic lack of political trust (see also Dimdins, 2023). Conspiracy theories are narrative manifestations of mistrust- therefore, it is not surprising that especially (vertical) mistrust towards political institutions is strongly connected to conspiracy theories (e.g., Douglas et al., 2019). This mistrust can be self-fulfilling as well, as mistrust and conspiracy theories towards institutions can undermine their functions of providing safety and predictability, and weaken the fabric of society (Van Prooijen et al., 2022).

Trust towards institutions is the lowest in the Eastern part of Europe (see, e.g., Krekó, 2015). Data from the European Social Survey 2018 suggest that 7 out of 10 countries with the lowest level of institutional trust are postsocialist countries (see [Figure 5](#)).

One can argue – as we have also done above - that people in these countries often have a good reason to distrust authorities (see Dimdins, 2023), as they have the experiences that authorities abuse their power within weak, young democratic contexts – corruption, for example, is perceived as higher in Eastern Europe than in the West (see, e.g., the databases of Transparency International (Transparency international, 2021). However, conspiracy mentality sees a plot even where there is none. The results of dogmatic and paranoid distrust can be devastating, reinforcing already existing inequalities – that we could also see during the COVID-19 pandemic (Murphy et al., 2021). Accordingly, populations who are the most exposed to abuse of power are the least willing to accept the hand of the government when it is extended to help – and not to beat, for once. Roma communities in Central Eastern Europe, where COVID vaccination remained at an extremely low level, thus contributing to the high mortality, are a prime example of this (Földi, 2021, see also Lášticová and Kende, 2023).

5. FIGURE: TRUST IN INSTITUTIONS IN EUROPEAN COUNTRIES



Notes: Calculations were based on the European Social Survey 2018 database. Trust cores are mean numbers on a 0–10 scale of a composite index of seven institutions (police, parliament, parties, politicians, government, UN, EU).

2.1.6. “There is nothing more practical than a conspiracy theory”

In the traditional understanding of conspiracy theories, these narratives aim to mobilize people against those who hold the power (Imhoff & Bruder, 2014). However, in East-Central Europe, more typically, people in power use conspiracy theories as a tool to cement their own position of power, and limit the chances of their opponents by stigmatizing them as “enemies of the people” (Astapova et al., 2020, see also, Krekó, 2021). Therefore, conspiracy theories serve as a perfect tool for populists for mass mobilization, diversion of emotions, rechannelling the anger, and redirecting the blame (see, e.g., Gray, 2010; Yablokov, 2018) Kurt Lewin’s famous statement was: “*There is nothing more practical than a theory*”. Using Lewin’s logic and applying it to our topic of authoritarian populists, we can argue that there is nothing more practical than a conspiracy theory (see Bienkowski and Winiewski, 2023).

The anti-Soros¹ conspiracy theories supported by incumbent Prime Ministers (in Hungary, Romania, Poland and Slovakia) are a perfect example for this “top-down” conspiracism. Before the Hungarian government’s media campaign against Soros began in 2015, the Hungarian public had scarcely heard of him. Fidesz spin doctors simply seized on the Hungarian born billionaire’s potential as a handy enemy figure. They began depicting him as the head of a vast conspiracy uniting NGOs, the opposition parties, critical media, and international organizations. In several countries (including in the post-Soviet space), Soros has been treated as a symbol

¹ George Soros, the Hungarian-American billionaire who has spent a lot of money in Central and Eastern Europe in the time of the transition to democracy, and currently supports many human rights watchdog organizations in Central and Eastern Europe, is a central object of the paranoid imagination in Central and Eastern Europe.

of destructive liberalism, but nowhere outside Hungary has he become an official obsession and the target of a years-long smear campaign (Krekó & Enyedi, 2018).

2.1.7. Is there any exceptional in East Central European conspiracism?

Paranoid style is becoming mainstream all over the Western world – but East Central Europe has been an early bird and is a contemporary champion of this tendency, with incumbent governments and likely comebacks building their policies entirely on conspiracy theories, exploiting the feelings of uncertainty and instability. Conspiracy theories in countries like Hungary, Poland, and Romania, are not only marginal explanations for the social- political world, but inherent parts of its political systems: with Mudde's (2004) words, a kind of *"pathological normalcy"*. Conspiracy theories, in these contexts, can serve multiple purposes: (1) mobilize against the ones in power, but at the same time, (2) stabilize the positions of the ruling elites via scapegoating the "enemies of the people", (3) be used as instruments to initiate changes in the democratic institutional system – adding to systemic instability, and (4) keep up the excitement and the entertainment in politics through mythical stories on global conspiracies.

While East-Central Europe tends to fit the general, global landscape when it comes to conspiracy theories and theorizing, there is a particular "paranoid style" that is connected to the geopolitical victimization, feeling of lack of control and being only "toys of superpowers", and feeling of inferiority. Conspiracy theories still have their transformative power. The identity game among East-Central European populists is to demolish the image of the West and make the East as attractive as possible, and to turn the feeling of inferiority into the feeling of moral, and also, political superiority (e.g., Krastev and Holmes, 2020).

As Richard Hofstadter (Hofstadter, 1965/2000, p11.) famously noted: *"We are all sufferers from history, but the paranoid is a double sufferer, since he is afflicted not only by the real world, with the rest of us, but by his fantasies as well"*. This might be true for voters but not for politicians who use paranoid style as a political strategy. If they play conspiracism well, politicians are double winners instead of being double losers. Conspiracy theories make the ingroup more important, more relevant, and more heroic. They can help win hearts and minds, and therefore, gain power or keep power. And - as we are going to elaborate the next subchapter – this is an increasingly universal phenomenon that does not only manifest in Eastern and Central Europe.

2.2. Conspiracy theories in the power hierarchy

2.2.1. Conspiracy theory as system justification or deligitimisation?

The ideological images that justify and explain the privileged position of the groups in power play a very important role in the maintenance and existence of system-justifying tendencies (Jost and Banaji, 1999; Hunyady, 2021, Jost and Hunyady, 2003, see also, Hadarics & Krekó 2025), as do the hierarchy-attenuating legitimating myths that challenge the status quo (Sidanius and Pratto, 2005) and mobilise against the dominant groups, depicting action against them as just.

Conspiracy theories have traditionally been identified in the literature as clear examples of hierarchy-attenuating legitimizing myths (e.g., Friesen et al., 2014). These beliefs are about powerful actors are secretly collaborating to implement harmful plans aimed at subjugating a particular group in order to gain political or economic control over them. Consistent with this hierarchy-attenuating feature, most research finds that these perceptions are primarily associated with stereotypes about powerful groups (Imhoff and Bruder, 2014) and often surface among socially and politically oppressed groups, or groups that perceive themselves as such (Uscinski et al., 2011).

However, we often observe that conspiracy theories are disseminated by elite groups seeking to consolidate their own political and economic power. This subchapter aims to explore this apparent contradiction,

2.2.2. The Carriers of Conspiracy Theories

According to Lakatos (2000), conspiracy theories can be distinguished based on their origin: a) theories from the bottom against those in power (e.g., governments, secret services, media); b) theories from the top against those at the bottom of society (e.g., in Stalinist Soviet Union); and c) theories propagated by peer groups (e.g., anti-Semitic or nationalist conspiracy theories against neighboring countries).

Lakatos notes that conspiracy theories shared by those in power are significantly more dangerous due to their broader societal impact. We have to mention though that this rule is not absolute: feelings of powerlessness and desperation can also fuel extremist ideologies, which may lead to violent actions (see, for example, Berlet, 2009). But regardless of whether the

conspiracy comes from “above” or below, and held and spread by the “winners” or the “losers”, the core psychological mechanism underlying all conspiracy theories remains the same: a powerful (out)group is perceived to be threatening a weaker, disempowered (in)group.

Some scholars distinguish between theories targeting those in power and those targeting disempowered groups (e.g., the disabled, unemployed, or ethnic minorities, e.g. Wagner-Egger and Bangerter, 2007). However, since conspiracy theories presuppose the perception that the “perpetrators” of conspiracy are capable of planning, and in most cases, executing a hidden agenda, they are generally directed toward high-status groups, as research cited above confirms. Antipathies towards powerless groups may exist, but they typically do not take the form of conspiracies (e.g. the stereotypes against low status group such as the Roma, see for example Szekeres, 2020)

2.2.3. Are Conspiracy Theories for 'Losers'? Sociological and Political Science Approaches

Conspiracy theories as populist narratives and “checks and balances”

Sociological approaches link conspiracy theories to social status and structural changes. Hofstadter's (1965) classic work on the 'paranoid style' in American politics connects the spread of conspiracy theories to political and social transformations, such as the growing role of state redistribution, which led to a sense of deprivation among the American right. Parish (2001) supports this view, suggesting that modernity, with its constant transformation, makes conspiracy theories attractive as explanatory models.

The sociological perspective often views conspiracy theories as the typical mindset of oppressed groups. For example, in the 1990s and 2000s, many studies examined conspiracy theories among African Americans in the U.S., linking their susceptibility to these beliefs to their social situation, including material deprivation and political persecution (Turner, 1993; Crocker, Luhtanen et al., 1999). It created theories such as, for example, certain soft drinks produced by whites contributed to the sterilisation of blacks. Continuing this tradition, there have been a number of publications that have attributed black susceptibility to conspiracy theories to their lack of power, antipathy to the system and their unfavourable social position (e.g. Crocker, Luhtanen et al, 1999) and its impact on their health behaviour (Parsons, Simmons, Shinhoster & Kilburn, 1999; Bogart et al., 2011). An eminent domestic researcher on the subject, László Lakatos (2000), interpreted and analysed conspiracy theories as naïve sociological theories.

Conspiracy Theories as a Tool for Weakening Power Hierarchies

The political science view, consistent with this, sees conspiracy theories as a means to expose the manipulations of (invisible) power holders. Conspiracy theories can mobilize opposition to the established order and challenge the status quo, functioning as hierarchy-attenuating myths (Sidanius and Pratto, 2005). Consistent with this approach is the political science view that conspiracy theories expose the manipulations of the (invisible) holders of power, and are thus often formulated in opposition to the established social order. Conspiracy theories can also be explicitly used to undermine the system psychologically by mobilising against the current ruling order. Reactions to social hierarchies can be situated on a continuum that can range from paranoia to extreme idealisation and system justification linked to a Panglossian perception of the system (Jost and Kramer, 2003). Conspiracy theories can also be understood as generalized attitudes that spur political action against groups perceived as high status and threatening, and to change the status quo, as opposed to right-wing authoritarianism and social dominance orientations that tend to preserve status hierarchies and thus direct emotions against lower status groups (Imhoff & Bruder, 2014). To use the terminology of Sidanius and Pratto (2005), conspiracy theories function primarily as hierarchy-attenuating legitimating myths that challenge the status quo. The same theory can shift roles depending on power dynamics, as demonstrated by Bolshevik ideology, which strengthened opposition before the revolution and consolidated power afterward.

The mobilisation against the power holders was, of course, a means of strengthening the power of the people.

Conspiracy theories can also be a tool for political engagement, as they often motivate politically active voters of radical parties (Drochon, 2018). In some cases, they serve as the foundation for social movements that lead to positive social change (Sasson, 1995). Anti-white and anti-Jewish conspiracy theories are an important element of racial consciousness and critical attitudes towards the system among black groups (Crocker et al, 1999), and have been central to the ideology of radical black equality movements (Goldberg, 2001). These critical movements have themselves undoubtedly contributed to the extraordinary successes in the field of racial equality.

Conspiracy Theories as Populism

As Sergio Benvenuto (2004, 17) puts it, "A populist narrative is prevalent in the West today: the belief that the palazzo is at the root of all social ills, held by the few in power: in science, politics, medicine and administration". Populism often uses conspiracy theories as a tool to gain popularity and mobilise the masses. The juxtaposition of the selfish elite with the people, the criticism of the ruling elite's clandestine machinations, the promise of breaking its monopoly on power can be a framework that can be filled with different ideological contents. As Paul Taggart (2004) puts it, populism is chameleon-like, easily adaptable to the political environment.

Conspiracy theory is inherently populist. As Mark Fenster, an eminent scholar on the subject, puts it (1999, 109): *"conspiracy theory is a populist theory of power and as such a misreading of power relations, which pits believers and listeners as 'the people' against a relatively secretive, elite 'power crowd'"*.

Conspiracy theories in this formula can be an important element of political strategies for the redistribution of power and material resources: the oppressed, exploited People break the domination of the Elite. At least, this is the story that is often told by those who seek to entrench the power of an elite against the interests and will of the people.

Populism and conspiracy theories share several traits: a Manichean worldview, the depiction of the people as victims, and hostility toward diversity. Both frame the political elite as enemies,

making them potent tools for mobilizing mass support. They both usually refer to the "people" and place them in a victim position. Against them is the clandestine machinations of political, economic or cultural elites (and often foreign powers). Conspiracy theories, like populist rhetoric, are based on a black-and-white, Manichean worldview: they interpret world events in the context of a gigantic struggle between the good people and the evil elite. However, conspiracy theories are often a means of deflecting hostile feelings and rationalising hatred, which is not necessarily alien to the nature of populism. And finally, conspiracy theories, like populism, breed hostility against the very idea of political diversity. In the struggle between a homogeneous, innocent 'people' and an equally homogeneous, evil, and threatening 'elite', discord can be presented as treason, as support for the other side. In the light of these similarities, it is no coincidence that a study found that conspiracy theorising and populist opinions - particularly ethnocentrism, the fetishisation of 'the people' as a homogeneous, noble community, and anti-elitism - go hand in hand (Erisen et al., 2021).

Conspiracy theories as "checks and balances"

Conspiracy theories map the trajectory and effects of power in narrative form (Fenster, 1999), and some optimistic approaches argue that their impact may even be beneficial for the functioning of democratic systems. Based on this somewhat idealised idea, conspiracy theories, by pointing out that the king is naked, can enforce greater transparency and help expose real conspiracies, contributing to a more open and democratic society (Clarke, 2019). Conspiracy theories, even if often oversimplified, give individuals the opportunity to question the credibility of government and other socio-political actors, to exercise coded social critique. In doing so, they also send an important signal to social institutions and groups in positions of power. Indeed, the more extreme and widely accepted a conspiracy theory is, the more it suggests a lack of legitimacy of certain actors, institutions, or even the system (Miller, 2002). Conspiracy theories., according to some scholars, can also serve as a systemic corrective by morally condemning the perceived power practices of the incumbents, thereby helping to redefine social norms. For example, the results of a study on conspiracy theories and their background in the UK on 11 September (Swami et al., 2010) explicitly showed that respondents who were more politically cynical and accepting of conspiracy theories were more supportive of democratic principles. Indeed, conspiracy theories challenge the legitimacy of traditional authorities in power.

So, populism uses conspiracy theories as a tool to gain popularity and mobilise the masses. The dichotomy of the selfish elite and the people, the ruling elite criticism of its secret agendas, the promise of breaking its monopoly on power, can be a framework that can be filled with a wide range of ideological content.

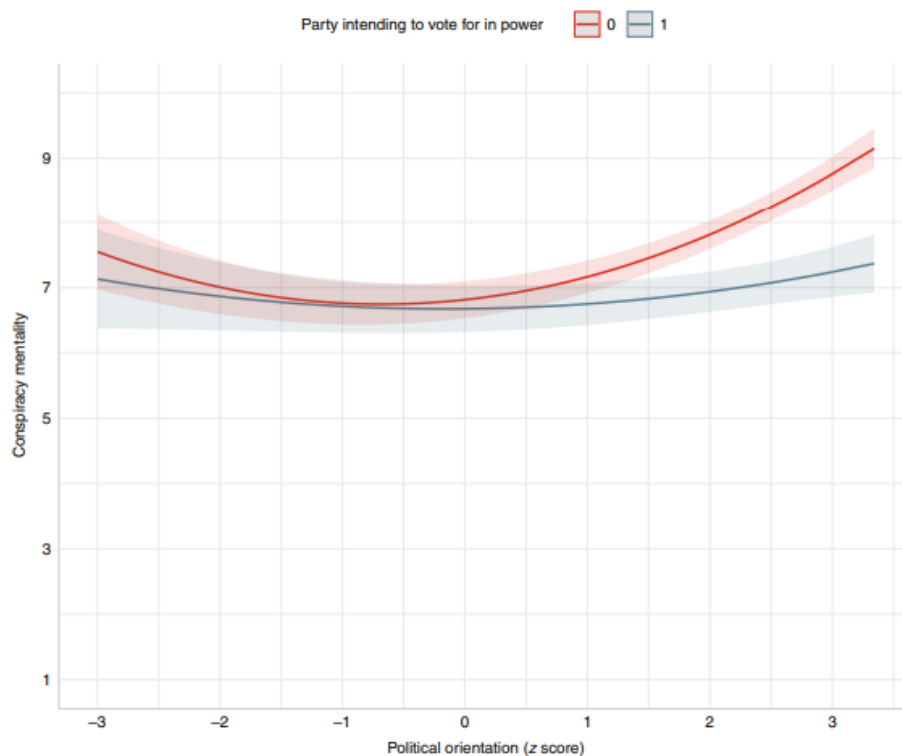
In much of the Western world today, the rise of right-wing populism is more spectacular. Right-wing populism has its own characteristic conspiratorial topos. It is a characteristic of the populist right (especially when it is in power) that it fears national sovereignty primarily from the 'international elite'. It is also typical of right-wing populists to conjure up an imaginary 'golden age' in the past, when there were no immigrants, everyone had a job and crime did not exist. The nostalgia for this imagined golden age shows best that populism is not really a political innovation at all, but rather a political expression of nostalgia for the past (Van Prooijen et al., 2022). The fact that the majority of voters for populist right-wing parties and politicians - are older than average, and among them the political nostalgia for the past is particularly strong, is a further indication of this Zeitgeist. Conspiracy theories are similarly "normal" - as Cas Mudde (2010) puts it, "pathologically normal" - because it represents dominant socio-political values – as right-wing populism.

[Conspiracy theory as the byproduct of deprivation of power](#)

Conspiracy theories, as discussed above, are most often related to the experience of being disempowered. Inglehart (1987) formulated the extremism hypothesis of conspiracy theories: conspiracy theories are most likely to emerge and spread in marginalised groups with little social influence, which experience ongoing frustration at their inability to achieve goals they consider important. This situation is explained by the fact that certain socio-political institutions (the media, political parties and parliament, the courts, the police) are marginalised by their conspiracies, hostile, secretive or even illegal practices, and are therefore unable to influence a large section of society or to gain real support, despite the fact that they believe that the majority of people share their views. Inglehart thus explains and derives from the permanent frustration of those in extreme political positions that there is a strong sense of distrust of the institutions. The results of a recent 26-country study (Imhoff et al, 2022) also showed a curvilinear relationship between political self-attitude and ideological orientation - i.e. a stronger conspiracy mentality on the far right and far left - in addition to a linear relationship: conspiracy ideals were stronger as one moved to the right of the spectrum. This cross-national and cross-sectional study - which we co-authored with Anna Kende as being responsible for conducting

the Hungarian dataset - examined the relationship between political orientation and conspiracy mentality—defined as a general belief in secretive, harmful conspiracies—across 26 countries. A key finding was the U-shaped relationship between political ideology and conspiracy mentality: individuals at both the far-left and far-right of the left-right spectrum – where he had to place themselves exhibited - levels of conspiracy beliefs than those who put themselves in the centre. This suggests a common inclination in extreme ideological positions to view events through a conspiratorial lens, regardless of ideological content. The study also found that individuals who supported opposition parties, and therefore felt politically excluded or deprived of control, reported higher conspiracy mentality. This "control deprivation" effect highlights how political marginalization can drive people to adopt a conspiratorial outlook, with conspiracy beliefs often used to explain perceived injustices or unaddressed grievances. At the same time, the study also found a linear relationship between political orientation and conspiracy mentality: that conspiracy beliefs were more common at the political right than at the political left (see Figure 6. below).

6. FIGURE: CONSPIRACY MENTALITY AS A FUNCTION OF LINEAR AND QUADRATIC POLITICAL ORIENTATION



Note: inclusion of party intending to vote for in government (0 = no, 1 = yes) and their interaction in study 1 (N= 25,910) with predicted 95% confidence interval (From Imhoff et al., 2022)

Another major finding was the stronger association between conspiracy mentality and social conservatism rather than economic conservatism. This aligns with previous research suggesting that conspiracy beliefs often go hand-in-hand with authoritarian values and resistance to liberal institutions. Additionally, education emerged as a consistent protective factor; individuals with lower education levels showed higher conspiracy mentality across the countries studied.

The Hungarian data provided both support for and unique nuances to these broader findings. Like in other countries, the Hungarian dataset reflected the U-shaped pattern between political orientation and conspiracy mentality, with individuals on both the far-left and far-right showing elevated levels of conspiracy thinking. However, the strength and direction of conspiracy beliefs among political extremes in Hungary appeared to shift depending on the political context, particularly the alignment of the government with the respondent's political orientation.

For instance, with the right-wing Fidesz party in power during conducting the survey, left-leaning individuals exhibited heightened conspiracy mentality, likely due to the perception of being politically marginalized. This control deprivation effect was intensified by the extensive media control and narrative framing by the governing party, which left opposition supporters with a diminished sense of representation. Consequently, left-leaning individuals were more likely to adopt conspiracy theories as a response to perceived exclusion from political influence.

At the same time, Hungarian right-wing supporters also demonstrated a notable tendency toward conspiracy thinking that was closely tied to authoritarian and nationalist beliefs. This group, often aligned with the government's rhetoric, harbored high conspiracy mentality directed at perceived external threats and liberal institutions. This finding is consistent with the study's broader observation that conspiracy mentality is often associated with self-placement on the (extreme) right, social conservatism and authoritarian attitudes, as these worldviews share a distrustful, black-and-white, manichean perspective on social and political issues. Furthermore, the Hungarian data also reinforced the relationship between education and conspiracy mentality.

[Conspiracy Theories as a power tool- conspiracy theories are for winners](#)

In a dominant line of theory that explains disinformation and media manipulation in democratic settings, disinformation, and especially conspiracy theories, are depicted as tools of the "losers" – people and groups without economic, political power, and social capital. In this romanticizing

approach, conspiracy theories, disinformation, and atypical explanations are for low-status groups who lack the financial and political resources to contest their high-status opponents, who wield greater political and economic power (Douglas et al., 2019). This notion is strongly rooted in the system-critical, deconstructivist-postmodern intellectual tradition. In a Foucaultian approach, system-critical narratives, conspiracy theories, and stigmatized forms of knowledge are all instruments to challenge the "Regimes of Truth" that aim to monopolize knowledge production (Foucault, 1980).

However, the notion of utilizing conspiracy theories, disinformation, and fake news as a means for the subjugated to challenge their oppressors is becoming more incongruent with reality, not solely in autocratic regimes but also in democratic societies. As Jason Harsin (2018) describes the process, "Regimes of Post-Truth" (ROPT) are increasingly replacing the "Regimes of Truth." Political entrepreneurs in these regimes utilize the most innovative communication technologies to learn more about the psychological features of voters, as in the Cambridge Analytica scandal (Cadwalladr, 2018), but also to stir a constant debate – one that, while seemingly super-democratic, ultimately leads to the death of public discourse through extreme polarization (Sunstein, 2018).

Regimes of Post-Truth (ROPT) are "designed to manage citizen-consumers by having them (a) accept that there is no way ultimately to verify truth, (b) believe their own truth arbiters in their markets, and subsequently (c) engage in vigorous counterclaiming and debunking" (Harsin, 2018, p. 45). The concept of ROPT captures well one feature of contemporary, technology-driven discussions, that we can see in democracies and autocracies alike – that, in a highly paradoxical way, endless debates can be tools to weaken democracies by killing the real public and policy discourse. The concept of "postmodern dictatorships" similarly captures this feature of modern mass persuasion, as it is more about confusion than persuasion (Gurri, 2014). This is a clear distinction between the nature of propaganda in the 20th century and that of the 21st century – both in democratic and autocratic settings.

Conspiracy theories and disinformation are frequently used by those in power to consolidate their position. As polarization increases in political systems, authoritarian governments can weaponize fake news and conspiracy theories to strengthen their grip on power. Elite groups have greater resources to spread these theories, making them even more dangerous. Populists in power can use conspiracy theories to libel real or fictional opponents and shield the government from hostile attacks.

In authoritarian regimes, conspiracy theories are often used to justify repression, mobilize supporters, and blame internal or external enemies for political and economic failures. For example, Putin deflected blame for Russia's economic troubles by attributing them to Western conspiracies. Contemporary "spin dictatorships" or "informational autocracies, (Gurev and Treisman, 2019) are relying on the manipulation of information, and disinformation and conspiracy theories are useful tools to achieve this goal. The use of conspiracy theories in these regimes underscores their function as tools for maintaining control by deflecting responsibility and justifying authoritarian practices."

Conspiracy theories are far from being the exclusive tool of material and political "losers", just as many people spread fake news out of frustration or in the hope of financial gain. Disinformation can also be a tool of those in power who seek to improve or consolidate their own political-power position. The more divided and polarised the political system, the more authoritarian the government, the easier it is for fake news and conspiracy theories to take root and spread in the political mainstream - if not in the 'centre', since the essence of polarisation is precisely the depopulation of the political centre.

Conspiracy theory can therefore be as much a political tool for those in power as for those excluded from power. Moreover, theories spread from 'above' by elite groups and, as part of that, by political actors, have a much greater impact and influence. Those in power usually simply have more power and material resources to spread their conspiracy theories and translate them into political practice.

And some political groups and organisations may have a real interest in seeing and exploiting existing and in some cases growing demands in society to see and perceive a threat where there is no real threat. There are not so much more effective tools for mass mobilisation and group cohesion than conspiracy theory.

Furthermore, ideologies that maintain the status quo can also contain conspiratorial elements: ambivalent sexism and especially hostile sexism (e.g. Glick & Fiske, 2006; Nguyen Luu, 2008), for example, build on the idea that women have a secret agenda and malevolent goals against men.

The way of speaking and the stories told are often quite similar "upstairs" and "downstairs". The psychological and rhetorical underpinnings of conspiracy theories are the same, and they

are usually based on some kind of populist narrative that have been mentioned above: Strong, powerful actors (an external state or alliance of states, international capitalist groups, perhaps an 'invisible' back-up power) threaten the innocent, pure-hearted 'victim' group: the people, the nation, Christians, etc. Conspiracy theories, both against power and in the name of power, portray the conspirators as both fearsome and powerful.

In practice, the working method of modern non-democratic (authoritarian) regimes is conspiracy theory production: the more repressive a regime is, the more it needs to constantly confront its enemies from within and without in order to justify the violent means and methods of repression it uses. Robins and Post (1997) have convincingly demonstrated this principle in the case of totalitarian regimes such as Stalin's Soviet Union, Hitler's Germany, Pol Pot's Cambodia, or even Idi Amin's Uganda. Tamás Krausz (2001) also analyses the paranoid nature of the Stalinist regime and its universe of conspiracy theories. Cohn (2002) argues that anti-Semitic conspiracy theories played a central role in legitimising the Hitler regime. Conspiracy theories also rise to the level of state policy in authoritarian or semi-democratic Arab countries in the Middle East (Pipes, 1998; Gray, 2010).

Conspiracy theory is also often rational also in the sense that they can provide psychological and real-life benefits: it provides a way of dealing with socio-political opponents and enemies (Goldberg, 2001, Kofta and Sedek, 2005), explains failures, or can help to maintain the cohesion of a political community. In the hands of power holders, contingents mobilize their own camps and allow for the targeting of political opponents and the shifting of blame when external-internal enemies are blamed for internal economic and political problems.

By using an effective mobilisation strategy from the top, powerful elites can also argue, paradoxically, against elites gaining too much influence - as Donald Trump does, for example, by saying "drain the swamp". From the top of the power hierarchy we hear almost the same conspiracy stories as from opposition populists. The populist rhetoric and conspiracy fantasies are not substantially different "up and "down" except that the opposition typically accuses the elites of the national political system of conspiracy, while the government side accuses the elites of the international system and the 'enemies within'.

The most bizarre situation in this respect is when the leaders of illiberal or authoritarian regimes - such as Vladimir Putin in Russia, Recep Tayyip Erdoğan in Turkey or Alyaksandr Lukashenka in Belarus - use these narratives. In their countries, they play the role of the simple children of the Russian/Turkish/Belarusian people, oppressed by Western international actors, as the holders of almost unlimited power and mobilise their camp against external and internal conspiratorial powers. Many of today's authoritarian regimes that are turning into dictatorships are also populist, at least at the level of reasoning and trappings. They demand the authority of the people - or, more accurately, the appearance of it - which they usually display in dishonest elections as a kind of legitimisation ritual. That is why these systems are often called “electoral autocracies”. The victories in increasingly less clear-cut elections from time to time reinforce the populist narrative: it is easier to play the role of "representative of the people" if the election results, at least on the surface, justify it.

In a wide range of cases, we see that once elected political leaders come to power through elections, they manipulate independent democratic institutions (the media, the judiciary, independent state control bodies, NGOs, in some cases the electoral system) to their own ends, making them increasingly difficult to remove from power. The basic rationale is that we are threatened from without by Western, hostile forces, and from within by their agents. The logic and rhetoric used to construct a victim identity and mobilise the people can be very similar in widely differing regimes. The rhetoric is about the external enemy, but it gains meaning in the struggle against internal adversaries, against whom political or even legal action becomes justified. 'Elitist' (i.e. unelected) institutions such as the courts, the Constitutional Court, NGOs or even the media, which channel foreign and opposition influence into politics, in fact limit the decisions of the president/government/parliament elected by the people. This process goes well beyond the autocratic regimes: the British judges that ordered a parliamentary decision after the Brexit vote were labelled as “enemies of the people” by the tabloid and right-leaning press. This is how the campaign against the rule of law institutions that limit the power of the political-economic elite running the country and allow them to be replaced becomes 'democratic', an expression of the real will of the people in the populist argument. The question that Garry Kasparov poses about the Putin regime is, of course, a legitimate one: if the leaders of these regimes are so popular and their governance is a natural expression of the will of the people, why are they so afraid of the institutions that guarantee democratic control and why do they do everything possible to weaken them?

"The tinfoil hats are out in Turkey" - this is the title of an article by Turkish journalist Mustafa Akyol (2016) in which he writes about the prevalence of conspiracy theories in Erdoğan's regime, pointing out their historical significance. *"It makes us feel important. If the world is conspiring against us, we have to be very special. I think this is how we Turks keep our spirits up because of the loss of the greatness of the Ottoman Empire"*. In Turkey, conspiracy theories have become practically all-consuming in recent years. The Turkish conspiracy theories often focus on Israel and the United States - the latter being the more interesting of the two, since Turkey is a NATO member and thus is a military ally of the United States. Since the Gezi Park protests in 2013 and the attempted military coup against President Erdoğan in 2016, these theories of power have further infiltrated Turkish political life and have been the basis for widespread political purges.

Conspiracy theorising in Russia is also taking on grotesque proportions. Moreover, the harvest of such narratives is so abundant that it is also exported abroad: it is one of the main exports of Russian foreign policy, international media and state propaganda, and it is the official, state-level conspiracy theories that have ideologically underpinned the war against Ukraine.

The conspiracy theory can be the best tool for the group and its leader to deflect responsibility for moral, political or economic failures and attribute worrying or damaging events to the mine-work of external (internal) conspirators. For example, Vladimir Putin avoided losing popularity in 2015-2017 due to the recession of the Russian economy by blaming Western countries and the Crimea sanctions for the troubles (Yablokov, 2018). The sanctions were triggered by his own policy of violating Ukraine's territorial integrity (and the 1994 Budapest Memorandum, which Russia signed), and by the president's counter-sanctions, which also contributed to the fall in trade. The conspiracy theory acts as an effective defence mechanism: it shields one's own group - but even more so its leaders - from unpleasant moral and political responsibility and consequences. All one has to do is theatrically formulate the question, "Whose interest?" And the answer is immediately self-evident: the external enemy.

There is no better instrument of self-defence of power than the conspiracy theory. Contrary to popular belief, for Stalin the conspiracy theory was not simply a manifestation of his paranoid delusions (never convincingly proven), but a well-demonstrated legitimisation tool for a systemic and planned crackdown on his actual and potential opponents.

In modern dictatorships, conspiracy theory is an everyday tool of the authorities. The more repressive a regime is, the more it needs to constantly confront its enemies from within and without in order to justify the violent means and repression it uses. At the same time, conspiracy theory and disinformation at the system level can also be a tool to replace or substitute for broader repression based on violence. As mentioned above, Guri ev and Treisman (2019) use the term "information autocracy" to refer to new types of non-democratic regimes that create their legitimacy through the manipulation of information - and which are often able to mobilize their own supporters and discourage and silence critics of the system through conspiracy theories.

2.3. Conspiracy Theories as tribal myths: conspiracy theories and disinformation as a byproduct and catalyser of polarization

Conspiracy theories, disinformation, and political polarization are deeply intertwined phenomena, functioning as both drivers and outcomes of modern tribalistic politics. This interconnection has become especially pronounced in the context of informational autocracies, where the strategic use of misinformation intensifies affective divides within societies (Guri ev and Treisman, 2022, Krekó, 2022a).

2.3.1. Conspiracy Theories: Catalysts and Manifestations of Polarization

Conspiracy theories often serve dual roles in politically polarized environments: they are both byproducts of polarization and tools that deepen societal divides. These theories provide simplified, emotionally charged narratives that pit in-groups against out-groups, fostering a Manichean worldview. Hungary exemplifies this dynamic, where conspiracy theories have been instrumentalized as weapons in the polarized information ecosystem, creating a cyclical pattern: political tribalism fuels conspiratorial thinking, which in turn exacerbates polarization (Forgas & Baumeister, 2019; Krekó, 2021).

The Hungarian government has frequently employed conspiracy theories to delegitimize opposition forces. For example, during the COVID-19 pandemic, the ruling party branded opposition groups as "anti-vaxxers" to erode public trust in them, while simultaneously pushing its own vaccine campaigns (Krekó, 2022b). Similarly, the war in Ukraine became another polarizing issue, with the government disseminating pro-Russian conspiracy theories that portrayed the opposition as warmongers. These narratives, supported by disinformation, not

only shaped public opinion but also hardened tribal identities, deepening societal cleavages (Molnár, Surányi, & Krekó, 2023).

Conspiracy theories operate as both the fuel and product of political polarization. Informational autocracies, like Hungary, leverage disinformation to consolidate power by fragmenting the public sphere and undermining trust in independent institutions. The media's role in amplifying falsehoods is particularly noteworthy. In Hungary, nearly complete governmental control over mainstream media has facilitated the spread of disinformation that reinforces pro-government tribal narratives (Urbán, Polyák, & Szász, 2017).

This deliberate dissemination of false information creates a cognitive environment where citizens become increasingly reliant on their in-group's narratives, disregarding external facts. The psychological mechanism of confirmation bias plays a crucial role here, as individuals seek out information that reinforces pre-existing beliefs, intensifying affective polarization. As Hornsey (2020) and Jussim et al. (2024) argue, confirmation bias, coupled with political tribalism, creates echo chambers that magnify mistrust and hostility toward opposing groups – even within academia.

Polarization itself acts as both a cause and consequence of conspiracy theories and disinformation. In highly polarized societies, tribal loyalty often trumps factual accuracy, creating fertile ground for the proliferation of conspiracy theories. Political actors exploit this dynamic to manipulate public perceptions, framing adversaries as existential threats. This tactic not only consolidates in-group cohesion but also justifies authoritarian measures under the guise of protecting the group (Vegetti & Littvay, 2022; Forgas & Lantos, 2021).

One of the most insidious effects of conspiracy theories and disinformation is their ability to manipulate moral emotions. Narratives that evoke fear, anger, and moral outrage are particularly effective in sustaining polarization. Conspiracy theories often tap into these emotions by portraying out-groups as malevolent forces conspiring against the in-group. Such narratives align with authoritarian tendencies and reinforce the Manichean worldview, justifying hostility and exclusion of the “other” (Bar-Tal, 2024; Baumeister, 2024).

Research in Hungary has demonstrated the asymmetric nature of polarization. In 2018, we found higher levels of Manichean thinking and tribal attitudes on the pro-governmental side.

But the rise of tribal mindset was asymmetric between 2018 and 2022: The ratio of tribalist voters (who can be characterized by a high level of Manichean worldview and authoritarianism simultaneously) has been stagnating among governmental voters in Hungary: 17% in 2022 (while 16% in 2018). At the same time, the ratio of opposition voters with tribal attitudes has been increasing dramatically: from 10 to 25% (see Figures 9.1–9.4). We also found that authoritarianism has also been on the rise in Hungary – but, again, more on the opposition than on the governmental side.

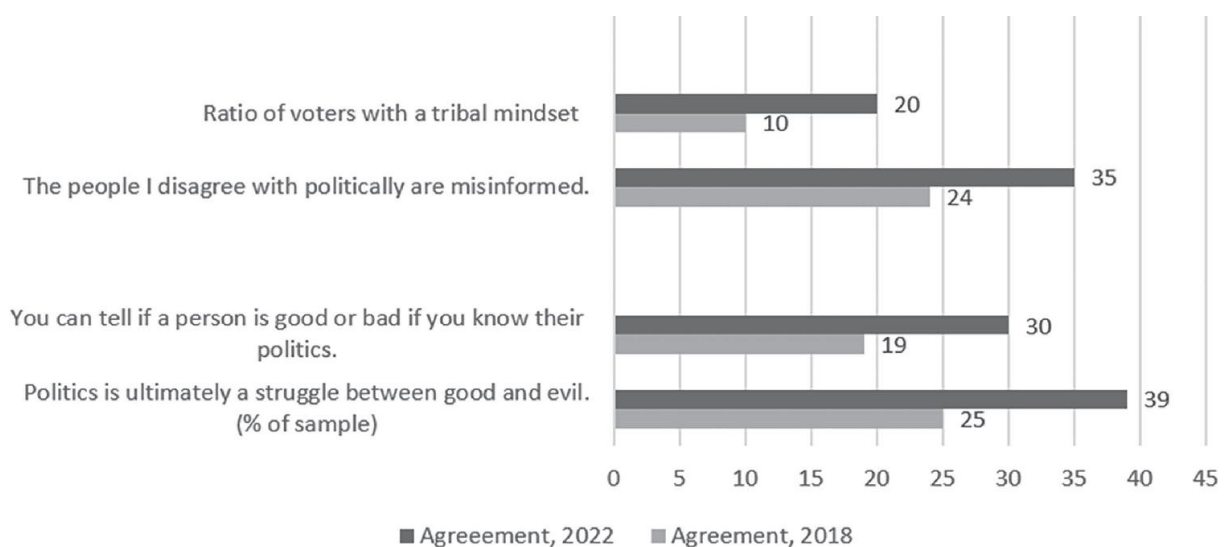
As a result of all these changes, the government and the opposition have traded places in Hungary: While governmental voters clearly showed higher levels of tribalism (and its components: authoritarianism and Manichean worldview) in 2018, by 2022, the opposition voters have become more tribal, increasing both the embrace of a black-and-white worldview and rallying around an authoritarian leader. The trends in the level of political tolerance (which is not a component of the tribal attitude set) fit into this trend: While in 2018, governmental voters were significantly less tolerant toward the different views than their own than opposition voters, the difference between the two camps totally disappeared by 2022. The reasons for this asymmetric polarization and rise of tribalism on the opposition side are not absolutely self-evident, but we can come up with some plausible explanations. First, on the opposition side, the systemic frustration in response to an increasingly authoritarian regime, and the despair of achieving democratic change made impossible by an election system that is not fair and only partly free (see, e.g., Forgas & Lantos, 2021), and the increasing need for a radical change as a result of spending 12 years in opposition can be a possible explanation for both the rise of Manichean thinking and authoritarianism. Second, in 2022, the opposition side ran a candidate (after a primary process in which he proved to be the winner) who came up with many similarly divisive and factually weak or incorrect statements as the governing party (e.g., referring to the homosexuality of the son of the prime minister and the alleged secret psychiatric treatment of the prime minister), representing a similarly post-truth approach to Viktor Orbán.

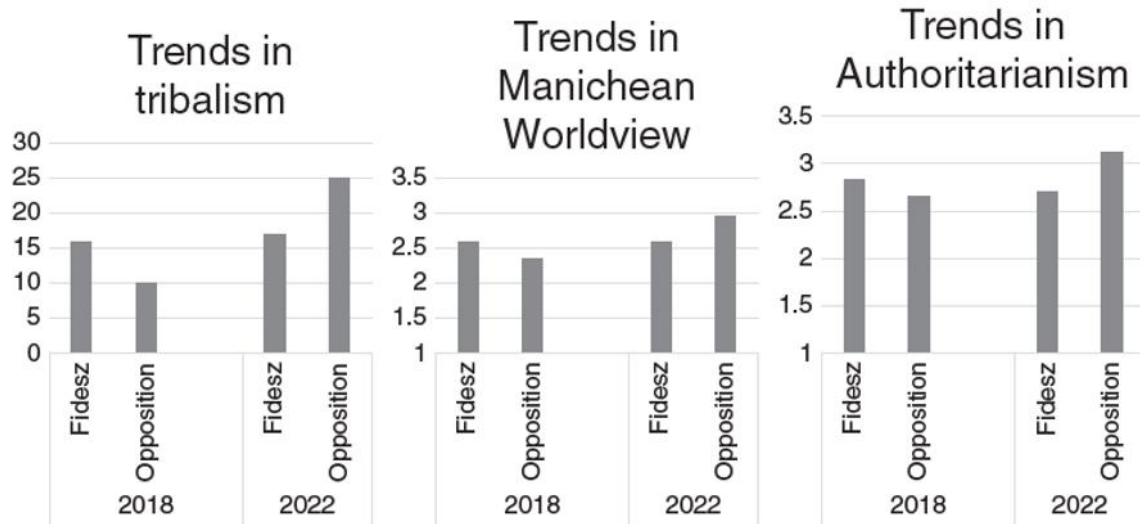
The candidate could have had an impact on voters of the left-liberal opposition. But whatever the explanation is, this increasing hostility, even if explicable, is indicating a dangerous shift in Hungary. At the same time, not all the research data suggest an increasingly dangerous hostility. For example, the ratio of supporters of political violence as a tool for achieving important political goals did not rise: It was 11 percent in 2018, and 10 percent in 2022. The overall pattern of the results shows that polarization, sectarian logic, and tribalism are present in a large part

of society, and both Fidesz and opposition voters have a very negative image of the other side – they are seen as closed-minded, limited, extremist, driven by false beliefs, and susceptible to disinformation. Furthermore, the two camps’ perceptions of each other show little difference. However, to avoid overly alarmist assessments, it is important to note that these antagonisms are less manifest in everyday relationships than on an abstract level – contrary, for example, to what some studies found in the case of Turkey (Aydin Düzgit, 2019) about the penetration of political divides in everyday social life. We found, for example, using a scale similar to the Bogardus social distance scale, that government supporters and opposition voters found no real problem in working in the same workplace or even congratulating each other on a marriage.

There is a minority of people in both camps (between 20 and 30 percent) who would feel uncomfortable in such situations, and the vast majority of neither government supporters nor opposition politicians would have a problem with such social relationships. The most uncomfortable for both camps would be if their boss was a voter for the other party alliance (35% mentioning that this situation would be uncomfortable). The subordinate relationship is the most likely to produce conflict arising from political differences. Here we also found that opposition supporters would be slightly more uncomfortable if they found out that their co-worker, boss, or new family member was a government party voter than the other way around (Political Capital, 2022).

7. FIGURE: TRENDS IN TRIBALISM IN THE HUNGARIAN SOCIETY, 2018-2022



8. FIGURE: TRENDS IN TRIBALISM AND ITS COMPONENTS AMONG VOTER GROUPS, 2018 AND 2022

Despite high levels of polarization, trust in science remains relatively unpolarized in Hungary (see more below). This contrasts with the United States, where partisan divisions over scientific issues like climate change and vaccination are stark (Krause et al., 2019; Pennycook et al., 2022). In Hungary, the government's pro-vaccination stance during COVID-19 temporarily aligned scientific trust with tribal narratives. However, this alignment did not eliminate the underlying disinformation ecosystem. For example, war-related conspiracy theories gained significant traction, demonstrating that the polarization of public opinion is issue-dependent and strategically cultivated (Lewandowsky & Oberauer, 2016; Krekó, 2022a).

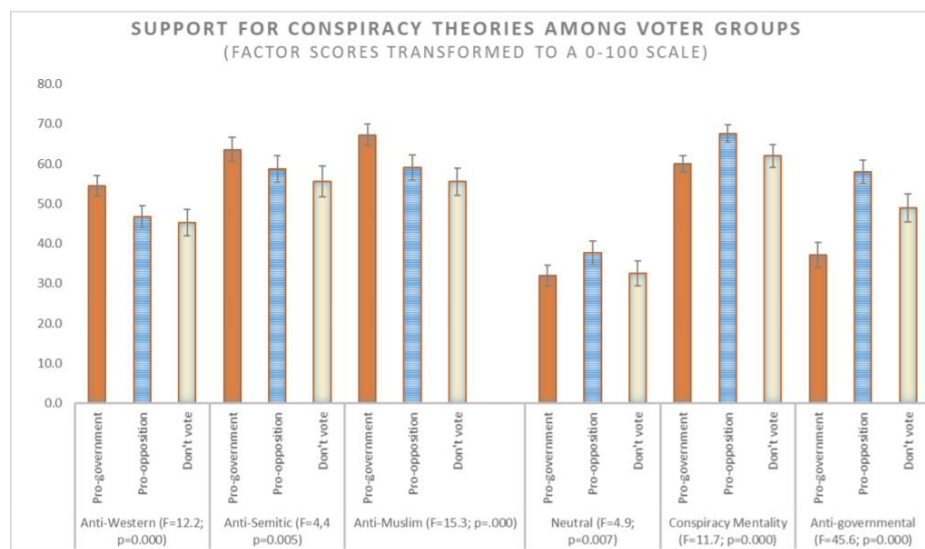
2.3.2. Conspiracy theories in the government vs. the opposition: polling figures

As previously discussed, populism and conspiracy theories are closely linked, both conceptually and empirically. Conceptually, conspiracy theories are integral to populism, often serving as a "populist theory of power" (Fenster, 2008; Yablokov, 2015). They typically assume that elite groups harbor secret, harmful plans targeting the ingroup, or "the people." Empirical research has revealed strong associations between populist attitudes, partisanship, and specific conspiracy theories, such as those opposing vaccination (Castanho Silva, Vegetti, & Littvay, 2017).

In a representative survey conducted by the Political Capital Institute in Hungary (see Figure 9 below), a more nuanced picture emerged (Krekó, Molnár, & Simonovits, 2019). Supporters of Fidesz, Hungary's governing party, which has extensively utilized conspiracy theories in its public rhetoric (e.g., Krekó & Enyedi, 2018), were more likely to endorse theories involving external intervention, such as conspiracies attributed to Western superpowers, Jews, or Muslims (despite Hungary's negligible Muslim population). Conversely, opposition voters exhibited stronger overall conspiracy mentalities—believing in underlying conspiracies behind global events. They also showed higher support for neutral conspiracy theories (e.g., chemtrails, anti-pharma, and anti-bank narratives) and, predictably, anti-government conspiracy theories.

This reflects a similar trend observed in anti-elite attitudes: voters supporting domestic populist regimes tend to downplay domestic threats and conspiracies but remain highly suspicious of foreign interventions perceived as endangering the stability of their populist leaders' system. This observation challenges the oversimplified notion that populist politics is inherently anti-establishment.

9. FIGURE: SUPPORT OF CERTAIN KINDS OF CONSPIRACY THEORIES ON GOVERNMENT AND OPPOSITION (KREKÓ, MOLNÁR, SIMONOVITS, 2019)



2.4. Cultural factors behind conspiracy theorizing: masculinity and collectivism

In a study that we co-authored with Anna Kende (Adam-Troian et al., 2021) *Investigating the Links Between Cultural Values and Belief in Conspiracy Theories: The Key Roles of Collectivism and Masculinity* we examined how specific cultural values influence beliefs in conspiracy mentality and conspiracy beliefs. Using data from multiple international samples and applying Hofstede's (1984) six cultural dimensions as a framework, we identified masculinity and collectivism as significant predictors of conspiracy beliefs. Unlike previous research, which focused on individual psychological traits associated with CTs, this study took a cultural approach, analyzing societal values as influential factors across different contexts.

The longer study used three cross-national datasets and a meta-analysis to test key hypotheses. Our hypotheses are as follows: first, that higher levels of masculinity (defined by an emphasis on competitiveness and achievement) correlate with stronger conspiracy beliefs; second, that higher levels of collectivism (emphasizing group cohesion and relational explanations) correlate positively with CT beliefs; third, that individualistic values (promoting autonomy and analytical thinking) are negatively associated with CT beliefs; and fourth, that cultures with high uncertainty avoidance (preferring stability and predictability) would show higher CT beliefs due to the perceived threat from uncertain scenarios.

In Study 1 data from 25 countries was analyzed using a conspiracy worldview scale to measure CT beliefs at the national level². The results from an OLS regression analysis showed a significant negative effect of individualism on CT beliefs ($b = -0.22$, $p = 0.008$), supporting the hypothesis that individualistic cultures exhibit lower levels of CT beliefs. Masculinity showed a weaker positive association with conspiracy beliefs (0.07 , $p = 0.11$), providing some evidence for a link between masculinity and CTs.

In Study 2a, data from the 2008 World Public Opinion Poll focused on beliefs surrounding the 9/11 conspiracy across 19 countries. Using logistic regression models, this analysis found a significant positive association between masculinity and CT beliefs ($OR = 1.67$, $p = 0.017$), supporting the hypothesis that higher masculinity in a culture correlates with a higher prevalence of CT beliefs. Similarly, there was a negative association between individualism

² The dataset for the primary research was the same cross-national, cross cultural research that another research on the relationship between ideological and power positions, cited above (Imhoff et al., 2022) was based on.

and CT beliefs ($OR = 0.70, p = 0.015$), further supporting the earlier finding on individualism. Additionally, uncertainty avoidance correlated positively with CT beliefs in this sample ($OR = 1.72, p = 0.006$), lending support to the hypothesis that cultures with high uncertainty avoidance are more susceptible to conspiracy thinking.

Study 2b used the Conspiracy Mentality Questionnaire (CMQ) in 18 countries to measure general conspiracist mentality. Significant positive associations were observed between masculinity and CT beliefs ($b = 0.66, p < 0.001$) and a negative association with individualism ($b = -0.45, p = 0.013$), which provided additional evidence for the first and third hypotheses. However, unlike in Study 2a, uncertainty avoidance did not show a significant effect on CT beliefs in this dataset, suggesting variability in its influence depending on the context.

Study 3 was conducted within the United States to examine the relationships at the individual level, thus avoiding potential ecological fallacy effects by directly measuring Hofstede's values and CT beliefs among participants. The correlation analyses showed that masculinity was significantly associated with both general conspiracy beliefs ($r = 0.55, p < 0.001$) and specific CT beliefs ($r = 0.60, p < 0.001$), reinforcing the role of masculinity as a predictor of CTs. Additionally, individualism was negatively associated with both general conspiracy beliefs ($r = -0.29, p < 0.001$) and specific CT beliefs ($r = -0.31, p < 0.001$). Power distance, which had not shown a strong association in prior studies, emerged as a significant positive predictor in this sample ($r = 0.47, p < 0.001$), indicating that societies with higher acceptance of hierarchical structures may have higher CT beliefs.

Across these studies, a meta-analysis confirmed that masculinity and collectivism were consistent positive predictors of CT beliefs. The meta-analysis provided moderate positive correlations for masculinity ($r = 0.39, 95\% \text{ CI } [0.18, 0.59]$) and a negative correlation for individualism ($r = -0.31, 95\% \text{ CI } [-0.47, -0.15]$), offering robust support for these cultural values as influential factors in fostering CT beliefs. These findings are aligned with prior research, such as Swami et al. (2014), which links analytical thinking styles with lower CT beliefs, and Liu et al. (2019), who found that collectivist cultures are more prone to vigilance toward perceived external threats.

The study highlighted the importance of cultural values in shaping Conspiracy beliefs. Masculine cultures, which prioritize competition (see also: Fülöp, 2022), and achievement, appear to foster environments where distrust and suspicion are common, thus encouraging

conspiratorial thinking. Collectivist values also correlate with CT beliefs due to their focus on relational explanations, where ambiguous events are often attributed to the actions of hidden, malevolent groups. In contrast, individualistic societies promote autonomy and critical thinking, both of which seem to counteract conspiracy beliefs by encouraging a more analytical approach to information.

While the hypothesis regarding uncertainty avoidance was supported in Study 2a, mixed results across other datasets suggest that this dimension's influence may vary depending on additional social or political factors. These findings suggest that conspiracy beliefs are not solely a matter of individual psychology but are also shaped by societal norms and values.

In conclusion, this study underscored the role of cultural factors in shaping conspiracy beliefs, showing that they are embedded in broader societal values rather than merely individual tendencies. This shift from an individual to a societal perspective on conspiracy beliefs has significant implications for both theoretical understanding and applied strategies in addressing them (see Chapter 6. on counterstrategies).

3. Pseudoscientific beliefs and COVID- related conspiracy theories in Hungary

In the preceding chapters, we explored how conspiracy theories and other forms of false beliefs emerge not from mere ignorance or irrationality, but as expressions of *collective motivated cognition*—psychological strategies deeply embedded in group identities, emotional needs, and cultural narratives. Chapter 1 laid the conceptual groundwork, presenting a typology of epistemically unfounded beliefs and outlining the interplay between cognitive shortcuts, group-based motivations, and socio-cultural factors in belief formation. Chapter 2 then zoomed in on political conspiracy theories in East-Central Europe, showing how conspiracy narratives serve as ideological tools that legitimize populist agendas, mobilize collective grievances, and reinforce polarized identities.

Building on these theoretical and empirical foundations, Chapter 3 turns to pseudoscientific beliefs and COVID-related conspiracy theories in Hungary—a particularly revealing case of how science skepticism and misinformation can converge and escalate during times of crisis—often conflated with conspiracy beliefs. In this sense, COVID-19 does not represent a departure from the paranoid style described earlier, but rather a new battleground where distrust in political elites fuses with a rejection of scientific authority.

This chapter deepens the analysis of motivated rejection of science, first introduced in the theoretical framework in Chapter 1. The pandemic illustrated how this phenomenon became particularly salient during the pandemic. Drawing on survey and experimental data, this chapter explores how conspiracy theories about the origins of the virus, vaccine safety, and globalist intentions flourished in Hungary—often promoted or tolerated by influential actors. It also examines how personal anecdotes and intuitive perceptions gained greater epistemic weight than scientific expertise, and how this trend connects to a broader pattern of pseudoscientific thinking in Hungarian public life. Furthermore, the role of personal experiences versus ideological constructs behind vaccine-skepticism will be scrutinized in more details in light of Hungarian and international survey data.

The transition from political to health-related conspiracies is not merely thematic—it is systemic. Just as the “Rózsadomb Pact” myth offered a morally charged explanation for the post-communist transition, pandemic pseudoscience provided a similar cognitive and emotional

function amid biomedical crisis: to simplify, moralize, and assign blame. This continuity reveals the monological nature of conspiratorial belief systems—how one form of epistemic distortion often makes others more plausible – and we will see how political and medical conspiracy-theories can mutually reinforce each other.

3.1. Motivated rejection of science: the psychology behind science skepticism

3.1.1. Attitudes on science and science skepticism in Hungary

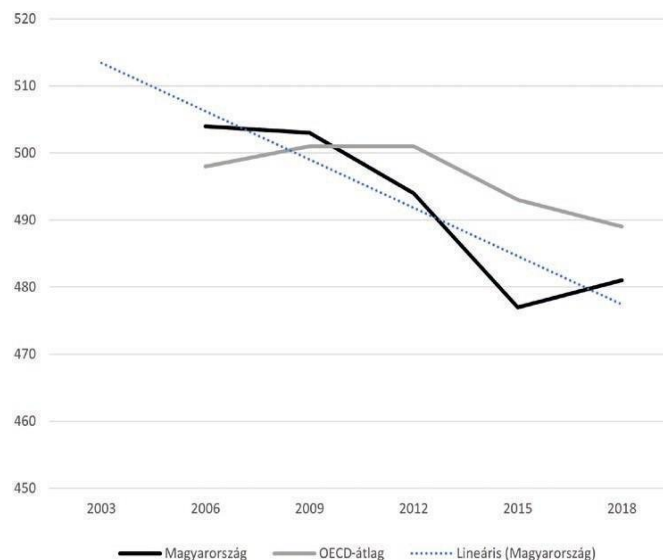
There is a widespread public perception that the most serious threat to the social acceptance of science is lack of education, poor intellect, and low knowledge. However, the widely documented phenomenon of "motivated science skepticism" nuances this picture. Our worldview beliefs, personal values and interests, personal and social identity, fears, and religious views can therefore have a profound impact on our attitudes to scientific issues and the evidence and facts we reject, partly independently of our education and even scientific literacy. This is also reflected in the fact that pseudo-scientific and complementary medicine, including homeopathy for example, is most popular among the relatively well-off upper middle class. Although there is an almost reverential relation for scientists in Hungarian society, this is not necessarily good news. In fact, domestic research (both among secondary school students and the adult population) has shown a declining level of scientific knowledge over the last decade, as well as a growing suspicion and distrust of science in Hungarian society. And the recognition of scientists' competence, coupled with low levels of scientific literacy, makes society susceptible to pseudoscience, and high suspicion to anti-scientific conspiracy theories.

While in our modern societies science seems to have an almost unassailable position, the Coronavirus v has shown more than ever that the world is not nearly as resistant to efforts to destroy science as previously assumed. The threat of a "pseudo-scientific revolution" that undermines the everyday position of science is more serious than ever before, and it poses a serious threat in terms of human lives (Krekó, 2021/b, 2022). Moreover, the effects of the coronavirus, of antivaccine resistance, of virus skepticism, are likely to remain with us even after the immediate threat of the virus is over. The experience of the pandemic and the measures taken to contain it will be incorporated into the mythical World of the conspiracy theory and disinformation universe, and will continue to be a basis for future reference as a dark manipulation by the 'background powers restricting our freedom. As an example, viral scepticism and anti-vaccine groups have now become the main disseminators of pseudo-news

and conspiracy theories about the Ukrainian war, denying or even relativising it (Kayali & Scott, 2022).

In Hungary, the attitude towards science has become particularly controversial and polarised after Covid (Krekó & Falyuna, 2022). Although previous surveys show that pride in scientific achievements is a central part of Hungarian national identity, including through our Nobel laureates (Fábri, 2022), surveys on scientific knowledge show a much less flattering picture. Over the last two decades, the science (and maths) knowledge of students has fallen significantly in the PISA surveys, both compared to previous Hungarian data and to the average of other OECD countries. This trend is not a strictly monotonic decline, but it is significant (see *Figure 10*).

10. FIGURE: SCIENCE PERFORMANCE OF HUNGARIAN SECONDARY SCHOOL STUDENTS (PISA SCORES), 2006-2018 (OECD, BASED ON PISA DATABASE)



Note: Black line: Hungary. Grey line: OECD-average. blue dotted line: Hungary, linear trend line.

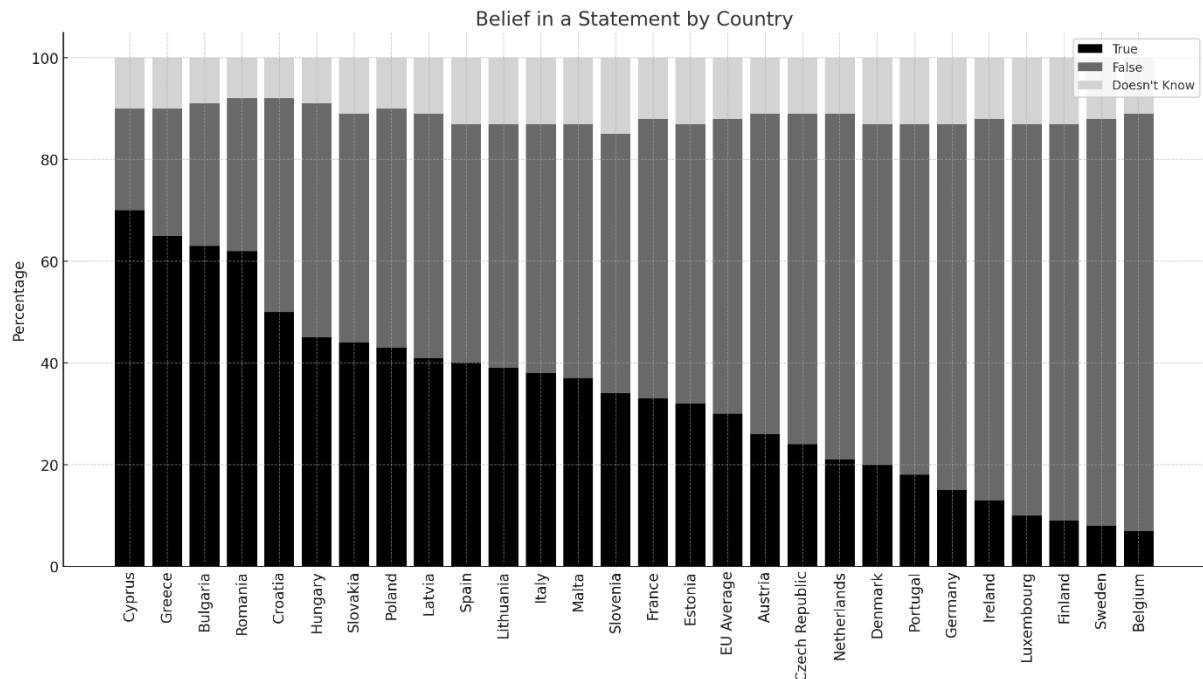
According to a Eurobarometer poll that was conducted in the spring of 2021 (at the beginning of the rollout of the vaccine and when the third wave of the COVID-19 pandemic hit the East-Central European region very hard resulting in high infections and mortality rates – unlike the first wave), citizens of the Eastern (and Southern) part of the European Union were the most receptive to conspiracy theories (European Commission, 2021).

For example, 48% of Hungarians, 46% of Romanians, 41% of Bulgarians, and 40% of Romanians (all relative majorities) agreed with the statement that “the cure for cancer exists but it is hidden from the public by commercial interests”. As a comparison: the rate of the respondents who agreed with these statements in Denmark was 5%, and in Sweden 4%.

Similarly, absolute or relative majorities in most East-Central European countries agreed that “viruses have been produced in governmental laboratories to control our freedom”. Fifty-three per cent of Romanians, 52% of Bulgarians, 50% of Croats, 47% of Slovaks and 43% of Hungarians agreed with these statements that had less than 10% support in the NorthWest of Europe: Sweden, Netherlands, and Denmark. From these results, it seems that conspiracy theories are particularly tempting in Southern and Eastern Europe. In the following sections, we examine some prevalent conspiracy theories and try to identify the key features of the East-Central European conspiracy culture, with a particular emphasis on Hungary.

And the results of a recent survey conducted in the EU Member States (Eurobarometer, 2021) also paint a rather depressing picture of the level of scientific literacy among the Hungarian population aged fifteen and over. The survey tested the knowledge of the population of European countries along eleven factually true (e.g. "the air we breathe comes from plants") and false (e.g. "antibiotics are as effective against viral as bacterial infections") claims. Hungary was ranked 17th out of the 27 countries - not far behind the newly acceding countries (*see Figure 11*). In comparison, while only 16% of Hungarian respondents gave at least eight correct answers to the questions asked, the proportion of the population in countries at the top of the list, such as Belgium and Sweden, was three times higher - always above 40%. was. In the survey, nearly half of Hungarians (45%) mistakenly believe that antibiotics are as effective against viruses as bacteria - particularly shocking given that the survey was conducted in the spring of 2021, in the midst of the third wave of the deadly epidemic. Hungarian respondents had the sixth highest rate of incorrect answers among EU countries. Moreover, as in the case of the PISA data, there is a downward trend: the percentage of incorrect beliefs has increased compared to the same methodology used fifteen years ago.

11. FIGURE: ANSWERS TO THE FOLLOWING (FALSE) STATEMENT: "ANTIBIOTICS ARE AS EFFECTIVE AGAINST VIRAL INFECTIONS AS THEY ARE AGAINST BACTERIAL INFECTIONS." (EUROBAROMETER, 2021)

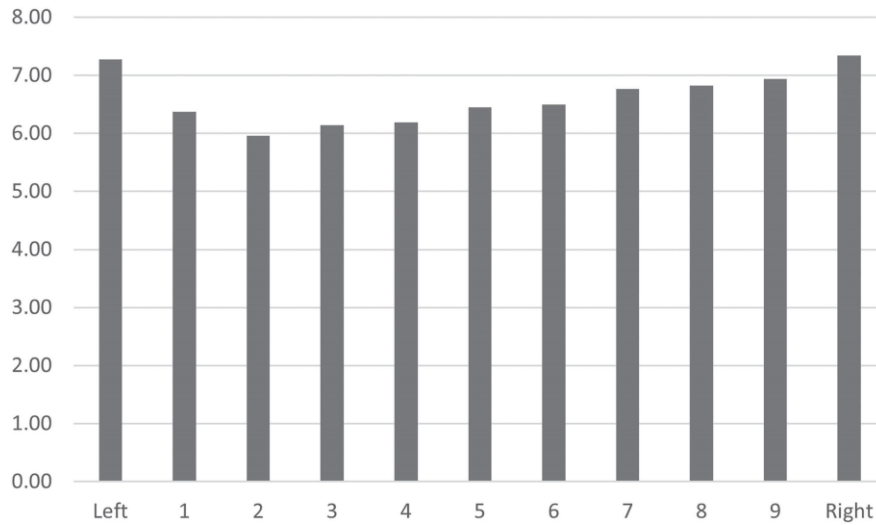


The same Eurobarometer survey also reveals an interesting contradiction. On the one hand, Hungarians (and Europeans in general) have an excellent opinion of both science and scientists on the surface - especially when it comes to their competence. The public image that the research shows is one that all scientists are happy to share: the vast majority of respondents consider scientists to be not only intelligent and collaborative, but also altruistic, broad-minded and good communicators.

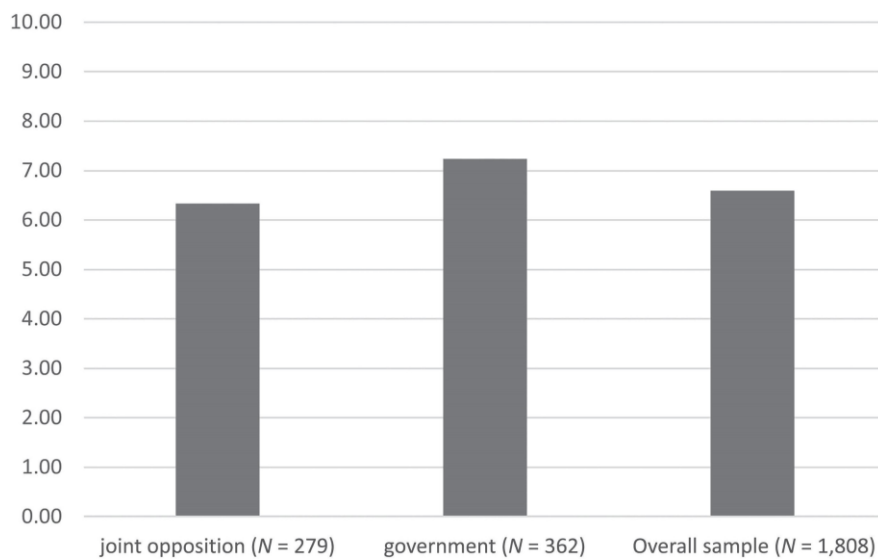
Trust in science is high all across the political spectrum in Hungary (See Figure 12 and 13 below) – and one of the very few institutions in Hungary that does not have a polarized, asymmetric public perception. While in many countries, and most notably in the United States, science has become a dramatically polarizing issue, with much lower levels of public trust towards science on the right side of the political spectrum (Stein et al., 2021)³.

³ This is a relatively new phenomenon: research from the 1970s suggest that Republicans showed greater trust in scientists than Democrats, but this trend reversed by the early 2000s, with the gap widening between 2016 and 2018 (Krause et al., 2019); by the 2020s, the gap had become alarming.

12. FIGURE: TRUST IN SCIENCE IN HUNGARY ACCORDING TO PARTY POSITION, 2021 (SOURCE: EUROPEAN SOCIAL SURVEY, ROUND 10., OWN CALCULATIONS)



13. FIGURE: TRUST IN SCIENTISTS IN HUNGARY ACCORDING TO POLITICAL PARTY PREFERENCE , 2021 (SOURCE: EUROPEAN SOCIAL SURVEY, ROUND 10., OWN CALCULATIONS)



This result would be particularly encouraging if Hungary did not have the highest rate of science-related conspiracy theories in the world. But they do. The Eurobarometer data shows just that: 48% of Hungarians believe that there is a cure for cancer, but that the drug companies are hiding it from us, and 43% believe that viruses were developed by the government to restrict our freedoms. This data is in line with previous research (e.g. Globsec Trends, 2021; Political Capital, 2018), which also shows that conspiracy theories are highly prevalent in Hungary, both in general and against science and pharmaceutical companies (and the powers behind them) in

particular. Taken together, these data paint an ominous picture of Hungarian society's attitude towards science. The high esteem of scientists combined with low scientific knowledge makes people susceptible to pseudoscience (O'Brien et al., 2021), and distrust makes people susceptible to conspiracy theories (Van Prooijen et al, 2022). The blind faith and excessive astonishment in scientific authorities without scientific knowledge also makes people easily deceived by pseudo-scientific authorities, fake scientists, charlatans, etc., who disguise themselves as scientists by means of modern scientific tools (e.g. references, titles, graphs, etc.). In the absence of trust, the perceptions of the vast knowledge of the scientists and the formidable technological apparatus of the pharmaceutical companies only lead to suspicion and twisted conjectures centring on evil scientists. Excessive mistrust, based on superficial information processing and lack of knowledge, are thus both the root causes of anti-scientificism. In fact, the two are often linked: pseudoscientific and conspiracy-theoretic arguments are intertwined. Pseudoscientific entrepreneurs- miracle doctors and charlatans – seek to build credibility by waging heroic battles against so-called 'corrupt scientists' and the 'pharma mafia.'" (see also Krekó & Falyuna, 2022).

An example is one of the COVID-skeptic doctors, György Lenkei. He justifies his highly profitable vitamin products – that proved to be particularly prosperous during the pandemic - with the following words: *"I understood that the control of medical education had been taken over - from the early 1900s onwards - by a vested interest group that had no interest in people living in full, flourishing health throughout their lives. [...] I understood that there was a force, and a very active force, which was profiting from people being ignorant, frail, serviced and unable to maintain a high level of health. That's when I found myself confronted with the drug mafia"* (Lenkei, 2020).

3.1.2. Not the opium of the fool people – the psychology of science skepticism

Representatives of science and radical skeptics often deceive themselves by believing that science denial, pseudoscience, and conspiracy theories are merely the 'opium of fools,' the domain of the undereducated (Krekó, 2022). This viewpoint suggests that with more critical engagement from individuals, improved scientific education from institutions, and better communication of research findings by scientists, it would be relatively simple to shield people from the dangers of pseudoscience and anti-science. This perspective also underpins the traditional elitist view of science, the cognitive approach to pseudoscience, and the so-called

deficit theory, which attributes anti-scientific beliefs to the intellectual and cognitive shortcomings of the audience (see Bucchi, 2008)

Of course, belief in certain misconceptions is not independent of one's level of knowledge. Some studies of conspiracy theories have found a correlation with educational attainment (e.g. van Prooijen, 2017), and some beliefs in more easily disprovable falsehoods can be partly explained by poorer analytical skills and cognitive effort (see, for example, Pennycook & Rand, 2020). That said, it is naïve to assume that improving knowledge transfer and better education will automatically solve problems, for a number of reasons:

1. As quoted earlier, (blind) trust in science, partly mediated by education, can also make you more susceptible to pseudoscience.
2. Some research suggests that the refusal to accept or vaccinate against the coronavirus depends more on political bias than on education (see for example The Economist, 2021).
3. Research in Hungary has also shown that alternative and complementary medicines and procedures (e.g. Ayurvedic treatments, acupuncture, etc.) are mostly used by well-educated and well-paid middle-class people (Zörgő et al., 2016). Some 'alternative' therapies, such as homeopathy, are popular among groups with higher education and socio-economic status.
4. Research from Anglo-Saxon countries indicates that on contentious issues such as climate change and gun control, higher levels of education and scientific knowledge do not necessarily lead to greater acceptance of scientific evidence. Instead, they often strengthen partisan loyalty. As individuals become more informed, they may use their knowledge to more forcefully defend their pre-existing views, even in the face of contradictory scientific findings. This is known as “motivated rejection of science” (Lewandowsky & Oberauer, 2016), where knowledge amplifies bias rather than fostering accurate processing of information.
5. This is why individuals with 'scientifically unorthodox' views—such as creationists, anti-vaxxers, and climate change deniers—can be remarkably resistant to scientific evidence. They tend to selectively interpret information in ways that reinforce their pre-existing beliefs (Hornsey et al., 2020).
6. A substantial body of research concludes that conspiracy thinking, driven by dogmatic distrust (Lewandowsky et al., 2013), can also result in the acceptance of diverse, unrelated conspiracy or science-skeptical claims. For example, individuals who believed the moon landing was staged in a Hollywood studio or that the FBI intentionally failed to investigate

Martin Luther King's death were also more likely to consider global warming a hoax and to support other anti-scientific views, such as opposition to vaccinations.

7. Moreover, if one is inclined to explain the world in terms of conspiracy theories, one may also be inclined to give credence to logically contradictory claims simply because they contradict the 'authoritative' position (Wood et al., 2012).
8. While intuition and analogical thinking can lead to significant scientific breakthroughs—Isaac Newton's theory of gravity being a prime example—overreliance on these cognitive approaches can have detrimental effects, steering individuals toward pseudoscientific and conspiracy theories that conflict with formal logic (see, for instance, Majima, 2015).

Our worldviews and ideological beliefs, personal and social values, identities, fears, and religious convictions can profoundly shape how we engage with scientific questions—and how we reject evidence and facts. At an individual level, we tend to make sense of the world through heuristics, analogical thinking, cognitive shortcuts, and simplification. Moreover, we seek explanations that offer reassurance, faith, and a sense of control, especially during times of crisis and anxiety (Krekó, 2021). This is compounded by the phenomenon of "information-educated disillusionment" that defines our era: modern individuals are often so overwhelmed by information that they lose confidence in their ability to discern truth and facts (Nisbet & Kamenchuk, 2021). Personal opinions are shaped as much by social adaptation and group integration as by information acquisition, and this kind of 'tribal thinking' can predispose individuals to question scientific facts on a group basis, such as the role of mask-wearing in curbing the spread of a virus (Greene, 2013; Kreko, 2021/b). It is, therefore, naïve to assume that people are solely—or even primarily—motivated by a desire for knowledge, or that they will willingly revise their beliefs when confronted with contradictory evidence. Equally misguided is the notion that scepticism toward science is primarily caused by a lack of knowledge; more often, it stems from an overload of 'undigested' information that fails to cohere into meaningful understanding.

3.2. Pseudo-scientific views and conspiracy theories during the Pandemic in Hungary

3.2.1. Anti-vaccination conspiracy theories and their psychological background

As mentioned above, crises and unexpected events usually call for unexpected explanations. Conspiracy theories about healthcare can be particularly dangerous. They endanger those who

believe them, their families, and the broader social environment. The coronavirus resulted in a bizarre, ambivalent response regarding trust in science and scientists. While scientists are often mentioned as the most reliable source of COVID-related information according to, for example, Eurobarometer surveys, we could see a cascade of anti-scientific conspiracy theories as a consequence of the pandemic, for example, more than one-fourth of the European citizens think that viruses are developed by governments to control the freedom of the citizens (Eurobarometer, 2021).

This endemic paranoid thinking is not a new phenomenon. A spreading narrative after the eighties that birth control is part of a genocidal conspiracy against black Americans also led to a setback in efforts to encourage condom use. It contributed to a spike in unwanted pregnancies and the spread of sexually transmitted diseases (For a summary: see Bogart et al., 2021). In Brooklyn's African American circles, rumors were spread that sodas and fast food produced by certain chains (Snapple and Church's Chicken) contain added chemicals that sterilize black men (Fletcher, 1996) – that led to an irrational boycott of such companies by segments of the black community. Research has also shown that about a quarter of African Americans believe that the HIV virus was released into the population as part of a conspiracy to annihilate black people. This belief contributed to a significant reluctance among many black men to use condoms or see a doctor to help prevent or treat HIV/AIDS. Doctors felt that they could be part of the conspiracy. The risk of HIV infection in their community was thereby greatly increased.

The belief among African Americans that vaccines may be potential weapons of genocide was obviously greatly amplified by acute experiences of genuine racial injustice and subjugation (Quinn et al., 2017). Their distrust must be considered alongside the history of black oppression in the US and unethical research programs, like the Tuskegee Syphilis Study between the 1930s and 1970s, in which black American men were subjected to human experimentation and mistreatment. (Freimuth et al., 2001). Ultimately, though, faith in conspiracy narratives ends up harming the believers, regardless of their historical memory. Anti-vaccination attitudes reach far beyond the boundaries of the black community. The anti-vaxx movement has spread worldwide, and hundreds of thousands have fallen victim to its prejudices (see for example. Poland and Jacobson, 2012).

According to data produced by the World Health Organization, measles remains one of the leading causes of child death globally. This is true despite the existence of the MMR vaccine, widely used in Europe, which protects against measles, mumps, and rubella. The inoculation is

affordable and accessible to everyone. Nonetheless, in 2016, there were 89,780 fatal measles infections worldwide, and in 2015, 367 people died of the disease every day. The good news is that, between 2000 and 2016, mandatory vaccination lowered the number of cases with a fatal outcome by 84%, saving over 20 million lives. But in the same period, several million people died because they were not vaccinated (WHO, 2019). However, because of adverse publicity from the anti-vaccination movement, which declared MMR its arch-enemy, measles has returned to countries where it had previously been eradicated: Germany and the United States, for instance. According to a project that provides lists of vaccine hesitancy victims based on public reports, failure to vaccinate caused 9028 deaths between 2007 and mid-2015 in the US alone (Anti-vaccine Body Count, 2015). In 2017, measles resurfaced repeatedly in Europe, most of all in Germany, Italy, France, and Romania. According to a study of several European countries, there is a widespread belief that the negative and harmful effects of vaccines outweigh their advantages (Karafillakis and Larson, 2017). In Hungary, the anti-measles vaccine was introduced in 1969, so here the population is relatively well protected. After the emergence and proliferation of anti-vaxx views over the border in Romania, however, the disease resurfaced in Hungary as well (WHO, 2019). Thanks to recent research, we know increasingly more about how antivaccination movements operate, what arguments they present, and the kind of healthcare conspiracy theories they promote. Misconceptions about healthcare are astonishingly widespread. According to the results of one US study, almost half of Americans believe in at least one medical conspiracy theory (Douglas et al., 2015). Those who do so are also more likely to seek recourse from “alternative therapies” which may have little or no effect and may prove harmful if the patient skips conventional medical therapy (Oliver, Wood, 2014). Rather than turning to health experts and doctors, this group will be inclined to take advice from people they trust – usually family members, friends, or acquaintances with no corresponding qualifications. Medical conspiracy theories also often correlate with insecurity and anxieties about the impact of technological change on human health – most typical of the elderly, religious believers, and right-wingers (Lahrach and Furnham, 2017). An analysis of anti-vaccination tweets in the US between 2009 and 2015 has shown that the number of tweets was greater in states with a higher proportion of women who had recently given birth, of people aged between 40 and 44, of men with no higher education, or of households with a higher income (2017). As these results indicate, the anti-vaccination movement can gain popularity among very different groups at the same time: young mothers, men with little education, and people with high earnings. In the US, anti-vaxx tweets are by no means the most popular in economically less developed states, as might be expected. Anti-vaccination beliefs, medical

conspiracy theories, and faith in alternative medicine all appear to correlate with political conspiracy theories (Galliford and Furnham, 2017). According to a study based on data from numerous countries, those who believe in conspiracy theories about the Kennedy assassination, Princess Diana's death, or 9/11 tend to be more skeptical about vaccines (APA, 2018). The role of misconceptions in dismissing the H1N1 Swine Flu vaccine (driven to some extent by political considerations) has been proven by Hungarian studies as well (Nguyen Luu et al., 2010). Experiment-based research has shown that conspiracy theories can undermine faith in vaccines and diminish people's inclination to get vaccinated (Jolley and Douglas, 2014a). It also seems that such beliefs remain stubborn in the face of challenges. Prevention – based on promoting the logic of vaccination – is therefore more effective in the fight against anti-vax conspiracy theories than subsequent salvaging. Another investigation had shown that arguments against conspiracy theories were only compelling when they were presented to subjects in advance of the conspiracy narrative itself. It is easier to immunize those who refuse to succumb to such theories generally than to correct anti-vaccination attitudes that have already been formed (Jolley and Douglas, 2017). Anti-scientific conspiracy narratives can do harm well beyond anti-vaccine sentiments as well, however. One experiment has shown, for example, that conspiracy theories targeted at climate change skeptics substantially diminished people's willingness to observe their carbon footprint or actively do something for the environment. The narratives promote the view that global warming is a mischievous invention aimed at weakening developed countries. They intensify public feelings of disappointment and insecurity while strengthening the sense that the individual is helpless (Jolley and Douglas, 2014b)."

"Many expected at the beginning of the epidemic that the coronavirus would take away all the credibility of the anti-vaccination movements. What could be a bigger defeat for the anti-vaxxers than a global virus where everybody is looking for vaccines as a panacea? Just the opposite happened: the insecurity caused by the pandemic gave momentum to anti-vaxxers" (Ball, 2020). Conspiracy theories proved to be shockingly efficient in reducing the vaccination rate, as many studies suggested (Pertwee et al., 2022). The anti-vaxxer movement could build on two layers of uncertainties during COVID: First, about the pandemic as such, and second, about the newly developed vaccines which proved to be an easy target for fearmongering, claiming that humans only serve as guinea pigs in a huge social lab of virologists and politicians. The political mobilization potential of the COVID-skeptic conspiracy theories and their mainstreaming are both well illustrated by the fact that one of the most notorious vaccine skeptics, spreading long-debunked claims on the side effects of the MMR vaccines (they are

causing autism) and on the COVID-vaccines (they are unsafe). Robert F. Kennedy have been recently appointed to lead the healthcare cabinet of US President Donald Trump.

3.2.2. The triggering role of the COVID-19 infodemic

The COVID-19 pandemic was in itself accompanied by an infodemic, marked by the widespread dissemination of conspiracy beliefs concerning the virus's origins, lockdown measures, and vaccines, potentially undermining effective healthcare responses (Pummerer et al., 2022). Even highly contradictory beliefs, such as the notions that the coronavirus was simultaneously a hoax and a deadly bioweapon, spread rapidly and were linked to decreased compliance with containment measures and increased self-centred prepping behaviours (Imhoff and Lamberty, 2020). Research consistently shows a negative association between conspiracy theories about vaccines and vaccination intentions (van Mulukom et al., 2022; Anakpo and Mishi, 2022).

The third and then the fourth waves of the coronavirus epidemic made it clearer than ever that the pandemic is as much a social phenomenon as a biological one. The virus and the information 'epidemic', the pandemic and the infodemic have reinforced each other in a vicious circle. Restrictive measures, in part following the recommendations of scientists, have divided Western societies and, as a result, the perception of scientific knowledge and authority has become more polarised (Krekó, 2021a, b). Although trust in scientific authority remained strong and has even been reinforced in many contexts, research indicates that alternative perspectives questioning, denying, or replacing well-established medical knowledge—such as the principles of infection transmission or vaccine efficacy—have been gaining a lot of visibility and influence. These 'alternative scientific' narratives and their advocates not only shape beliefs but also drive behaviors critical to virus transmission, including resistance to mask-wearing or vaccination. Pandemics and the accompanying infodemics represent complex social phenomena that cannot be adequately explained through reductionist approaches based solely on economic development."

Nothing illustrates these claims better than the huge disparities in vaccination rates between EU Member States. The European Union comprises similar countries in terms of economic, institutional and democratic development - at least from a global perspective – that do not differ drastically in terms of religious and cultural traditions (all are dominated by some form of Christianity) and are linked by shared historical experiences. All countries had almost unlimited

access to vaccinations after a while. Yet there is a dramatic (threefold) difference in vaccination coverage: while 87% of the population in Portugal was vaccinated in the beginning of January 2024, this ratio was only 31 in Bulgaria, according to official EU (ECDC) data (Politico, 2024).

The countries with the highest vaccination rates are by no means the most economically advanced EU Member States: after Portugal, the next best performers are Malta and Spain. Differences in mortality are even more dramatic within EU. In Bulgaria, four thousand people per million have died from the coronavirus in Bulgaria- and this figure was 312 in Finland- Mortality statistics are unsurprisingly very strongly inversely correlated with vaccination coverage⁴ - while the correlation with economic development was found to be much weaker.

Unfortunately, the Central and Eastern European region, and Hungary in particular, is cumulatively exposed to both low vaccination coverage and high mortality. The last third of the EU Member States in terms of vaccination coverage is made up exclusively of the eastern, former socialist states, and the group of countries with the highest mortality rate - with the exception of Belgium, which has the ninth highest rate – is also from this region. Hungary is in the bottom third of the "top third" in terms of vaccination coverage, with 62% of its population vaccinated (below the current EU average of 68%). However, in terms of deaths, the figures in Hungary are the second worst in the EU.

What could cause such a dramatic difference in data between countries that are – from a global perspective- so close and so similar? In this chapter, we will focus primarily on social and socio-psychological factors, the 'demand' side of the defense against the coronavirus.

The infodemic that accompanied the coronavirus pandemic—and ultimately exacerbated it—highlighted that pseudo-news and conspiracy theories, often masquerading as pseudo-scientific "truths," are far from being marginal or merely "aesthetic" issues in the social public sphere. On the contrary, they pose a real and immediate threat. Disinformation not only followed the pandemic but also shaped it in a feedback loop, undermining public health measures designed

⁴ At the country level, my self-calculated Pearson correlation coefficient: $R = -0.71$; $p = 0.000$; $df = 26$. Correlation of GDP per capita with vaccination: $R = 0.46$, $p = 0.015$; $df = 26$; and with mortality: $R = -0.487$; $p = 0.010$; $df = 26$. Data used for the calculation: ECDC (European Centre for Disease Prevention and Control), Eurostat.

to combat the virus. Where mass disinformation spread, infection rates and mortality typically increased (Pian et al., 2021).

Even before the pandemic, questionnaire and experimental studies (e.g., Jolley & Douglas, 2014) demonstrated that exposure to conspiracy theories about vaccines—such as the false claim that vaccines cause numerous deaths that go unreported by doctors—significantly reduced people's willingness to vaccinate their children compared to those who were not exposed to such theories. This relationship was further confirmed during the COVID-19 pandemic in multiple studies (for reviews, see Van Mulukom et al., 2020; Loomba et al., 2021; and for Hungarian data, Krekó et al., 2021).

For instance, a U.S. study (Earnshaw et al., 2020) found that individuals who believed in various conspiracy theories were one-fourth as likely to express willingness to receive a COVID-19 vaccine compared to those who did not harbor such beliefs. Moreover, conspiracy beliefs also undermined other defensive behaviors: believers in conspiracy theories were less likely to adhere to social distancing measures, although their hygiene habits (e.g., handwashing or disinfection) were comparable to those of non-believers. Importantly, the specific content of the conspiracy theory influenced defensive behaviors. For example, theories claiming that the coronavirus was a hoax or linking the outbreak to 5G technology undermined defensive measures more significantly than theories positing that the virus was artificially created (Imhoff and Lamberty, 2020).

The research thus underscores a clear link between the prevalence of conspiracy beliefs and vaccination behavior. Previous experimental studies suggest that conspiracy theories are not merely a byproduct of behavior but often actively shape it, making them a phenomenon with real-world consequences. However, when analyzing beliefs and behaviors, it is important to consider that some beliefs may also function as rationalizations for preexisting behaviors. For instance, Jan-Willem van Prooijen and colleagues (2021) found that strong conspiracy theorists who resisted public health measures and vaccination often claimed – most probably, falsely - to have already been infected by the virus. Such beliefs may have emerged as a means to justify their self-protectively irrational behaviors.

Importantly, the relationship between conspiracy beliefs and behavior is not deterministic but probabilistic. This means that while not all conspiracy theorists refuse vaccination, and other factors also influence vaccination decisions, the link is robust and supported by extensive

research. In our domestic studies, we found that conspiracy beliefs accounted for at least one-quarter of vaccine hesitancy (Krekó et al., 2021).

3.2.3. Motivated factors behind virus- and vaccine-skepticism

However, the question rightly arises: what could lead an individual to adopt beliefs that specifically reduce their chances of survival? The explanation could be that the individual believes in such conspiracy theories, which are harmful to him or herself, only because he or she has too little or incorrect information, or because he or she processes the information superficially and incorrectly – as the “deficit model” claims. In line with this theory, some studies found association between the level of scientific literacy and willingness to vaccinate (Motoki et al., 2021). One could also conclude from this explanation that an individual with better, more, more thorough information will easily give up his or her mistaken beliefs, such as false explanations for the origin and the nature of the virus.

However, a number of studies show that belief in disinformation and conspiracy theories is not explained by a lack of information or "cognitive laziness" alone. It is increasingly accepted in psychology that our thinking and information processing cannot be sharply separated from our feelings and intentions. Often, when we think of ourselves as thinking 'rationally', we are actually thinking 'motivationally' - and we are driven by our emotions and desires. The theory of 'motivated rejection of science' as it was explained above (Lewandowsky-Oberauer, 2016) emphasises precisely that individuals can often be psychologically interested in challenging basic scientific claims - for example, that the occurrence of droplet transmission is complicated by social distancing - or in turning to alternative 'scientific' claims; for example, to absurd views such as that the coronavirus is in fact a “radiation” virus, and thus neither masks nor vaccines are sufficiently effective against it. The motivations can vary on a wide scale: rebellion against the system, identification with the norms of one's own group, or distrust of the government. Our beliefs are as much a means of adapting to the dominant groups (religious, political, etc.) around us as they are a means of understanding the world objectively, and the former often overrides the latter. Individuals also tend to reject basic scientific knowledge that contradicts certain fundamental beliefs and worldviews - be it global warming, the spread of viruses, the effects of vaccines or even the theory of evolution. Moreover, studies in the US (Lewandowsky-Oberauer, 2016) have found that levels of education and scientific knowledge do not necessarily reduce denial of scientific facts, but often reinforce partisan divisions.

Since scepticism towards different scientific knowledge may be explained by different ideological reasons - for example, some studies in the Anglo-Saxon context (Rutjens et al., 2018) suggest that religiosity is an important factor in vaccine aversion, but irrelevant for the rejection of GM foods - we will look at some of the motivational factors associated with vaccine denial in the light of available empirical findings.

1. Distrust

One of the first international studies on vaccination uptake in nineteen countries (Lazarus et al., 2021) found that trust in the authorities and the information they provide is one of the most important predictors of vaccination uptake. Those who had more trust in the authorities were more likely to be vaccinated and to accept their employer's suggestion to vaccinate. This relationship has been confirmed by a number of studies since then. Distrust, from the point of view of motivated scientific denial, can of course also have 'benefits', especially in ethnic communities with a lower socio-economic status (e.g. blacks in the US and Roma in our country), whose members often experience discrimination from society and often from official institutions. Social trust within a given country is generally lower among those with fewer material, economic and social resources. According to Eurobarometer surveys, the two countries with the lowest levels of trust in EU countries are those with the lowest levels of social inclusion (Romania and Bulgaria).

2. Polarisation and strong inter-group conflicts

The nature of intense inter-group (religious, political) conflict is that, it makes every public issue the subject of political conflict, maximising the differences of opinion between groups. This means that in a highly polarised, 'tribal' environment, there will inevitably be political actors who take an anti-vaccine position - and thereby orient their own constituencies. Thus, wearing a mask or vaccination can become a code of political affiliation. Moreover, actors in sharp inter-group conflicts are bound to spawn conspiracy theories. Polarised political and media relations in the United States, for example, have strongly contributed to the politicisation of the perception of the severity of the coronavirus and then vaccination (Hart et al, 20240 . The results of this polarisation are striking. For example, Republican-majority and Republican-led states have higher population infection and mortality rates due to the widespread opposition to vaccination and mask-wearing among Republican politicians and voters (Kemmelmeyer, Jamis, 2021; Dhanani, Franz, 2022).

This example, moreover, shows that while the ideological motivations behind vaccine skepticism are explicit and well understood, the emphasis on individual freedom of choice is particularly important to Republican voters. Motivated denial of science, in this case, lead to per definitionem irrational behaviour both on the level of politicians and voters. Populist right-wing politicians who argue against vaccination and mask wearing are ultimately putting their own voters' lives at risk. Of course, research shows that the effects of this division are also being felt in Europe. However, polarising narratives can come not only from domestic political actors, but also from geopolitical actors. For example, Russian and Chinese disinformation has regularly included narratives designed to undermine trust in vaccines, especially but not exclusively from the West. These fit well into a general information war logic that weakens the opponent by fomenting conflict within the rival side. Anti-vaccine, climate skeptic or even pseudo-scientific conspiracy theories about the Ebola virus were already strongly present in the messages of Russian trolls long before the coronavirus pandemic, during the 2016 US presidential election campaign (Strudwicke-Grant, 2020).

3. Religious dogmatism

The motivated rejection of the crown virus vaccine may also be influenced by certain religious doctrines and communities - however, it is important to note that this relationship is not universal and can only be examined in a nuanced manner. For example, studies in the United States have shown that white Protestants, the dominant religious group, have a higher vaccine refusal rate, while Catholics have a higher vaccination rate. Jewish religion has not been associated with anti-vaccination in studies across America, but there are strong anti-vaccination clusters in the Orthodox Hasidic Jewish communities in New York. The countries with the lowest vaccination rates in the European Union are either predominantly Eastern Orthodox (Romania, Bulgaria) or Orthodox Christian countries (Greece) - and in these religious communities the conspiracy theories, often voiced by leaders, are virulent, anti-Westernism, anti-modernism and a strong victim mentality (on the role of the Russian Orthodox Church in the formation of conspiracy theories, see for example: Yablokov, 2018). At the same time, religious background can also affect the processing of deception messages in different ways: according to one study (Loomba et al, 2021), for example, Jewish citizens in the UK are less likely to be vaccinated when exposed to misinformation than those of Christian denominations.

3.3. The battle of personal experiences vs. false beliefs: imaginations overwriting reality?

One important question when we try to assess the importance of conspiracy beliefs is that how much they can overwrite or mediate the impact of personal experiences. Research has shown that both direct and indirect personal experiences with the coronavirus significantly influence vaccine hesitancy. Individuals who have personally contracted COVID-19 or have close connections (e.g., family members or friends) who experienced severe illness are often more motivated to accept vaccines, viewing them as protective measures against future harm (Khubchandani et al., 2021). Conversely, those with minimal or no direct exposure to severe COVID-19 cases may perceive the virus as less threatening, contributing to heightened vaccine skepticism (Murphy et al., 2021). Additionally, to complicate things, indirect experiences, such as observing vaccine-related complications in others or exposure to negative narratives on social media, can exacerbate hesitancy by reinforcing fears and mistrust (Loomba et al., 2021). We have examined the role of “inductive” personal and indirect experiences compared to more abstract “constructs” of conspiracy beliefs in two empirical research that I am going to briefly introduce below.

3.3.1. Experiences vs. conspiracy beliefs – investigations on a European sample

First, we examined this relationship on the open-access database of the European Social Survey in Central and Eastern Europe (Krekó, 2023). This piece of research have originally focused on the role of uncertainties as a possible driver of pseudoscientific beliefs.

As Van Prooijen (2018, p. 8) argued, “*Conspiracy theories are a natural defensive reaction to feelings of uncertainty and fear, blaming dissimilar outgroups for the distressing circumstances that one has to deal with.*” In line with this argument, we aimed to identify the insecurity- and uncertainty-related predictors of conspiracy theories using the set of variables available in the European Social Survey. While doing so, we relied on the systematic review of Van Mulukom et al. (2022), who identified nine types of antecedents of belief in COVID-19 conspiracy theories – and several consequences, among which we only focused on the vaccination intention. Our research aimed at (a) revealing the relative explanatory power of different uncertainty-related attitudes in a robust, multi-country representative survey and (b) comparing

the explanatory power of conspiracy attitudes against the respondents' own experiences on vaccination intentions. While common sense would suggest that one's own experiences with COVID (getting infected or having a relative get infected) are more important when deciding whether to get vaccinated or not, our hypothesis was the opposite: that conspiracy theories – these tribal myths that offer a crutch among the feelings of epistemic and social uncertainty – will be more robust predictors of vaccination intentions than one's own experiences.

In the first, exploratory part of our research, we identified four different kinds of insecurity-related attitude clusters that can have an impact on conspiracy beliefs.

1. **Personal insecurity:** As the “conspiracy theories are for losers” theory suggests (Uscinski and Parent, 2014), the feeling of deprivation of material assets, political power, or fear of losing other important assets such as physical safety can be an important driver for belief in conspiracy theories. We assumed that the higher the level of these uncertainties, the stronger the conspiracy beliefs.
2. **Social insecurity and social identity:** Generally, self-categorization and embracing group identities, as well as hostile behaviour against the outgroups can be attempts to reduce subjective uncertainties (see, for example, the uncertainty-identity theory, Hogg, 2000; see also Hogg & Gaffney, 2024). On the other hand, some forms of strong and politically heated beliefs can be a hotbed for conspiracy theories (see, for example, Sternisko et al., 2020). Nationalism and belief in conspiracy theories came hand in hand as a response to the pandemic (Jutzi et al., 2020), and stronger association with the political right, especially in opposition (Imhoff et al., 2022) is associated with a stronger conspiracy mentality. Stronger religious affiliation is also found to be positively correlated with conspiracy beliefs (Frenken et al., 2022), and stronger partisan beliefs can also be associated with stronger conspiracy beliefs (Enders et al., 2019). Individualism as an ideology has been found to be strongly related to conspiracy theories about COVID (Biddlestone, Green, and Douglas, 2020) and also to vaccination intentions. We expected that stronger identification with the attitude categories under discussion (nation, religion, right-wing ideology, and party) would be associated with stronger levels of conspiracy beliefs.

3. **Insecurity of identity: Prejudices and authoritarianism:** The classics of the Frankfurt School, such as Erich Fromm, have already referred to authoritarianism and prejudice as a way to “escape from freedom” – and, of course, the insecurity and uncertainty that comes hand in hand with this freedom (Fromm, 1994). The feeling of uncertainty about one’s self and group belonging can lead to prejudiced perception, radical political reaction, and the embracement of authoritarian leadership (see also Hirschberger, Shuster, 2024). Previous studies have found a relationship between conspiracy beliefs and authoritarianism (see, for example, Grzesiak-Feldman, 2015), as well as between conspiracy theories and prejudices towards minority groups. Conspiracy theories can serve as an “outlet for hostility” (Abalakina-Paap et al., 1999) that can help express hostile feelings against outgroups – groups that we are less familiar with, therefore making us feel insecure and uncertain. In the context of the pandemic, this insecurity becomes even more important, as reminding people of their mortality encourages negative reactions to others whose behavior or values deviate from the cultural worldview (Pyszczynsky & Sundby, 2023).
4. **Mistrust: epistemic uncertainty and social insecurity:** Trust is the best way to reduce epistemic and social-relational insecurity. When we trust a person or an institution, it means that we regard them as a credible source of information – and also as competent problem solvers. Conspiracy theories are theories of endemic mistrust (see, for example, Inglehart, 1987; Kramer and Jost, 2002; Pierre, 2020); so it is probably not surprising that institutional (vertical) and interpersonal (horizontal) trust (Van Prooijen, 2022), satisfaction with democracy (Pantazi et al., 2022), and attitudes toward science (Douglas et al., 2020) are all related to conspiracy theories according to the empirical research so far. Mistrust has its evolutionary advantage as well, though. It helps us avoid interactions with hostile, and potentially dangerous individuals, groups, or even institutions (see also von Hippel & Merakovsky; Fiedler & McCaughey, 2023).

Examining all these four types of uncertainties on the open-access database of the European Social Survey can be a valuable contribution to the already existing research for at least three reasons: (1) Most of the research so far could only focus on one or two factors at once, while this rich database allows us to examine all of them at the same time. (2) We could cover seven countries in our analysis with sizeable (N = 1000–3000) databases. (3) All the samples were

representative and based on a rigorous sampling design that increases the validity and comparability of the data from different countries.

Method

In order to examine the role of insecurities in conspiracy beliefs, we have conducted a two-step analysis on the freshly published open-access European Social Survey database (ESS Round 10, 2020). We focused on eight Central and Eastern European and Baltic countries in our analysis (all of them are members of both the European Union and NATO). All of the samples were representative. The data collection period was the autumn of 2021, at a time when vaccines were already available for these populations (except for part of the sample in Slovenia).

The aim of the analysis was to (a) examine the strength and influence of the above-mentioned four types of uncertainty and insecurity on conspiracy beliefs, and (b) examine the impact that conspiracy beliefs have on the behavioral intention – the respondents' willingness to vaccinate themselves – compared to their own experiences with the virus. As indicated above, the hypothesis was that conspiracy beliefs would be more important determinants of vaccination intentions than the respondents' own experiences.

We created a conspiracy scale from three items using principal component analysis. One was a conspiracy statement on the pandemic itself ("COVID-19 is the result of deliberate and concealed efforts of some government or organization"); while the other two were more general assumptions on the existence of grand political ("Small secret group of people responsible for making all major decisions in world politics") and scientific ("Groups of scientists manipulate, fabricate, or suppress evidence in order to deceive the public") conspiracies. The three items form a coherent scale with high reliability, reflecting a certain kind of conspiracy mentality.

While we used the combined data pool of eight post-communist countries in broader Central and Eastern Europe when investigating the links between insecurities, conspiracy beliefs, and vaccination intentions, the scale also allows us to compare the prevalence of conspiracy beliefs between the countries. Respondents had only an average of 1.2 points on the conspiracy beliefs scale of 1–5 – a reminder of how much conspiracy beliefs are determined by the social-political environment and the quality of the educational system (see Figure 14 below.)

First, we used a linear regression model in order to examine the predicting value of the four different kinds of insecurity- and uncertainty-related variables. Second, we used a multinomial regression model to decide if personal experiences or conspiracy beliefs had a bigger impact on vaccination intentions.

Our linear regression model had a very good explanatory value: the set of insecurity-related variables (put in the model individually) could explain 30% of the variance ($R^2 = 0.301$; $p < 0.01$).

In the graph below, we indicated the seven most important predictors – in the order of their beta values. Mistrust (in scientists, in democracy, with beta values around 0.2 in political institutions, but also in other people) clearly proved to be the most important factor predicting conspiracy beliefs.

14. FIGURE: MOST IMPORTANT PREDICTORS OF CONSPIRACY BELIEFS (KREKÓ, 2023)

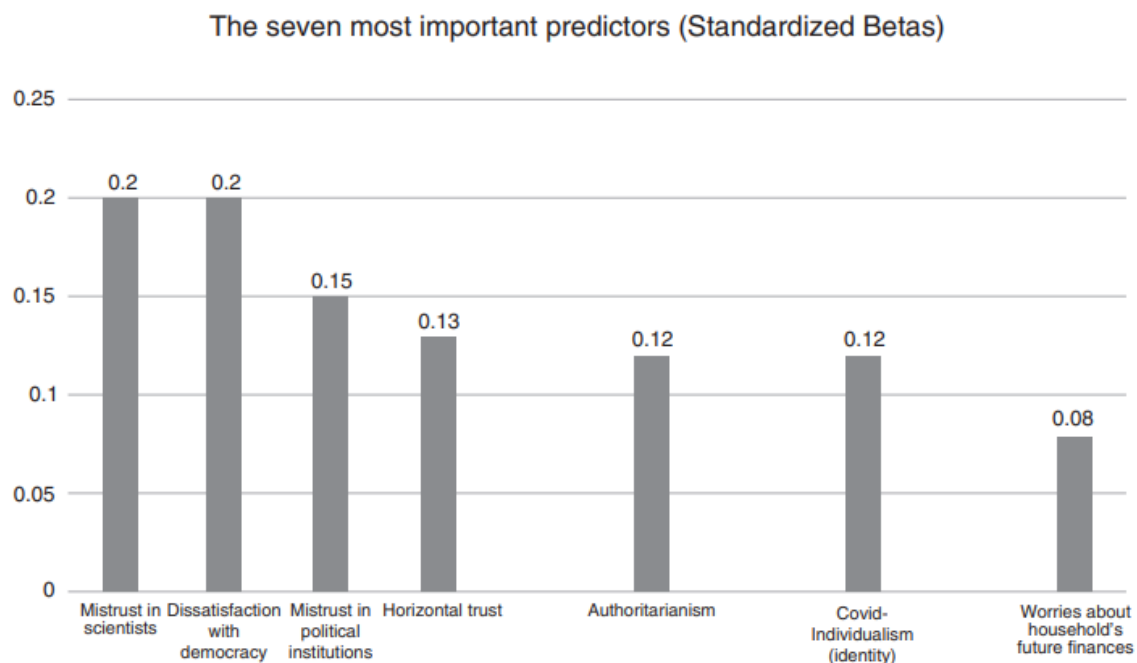


FIGURE 19.3 The seven most important predictors of conspiracy beliefs (Standardized Betas).

COVID-individualism as a strange (anti-identity) identity category also played some role with lower beta values.

It is also interesting to see which variables have not proved to be important predictors of belief in conspiracies: prejudice, nationalism, and religiousness, for example, proved to be insignificant, at least in this set of data. Also, interestingly, fears over public safety and security played no role in conspiracy theorizing.

The direction of the relations was in line with what we expected: authoritarianism, mistrust, COVID-individualism, and worries about finances were all positively correlated with conspiracy beliefs.

Our multinomial regression model has also confirmed our second hypothesis: conspiracy beliefs proved to be a powerful predictor of vaccination intention. Rating high on the conspiracy scale (1 standard deviation from average on the scores of the principal component, a standardized variable) reduces the chance of having been vaccinated by 58%.

At the same time, a person's own experiences with COVID (own infection, family member's infection, and changing working conditions, for example, losing a job) played almost no role in the respondent's tendency to vaccinate themselves. The only significant result we found here is that having been infected with COVID and testing positive is positively correlated with not having been vaccinated but planning it by 20%. The logical explanation here is that the infection delayed the vaccination process for many.

Discussion of the results

In times of endemic uncertainty with a lot of challenges to predict and adapt, the psychological stability and security that a strong attitude can provide in explaining the world, driving emotions, and directing behavior simply cannot be overstated (see also Hirt et al., 2024). Conspiracy beliefs and identity-based attitudes paradoxically provide this subjective certainty and security – even if, according to their conclusions, nothing is reliable, certain, or secure.

But this fragile psychological “comfort” is dangerous, as it makes people avoid adaptive responses that help their survival – such as vaccination. The “safety” of this attitude is more important for individuals than their own experiences with the virus and how it may affect their families – a strong reminder of how powerful notions of conspiracy can be in shaping socio-political reality.

As we could see uncertainty and insecurity are providing fertile ground for conspiracy theorizing. Unexpected events, crises, and tragic situations are calling for atypical explanations for the world's ills, and conspiracy theories are ready to fill the epistemical vacuum when needed.

As some previous empirical research has clearly proven, fears over the future and a feeling of uncertainty because of a lack of power are both associated with conspiracy theories. It is not coincidental, then, that the pandemic served as a perfect opportunity for conspiracy theories to spread and gain popularity. The pandemic polarized the already polarized societies even further (Falyuna and Kreko, 2021). Our results show that conspiracy beliefs were more easily aroused on the basis of some ideologies, such as authoritarianism and individualism.

Conspiracy theories are ambiguous and controversial in this sense as well: they are collective beliefs but can express some form of (anti-statist) individualism. Citizens could feel that they lost political control and are just subjects of the decisions of authorities: governments and doctors (Kreko, 2021). Comparative research has shown that the “conspiracy Zeitgeist” is not balanced: Central and Eastern Europe seem to be particularly vulnerable to conspiracy theories compared to Western and Northern Europe . This might be partially explained by the diverse histories of these regions, and especially by the general experience of lack of trust, control, and sovereignty in Eastern Europe (see also Forgas, 2024).

Even if conspiracy theories can serve some motivational functions, their disadvantages for the self and the group often exceed their advantages (e.g., Fiedler & McCaughey, 2023; Van Prooijen, 2023), and for this reason, they can be mostly regarded as a self-defeating way of social cognition (Douglas, Sutton, Cichocka, 2017), or collective cognition (Kreko, 2015).

Our investigations based on the ESS international database have clearly shown that mistrust – in scientists, in political authorities, but also in others – is by far the most important predictor behind conspiracy theorizing. But again, mistrust only adds to the social and epistemic uncertainties. Given their numerous negative consequences, and even self-fulfilling nature, they are also related to self-handicapping strategies (for an overview on self-handicapping, see, for example, Hirt, 2023), as they can increase the outgroup's hostility against the ingroup in a predictable way that further helps to explain the ingroup's disadvantaged position (for the negative stigma of the COVID-related conspiracy theories, see again Van Prooijen, 2023).

So, we can conclude that conspiracy theories provide a dangerous and potentially harmful – even if often entertaining – and fragile comfort in reaction to crises, feelings of uncertainty, and unexpected developments. They should be understood more as tribal myths (Kreko, 2021, Forgas, 2025) that can exacerbate the problems rather than as adaptive tools to cope with epistemic and social challenges.

3.3.2: The role of personal experiences in moderating between conspiracy beliefs and vaccination intentions

In the previous study, we found that the role of conspiracy theories might be much more important than that of personal experiences in shaping a person's attitude to COVID-19 vaccinations. But at the same time, personal experiences can have a more indirect role as well. In a next study (Stefkovics, Koltai, Krekó, 2024) we investigated how much personal experiences can *moderate* the relationship between conspiracy beliefs and vaccination.

While the causal link between conspiracy beliefs and vaccination intentions remains ambiguous due to the predominance of correlational data (for a review, see Jolley et al., 2022), some empirical findings suggest that conspiracy beliefs can indeed causally influence vaccine hesitancy. Experimental studies have shown that exposure to vaccine-related conspiracy theories reduces vaccination intentions (Jolley and Douglas, 2014; Chen et al., 2021). Additionally, longitudinal studies during the COVID-19 pandemic indicate that conspiracy beliefs about COVID-19 lower vaccination intentions. For example, Coelho et al. (2022) found that an increase in belief in vaccination-related conspiracy theories led to subsequent rises in vaccine hesitancy, but not vice versa. Similarly, Bierwiazzonek et al. (2020) reported that COVID-19 conspiracy theories negatively impacted vaccination intentions, while Oleksy et al. (2022) demonstrated that conspiracy mentality—generalized attitudes positing conspiracies behind major socio-political events—also reduced willingness to vaccinate. These findings suggest that conspiracy theories likely contributed to decreased vaccination intentions, which could have, in turn, increased mortality rates.

As conspiracy theories are often resistant to factual corrections (Lewandowsky et al., 2020), a critical question arises: To what extent can the harmful effects of conspiracy theories be mitigated by direct or indirect personal experiences with COVID-19? Some studies suggest that personal or social exposure to COVID-19 infection motivates individuals to vaccinate (Schmelz and Bowles, 2021). However, Evans and Fetterman (2023) uncovered a more complex

relationship in a multinational study: while indirect experiences with COVID-19 (e.g., through social contacts) were linked to lower endorsement of conspiracy beliefs and greater public health compliance, direct experiences with the virus were associated with higher levels of conspiracy beliefs and reduced adherence to public health measures.

Van Prooijen et al. (2022) found that perceived infection with COVID-19 mediated the relationship between conspiracy beliefs and health behaviors. Specifically, perceiving oneself as infected reduced the belief that the virus was dangerous, leading to lower physical distancing and vaccination intentions. Conversely, actual infection, confirmed through testing, had the opposite effect: it reduced belief in some COVID-19-related conspiracy theories and increased vaccination intentions.

In our study we tried to investigate the mediating role of real and perceived infections, both personal and social, in Hungary—a country severely impacted by the COVID-19 pandemic. As of March 2023, Hungary had the seventh-lowest full vaccination rate among the 27 EU Member States, with 505 out of 100,000 citizens fully vaccinated (Hopkins, 2023; ECDC, 2023). False beliefs and conspiracy theories about COVID-19 and vaccinations have gained significant traction in Hungary (Koltai et al., 2022; Bíró-Nagy and Szászi, 2023). For instance, believers in conspiracy theories were more likely to deem mRNA vaccines unacceptable (Kutasi et al., 2022), and conspiracy theories emerged as one of the strongest predictors of vaccine hesitancy (Krekó et al., 2021).

In our study we examined the relationship between conspiracy beliefs, personal and social experiences with the virus, and vaccination behaviors using a nationally representative sample of Hungarian adults. Unlike most research focusing on vaccination intentions or attitudes, this study emphasizes self-reported vaccination behaviors as the dependent variable. This focus is critical, as health behaviors like mask-wearing and vaccination directly impact the spread of the virus, whereas attitudes and intentions play a more indirect role, often overridden by contextual factors such as social norms and situational constraints (Ajzen and Fishbein, 2000).

On a broader level, this research intended to respond to a broader question: Do we respond when reality confronts us? Can experiences play an indirect, mediating role, reducing the impact of conspiracy beliefs on vaccination intention and behaviour?

The study analyzed data from the MASZK survey (Koltai et al., 2022), a comprehensive survey research initiative conducted between April 2020 and June 2022. This survey was designed to collect nationally representative data on Hungarian adults on a monthly basis, using a sample size of 1,000 to 1,500 participants. These participants were selected using a multi-step, stratified, and probabilistic sampling procedure, ensuring that the sample represented the Hungarian adult population in terms of gender, age, education, and residence. COVID-19 vaccination was widely accessible to all Hungarian adults, with 73.3% of the population having received at least one dose at the time of the survey, excluding individuals for whom vaccination was contraindicated due to specific health conditions.

The analysis focused on the relationship between conspiracy beliefs, COVID-19 experiences, and vaccination behavior. Two distinct conspiracy-related constructs were examined: COVID-19-related conspiracy beliefs and vaccine-related conspiracy beliefs. To measure COVID-19 conspiracy beliefs, the researchers adapted items from Biddlestone et al. (2020), supplementing them with an additional item tailored to the Hungarian context. Vaccine-related conspiracy beliefs were measured using items based on prior social media analysis of prominent Hungarian narratives (Bauer & Koltai, 2022). Both measures showed high internal consistency, with Cronbach's alpha values of .86 and .83, respectively.

In addition to assessing conspiracy beliefs, the study measured participants' direct and indirect experiences with COVID-19. Direct experience was defined as having tested positive for COVID-19 and experiencing moderate or severe symptoms, while indirect experience referred to having close friends or family members who were seriously ill or died due to COVID-19. Vaccination behavior was treated as a binary variable, indicating whether respondents had received at least one dose of a COVID-19 vaccine. The study also included a range of control variables informed by existing literature, such as age, gender, education, household income, changes in financial situation during the pandemic, type of residence (urban vs. rural), and COVID-19-related news consumption patterns. We used Structural Equation Modelling (SEM) to explore the relationship between conspiracy beliefs, vaccination behavior, and moderating effects of direct and indirect COVID-19 experiences. A high overall fit was achieved in both measurement models (COVID19-related conspiracy belief: RMSEA = 0.02, GFI = 0.99, CFI = 0.98, SRMR = 0.03; Vaccine-related conspiracy belief: RMSEA = 0.01, GFI = 0.99, CFI = 0.99, SRMR = 0.03).

When assessing the impact of sociological variables on conspiracy beliefs, we found that females, older and lower-educated respondents were more likely to endorse both types of conspiracy theories. Conspiracy beliefs were negatively associated with the size of the settlement, with those living in smaller towns and cities being more receptive towards such theories. Absolute income had a negative association with both conspiracy beliefs. Furthermore, an improvement in the financial situation during the pandemic was negatively associated with both types of conspiracy beliefs. News consumption yielded mixed findings. A diverse news consumption was negatively associated with vaccine-related conspiracy beliefs, but not with COVID-19 beliefs. Selective, social media-focused news consumption positively influenced COVID-19 conspiracy beliefs, but not vaccine conspiracy beliefs. Lastly, both direct and indirect experience with the virus was negatively associated with both conspiracy beliefs, i.e. those who were severely infected and those who reported a close friend or family member infected by the virus and developed severe symptoms or even died were less likely to believe in both types of conspiracy theories. Education was the strongest predictor of conspiracy beliefs (See Figure 15 below).

15. FIGURE: THE PREDICTORS OF VACCINATION BEHAVIOUR (STEFKOVICS, KREKÓ, KOLTAI, 2023).

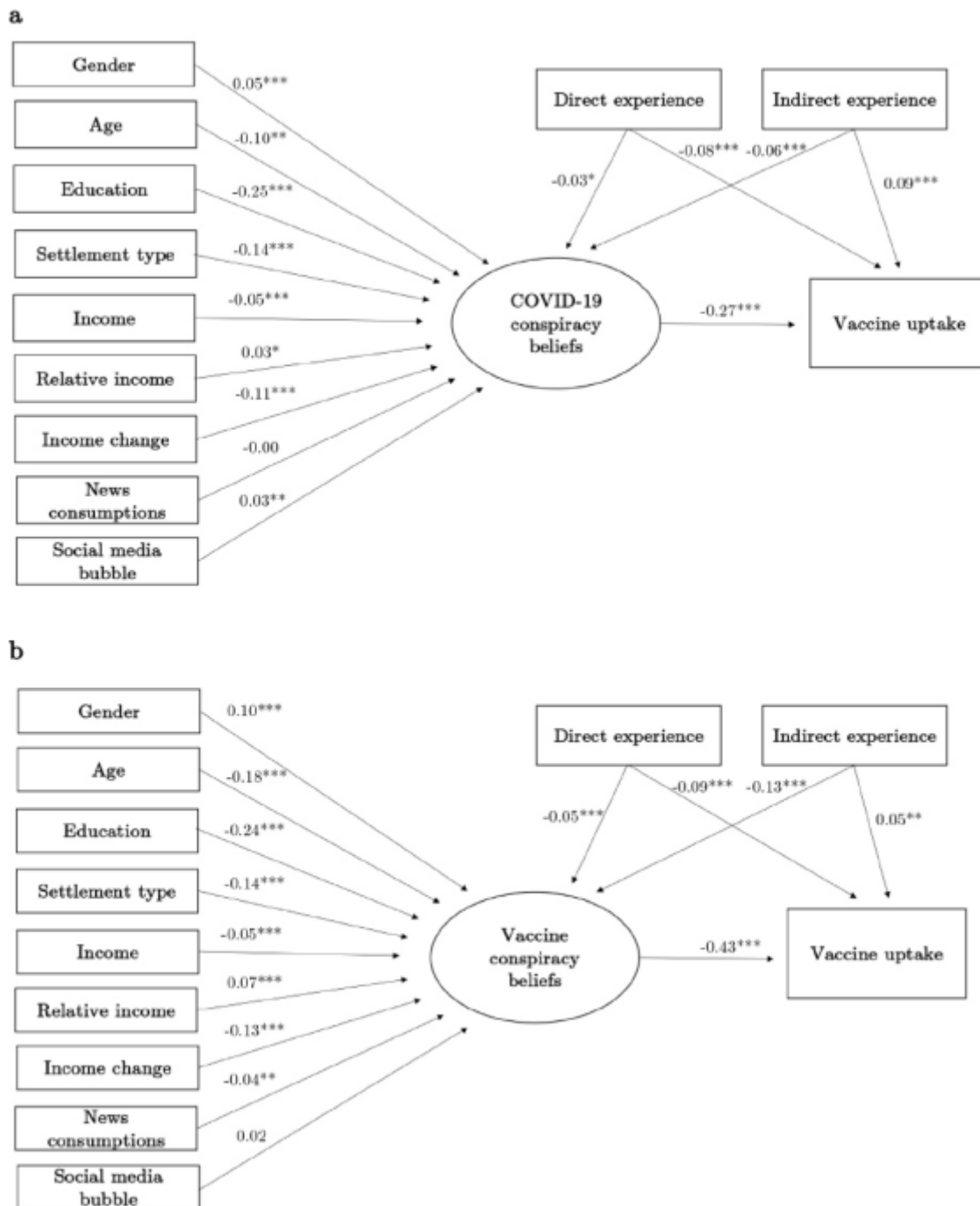
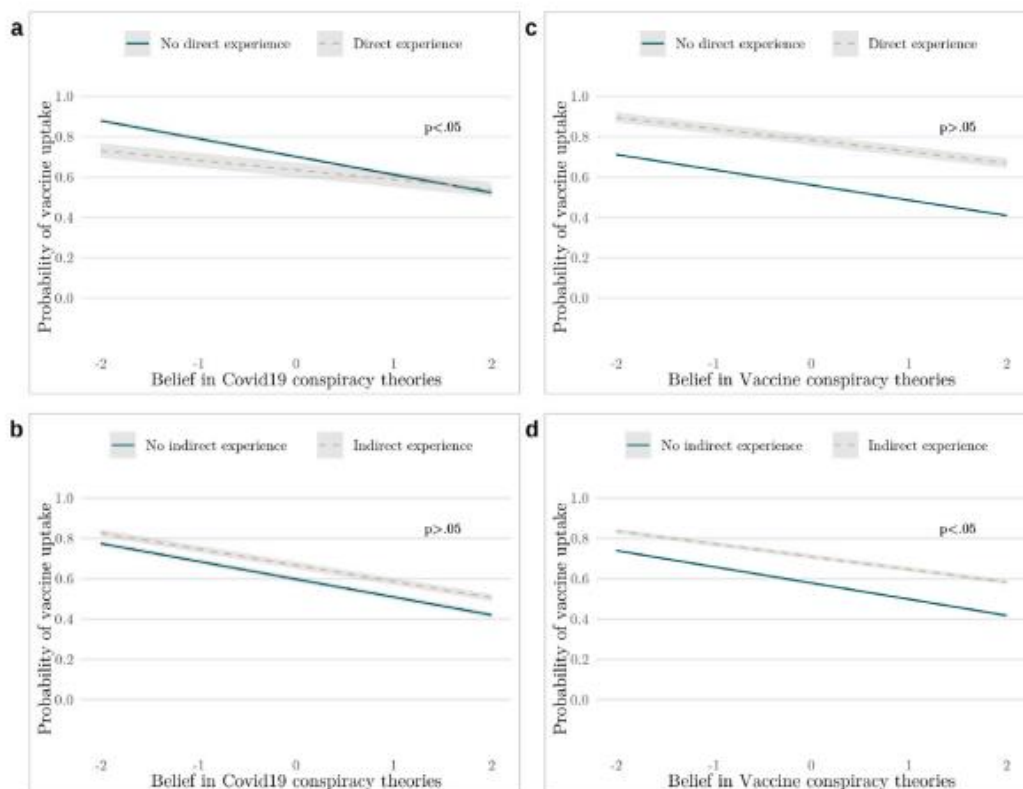


Fig. 2. Standardized coefficients of the SEM models predicting vaccine uptake with COVID-19 (a) and vaccine (b) conspiracy beliefs.

The study also examined how direct and indirect experiences with COVID-19 influenced the relationship between conspiracy beliefs and vaccination behavior. The slope of conspiracy beliefs on vaccine uptake significantly differed between those with and without an experience

with the virus in two out of the four cases (see Figure 16.) Direct experience with the virus, such as contracting it and experiencing severe symptoms, appeared to weaken the link between Covid- related conspiracy beliefs and vaccination (“a” on the graph below). Similarly, indirect experiences, such as knowing someone who was seriously affected or died from COVID-19, had a similar moderating effect between vaccine-related conspiracy beliefs and vaccination (“d” on the graph below). These findings suggest that personal exposure to the tangible effects of the virus may counteract the influence of conspiracy beliefs and encourage vaccine acceptance. The negative effect of COVID-19 conspiracy beliefs on vaccine uptake was weaker when the respondent had a direct experience with the virus. Likewise, the negative effect of vaccine conspiracy beliefs on vaccine uptake was weaker when the respondent had an indirect experience with the virus.

16. FIGURE: THE ASSOCIATION BETWEEN DIRECT AND INDIRECT EXPERIENCE WITH THE VIRUS AND VACCINE UPTAKE MODERATED BY COVID-19 (A, B) AND VACCINE CONSPIRACY BELIEFS (C, D).



Note: Unstandardized estimates. P values were calculated using z-tests and they indicate differences between slope (Stefkovics, Krekó and Koltai, 2024).

The findings of this study suggest that personal experiences with severe COVID-19 infections—whether directly or through close social ties—can weaken the influence of

conspiracy beliefs on vaccination behavior. This aligns with previous research (van Mulukom et al., 2022; Pummerer et al., 2022), which found that conspiracy beliefs about COVID-19 and vaccines are negatively associated with vaccination intentions. Crucially, this study demonstrates that both direct and indirect experiences significantly moderate this relationship in specific cases. Indirect experiences, such as knowing someone seriously affected by COVID-19, weakened the negative impact of vaccine-related conspiracy beliefs on vaccination uptake. Similarly, direct experiences with severe symptoms moderated the influence of COVID-19-related conspiracy beliefs on self-reported vaccination.

These results resonate with earlier findings, such as those by Evans and Fetterman (2023), who identified a negative association between indirect experiences and conspiracy beliefs, which in turn correlated with higher public health engagement. Van Prooijen et al. (2022) also observed that actual infection with COVID-19 reduced conspiracy beliefs and increased vaccination intentions, contrasting with the belief that mild COVID symptoms signify "just a flu," which positively correlated with conspiracy beliefs. In this study, individuals with mild symptoms were categorized as having no significant experience, as severe symptoms were required to qualify as "experienced." These findings highlight how personal encounters with the virus shape the relationship between conspiracy beliefs and health-protective behaviors.

While this study diverges in some respects from findings by Evans and Fetterman (2023), which reported positive associations between direct experiences and conspiracy beliefs, these discrepancies likely stem from contextual differences. Evans and Fetterman's data were collected in the early pandemic stages, before vaccine availability and during low overall infection rates. Their dataset lacked measures for symptom severity and vaccination intentions, which were focal points of this study. Furthermore, this research concentrated on severe cases during a more advanced phase of vaccine rollout, providing a clearer picture of how direct experiences influence vaccination decisions.

The results emphasize the role of control variables—such as education—in shaping belief systems and vaccination attitudes. Higher education levels were associated with lower susceptibility to conspiracy beliefs, likely due to greater virus awareness and adherence to scientific recommendations. The inclusion of controls was essential for detecting significant moderation effects, which were absent in models without these variables. This underscores the importance of accounting for confounding factors, as their omission can distort the relationships under study.

Needless to say, our study had its limitations. Its cross-sectional design prevents establishing causal links between conspiracy beliefs, experiences, and vaccination behavior. Self-reported data on infection, symptoms, and vaccination are subject to potential biases, including social desirability effects and inaccuracies in recall. The study's sample may also suffer from survivor bias, as the most severe cases—those hospitalized or deceased—were not represented. Additionally, the overrepresentation of vaccinated individuals (84.2% in the study compared to 73% reported by the ECDC) could reflect selection bias, with those more concerned about COVID-19 being likelier to participate.

The direction of causality between conspiracy beliefs and vaccination behavior remains a subject of debate. While Van Prooijen and Böhm (2023) argue that conspiracy beliefs can both rationalize and drive vaccine hesitancy, experimental studies predating the pandemic (e.g., Jolley and Douglas, 2014) provide evidence that conspiracy beliefs weaken vaccination intentions. This suggests that the causal pathway from beliefs to behavior is plausible, although further longitudinal or experimental research is needed to confirm these findings.

Finally, while some authors argue that disinformation can override reality (Pomerantsev, 2019), others contend that careful reasoning and cognitive elaboration can reassert reality over alternative narratives (Pennycook and Rand, 2019b; Bago et al., 2020). This study supports the latter view, showing that personal experiences can act as a "reality check," weakening the link between conspiracy beliefs and vaccination hesitancy. However, these findings also challenge the assumption that traumatic experiences invariably fuel conspiracy thinking (Van Prooijen, 2019), suggesting instead that severe health crises can motivate rational health behaviors.

3.4. The Monological Thinking in Hungary - Connection between Conspiracy Theories on COVID and the War in Ukraine

3.4.1. The monologicality of conspiracy beliefs

Between late 2019 and March 2023, the COVID-19 pandemic, a deadly viral outbreak, claimed nearly 7 million lives globally (JHU Resource Center, 2023). Meanwhile, Russia's February

2022 invasion of Ukraine led to a prolonged war with over 100,000 deaths by May 2023 and around half a million total casualties, according to U.S. estimates (US Congress, 2024). The war also seriously disrupted the global economy, particularly food and energy supplies (United Nations, 2023). These overlapping crises have reintroduced broader existential threats. Importantly, they also influenced each other: Russia's invasion boosted vaccine misinformation in Ukraine, contributing to declining vaccination rates and increased COVID-19 mortality (Habib et al., 2022).

Both the pandemic and the war were accompanied—sometimes preceded—by conspiracy theories offering alternative explanations for their causes and culprits. In the case of COVID-19, conspiracy theories made contradictory claims: that the virus was either a hoax used for social control or a dangerous bioweapon created by global powers (Imhoff & Lamberty, 2020). Such beliefs undermined public health responses by reducing vaccination uptake, discouraging social distancing, and promoting alternative medicine (see also: van Mulukom et al., 2022; Jolley & Douglas, 2017).

Conspiracy narratives around Ukraine—such as the false claims that it was secretly developing nuclear weapons to attack Russia or committing genocide against Russian speakers in Eastern Ukraine—helped justify the invasion and the violence against civilians (Yablokov, 2022/a; Radnitz, 2023; Habel-Sela et al., 2022; Moskalenko & Romanova, 2022). These narratives, often spread by disinformation actors linked to the Kremlin, have been debunked as fabricated by fact-checkers (Reuters, 2020; Deutsche Welle, 2022).

Although COVID-19 and the Ukraine war are unrelated events, conspiracy theories about them have often been promoted by the same websites, influencers, and politicians. In Europe, many who spread COVID-related disinformation later became major sources of Ukraine war-related falsehoods (EDMO, 2022). A common narrative linked the two, claiming that the war was orchestrated to distract from the failed “deception” of the pandemic. One of Hungary's leading COVID-skeptical influencers, “Doktor Gődény,” argued that “global background power structures” triggered a permanent war marked by massive “material, human, spiritual, moral and intellectual destruction” to divert attention from the “fake virus.” According to him, “Since the only other way to end the 2 years of epidemic manipulation would be to admit to the hoax, attention must be diverted – like a professional magician – to something else entirely” – referring to the war in Ukraine (Doktor Gődény, 2022).

While these conspiracy theories were connected in public discourse by common sources and narrative strategies, less is known about how they are linked at the individual level. If people who believe in one are more likely to believe in the other—as prior and recent research suggests (Goertzel, 1994; Enders et al., 2023)—to what extent can this be explained by broader attitudes such as generalized conspiracy mentality or media trust? While much of current scholarship assumes that conspiracy beliefs are tied together by overarching variables like trust or predispositions toward conspiratorial thinking, we aim to explore both these “vertical” (deductive) links and possible “horizontal” associations.

We examined these questions using a representative survey in Hungary⁵—a crucial case for three reasons: (1) as a neighboring country to Ukraine and a member of the EU and NATO, Hungary is geopolitically relevant; (2) it operates as an “informational autocracy” or “spin dictatorship,” where the state and ruling party heavily influence the media environment and actively promote disinformation and conspiracy theories (Guriev & Treisman, 2022; Krekó, 2022); and (3) while the government-aligned media spreads war-related disinformation for political gain, it has largely suppressed COVID- and vaccine-related conspiracy theories, which were viewed as threats to the government’s pandemic response (Molnár et al., 2023).

3.4.2. Two triggers for conspiracy theories

Conspiracy theories are constructs that typically attribute agency to specific actors rather than structural forces and are epistemically “risky”—not always false, but generally less plausible than non-conspiratorial explanations (Douglas and Sutton, 2023). Psychologically, they are explanatory beliefs in secret plots by malevolent outsiders seeking to harm the ingroup (Zonis and Joseph, 1999; Bale, 2007). These theories offer “unorthodox” alternatives to official accounts, challenging established knowledge institutions (Barkun, 2013, 2015).

They tend to emerge in times of crisis, providing collective explanations for sudden, traumatic events (van Prooijen and Douglas, 2017; Bilewicz, 2022), especially under conditions of existential threat and heightened anxiety (van Prooijen, 2019). In recent years, two major global

⁵ These results have not been published yet, as they are currently under peer review at a journal. The preprint based on these results is available here: https://www.researchgate.net/profile/Peter-Kreko/publication/374434569_The_Viral_Warfare_-_Uncovering_the_Connection_between_Conspiracy_Theories_on_COVID_and_the_War_in_Ukraine/links/651e5b0fd717ef1293ccdbf2/The-Viral-Warfare-Uncovering-the-Connection-between-Conspiracy-Theories-on-COVID-and-the-War-in-Ukraine.pdf

crises—the COVID-19 pandemic and the war in Ukraine—have triggered waves of conspiracy narratives with serious consequences.

COVID-related conspiracy theories undermined public health compliance—reducing adherence to lockdowns, masking, and vaccination (Farhart et al., 2022; van Mulukom et al., 2022). In Russia, the invasion of Ukraine was framed and justified by official conspiracy theories (e.g., genocide in Donbas, secret biolabs) promoted by the Kremlin (Yablokov, 2022). These narratives likely contributed to soldiers' aggression against civilians, as seen in other conflicts (Habel-Sela et al., 2022; Moskalenko & Romanova, 2022).

Russian disinformation also shaped public opinion in Europe, aiming to erode trust in NATO, the EU, and the U.S., and to reduce support for sanctions and aid to Ukraine—both in Europe and globally (Yablokov, 2015; Globsec, 2022; Political Capital Institute, 2023; Garton Ash, Leonard, Krastev, 2022).

Pandemic and war-related conspiracy theories have also converged: promoters of COVID conspiracies became key spreaders of war disinformation after the invasion (EDMO, 2022; Brandt et al., 2023). Although conceptually unrelated, public opinion surveys suggest a psychological link between belief in pandemic and war-related conspiracies (The Covid States Project, 2022; YouGov, 2022; The Star, 2022). Some studies show COVID conspiracies may act as “gateway theories,” increasing openness to other conspiracy theories such as election denialism (Granados Samayoa, 2022).

To date, no systemic research has examined how these conspiracies interrelate or how official actors help disseminate them—especially in contexts where governments themselves spread conspiracy theories. Our recent study (Krekó, Orosz, Faragó, Molnár, Zsila, in press) addresses this gap through a preregistered representative survey in Hungary, a country where conspiracy narratives are regularly promoted by both state and mainstream media (Turza, 2023; Faragó, Krekó, Orosz, 2023).

3.4.3. The theoretical background and explanations for the interconnections between conspiracy theories

Although systematic research on conspiracy beliefs is relatively recent, early studies already showed that even logically unrelated conspiracy theories often cluster together in people's

minds, forming a “monological belief system”—a seemingly coherent worldview where one conspiracy supports belief in another. For instance, belief in a conspiracy behind JFK’s assassination was linked to belief in UFO cover-ups by the U.S. Air Force (Goertzel, 1994).

Subsequent studies confirmed such associations: Swami et al. (2011, 2012) found that belief in conspiracy theories about 9/11, 7/7, and the disappearance of Amelia Earhart were predicted by belief in other unrelated (real and fictitious) conspiracies. Goldberg and Richey (2020) noted that anti-vaccine attitudes were associated with ideologically inconsistent beliefs, such as the “Obama is a Muslim” narrative and 9/11 Truthism. People also often endorse mutually contradictory theories—due to the epistemic ambiguity of conspiracy narratives. For example, Wood, Sutton, and Douglas (2014) found parallel endorsement of the views that Princess Diana both faked her death and was murdered. Imhoff and Lamberty (2022) observed that COVID-related conspiracy believers often claimed both that the virus was a hoax and that it was a human-made bioweapon.

However, van Prooijen et al. (2023) suggest that these associations may reflect patterns among non-believers who consistently reject conspiracies. That is, positive correlations may arise from shared disbelief in mutually exclusive conspiracies rather than belief. Still, other studies indicate that endorsers of contradictory conspiracies tend to be more intuitive, prone to ontological confusions and pseudo-profound bullshit, and score lower in rational thinking and active open-mindedness (Petrovic and Zezelj, 2023).

Critics argue that the “monological” concept may overlook underlying dispositional factors such as paranoia, distrust of authority, and conspiracy mentality as drivers of belief clustering (Sutton and Douglas, 2014; Douglas et al., 2019; Franks et al., 2017; Whitson and Galinsky, 2008). This “deductive” or “vertical” model posits that the links between conspiracy theories are the consequences of higher-order psychological constructs such as generalized mistrust (Goldberg and Richey, 2020; Wood, Douglas, and Sutton, 2012), populist attitudes (Silva, Vegetti, & Littvay, 2017), and conspiracy mentality (Swami et al., 2010, 2011, 2012; Bruder et al., 2013; Imhoff & Bruder, 2014; Williams et al., 2022). As Douglas et al. (2019, p. 7) note, “conspiracy beliefs are only related to each other to the extent that they cohere with a higher-order belief system.” Barkun (2003) similarly described conspiracies as “pornographies of deduction.”

Research on COVID-19 conspiracies reinforces the monological model, showing strong associations between even logically contradictory COVID-related beliefs, even when accounting for predictors like education and trust (Miller, 2020). We propose an integrative approach that considers both the horizontal (thematic) and vertical (dispositional) links between conspiracy beliefs.

3.4.4. Conspiracism in the Hungarian public discourse on the pandemic and the war

In Hungary, mainstream political parties showed no major disagreement over COVID-related measures: none openly opposed lockdowns or vaccines until the April 2022 elections, when the Our Homeland Movement, which spread anti-vaccine and virus-related conspiracy theories, entered Parliament with 6% of the vote (Farkas et al., 2022; Turza, 2022).

By contrast, war-related conspiracy theories became highly politicized. The right-wing governmental Fidesz party and the extreme-right Our Homeland Movement promoted relativist/ pro-Kremlin narratives, while the opposition adopted a stance that is more sympathetic to Ukraine, rejecting Kremlin-aligned disinformation. This created a marked political divide over interpretations of the war and responsibility for it (Political Capital, 2022; Rényi Pál Dániel, 2022).

Hungary's government-controlled media, which accounts for 79% of the national media landscape (Mérték, 2019), was the main source of war-related disinformation. State-owned "public" media and other pro-government outlets played a central role in spreading conspiracy narratives about the war (Urbán, Polyák, Horváth, 2023). For example, Origo, Hungary's third most visited website, heavily promoted Kremlin-origin conspiracies—such as the claim that U.S. biolabs are developing weapons against Russia or that the U.S. plans to provoke World War III. In the year following the invasion, 83% of Origo's "leading news" focused on war content (Molnár, Krekó, and Surányi, 2023). Notably, Covid-related conspiracy theories were not openly endorsed by either the government or its media ecosystem (ibid.).

3.4.5. The empirical research

We conducted a preregistered representative survey (See the preregistration link in the footnote⁶): research to test the following hypotheses.

Hypotheses

H1: We hypothesized a positive relationship between belief in Covid-related conspiracy theories and those related to the war in Ukraine, even after accounting for background factors such as media trust and conspiracy mentality.

H2: We anticipated that both conspiracy mentality and trust levels would be significant predictors of belief in Covid- and war-related conspiracy theories—specifically, that individuals with stronger conspiracy mentalities would be more likely to endorse a broad range of conspiratorial claims.

Although our initial design included two additional hypotheses concerning the socio-demographic predictors of conspiracy beliefs (which were supported by the data), we ultimately chose to omit these from the final analysis to maintain a clearer focus in the paper.

In addition, we aimed to examine the relative explanatory power of “horizontal” (theme-specific) versus “vertical” (dispositional) variables. To this end, we developed a comprehensive path model predicting belief in war-related conspiracy theories. This model incorporated all variables used in the earlier hypotheses as mediators, allowing us to map the broader structure of associations and assess the predictive strength of each factor in a more integrated framework.

Sample

The data were collected by the Hungarian polling institute Medián between 27 May and 2 June 2022 via telephone interviews. A total of 1,000 respondents aged 18 and above participated, forming a sample representative of the Hungarian adult population in terms of age, gender, education, and geographic region. Ethical approval was granted in advance by the Ethics Committee of the first author’s university (2020/226-2). While no a priori power analysis was conducted, a target sample size of $N = 1,000$ was adopted in line with standard practice for nationally representative surveys in Hungary. The final sample included 16% aged 18–29, 16% aged 30–39, 20% aged 40–49, 23% aged 50–64, and 24% aged 65 or older; 52% of participants

⁶https://osf.io/cytdr/?view_only=6dd524f763c14a248804afb3f3ab753b

were female. In terms of education, 35% held a high-school diploma, and 26% had completed post-secondary education.

Measures

Conspiracy

Mentality.

General predisposition toward conspiratorial thinking was measured using a four-item version of the Conspiracy Mentality Questionnaire (Bruder et al., 2013). Participants rated agreement with items (e.g., “I think that events which superficially seem to lack a connection are often the result of secret activities”) on a percentage scale from 0% (certainly not true) to 100% (certainly true), in 10% increments. The measure showed acceptable internal consistency ($\alpha = .77$).

Belief in Covid-Related Conspiracy Theories.

This was assessed using eight items. Five were adapted from Biddlestone et al. (2020) to reflect narratives relevant in the Hungarian context; the remaining three were developed based on prior research identifying widely circulated Covid-related disinformation in Hungarian media (Falyuna et al., 2022). A sample item reads: “Coronavirus was purposefully created in, and released from, a biochemistry lab in Wuhan, China.” Responses were recorded on a 5-point Likert scale (1 = completely disagree; 5 = completely agree). Internal consistency was excellent ($\alpha = .90$).

Belief in War-Related Conspiracy Theories.

Initially composed of 12 items, the final war-related conspiracy belief scale consisted of 11 items with strong psychometric coherence ($\alpha = .81$). Items were based on common narratives identified in Hungarian pro-government and social media, as documented by Political Capital Institute (e.g., Krekó et al., 2022). These included statements such as “Most of the pictures and videos of the Ukrainian victims of the war are fake.” While some items did not explicitly state conspiratorial claims, they were deliberately phrased as concise, assertive statements to avoid overly complex or double-barreled formulations (e.g., “Ukraine committed a genocide against the Russian minority in its territory”). All items reflected alternative interpretations of the war consistent with Kremlin-origin disinformation narratives, promoting the idea that the “real truth” is concealed by Western powers and mainstream media. Agreement was measured on a 5-point Likert scale (1 = completely disagree; 5 = completely agree).

Media

Trust.

Trust in media sources was measured with two items: (1) “Domestic media, press products”

and (2) “Foreign media, press products.” Respondents rated their trust in each on an 11-point scale ranging from 0 (do not trust at all) to 10 (fully trust).

Statistical analysis and results

All statistical analyses and visualizations were conducted using R 4.3.0 (R Core Team, 2023) and Mplus 7.4 (Muthén & Muthén, 1998–2017). To test our hypotheses, we applied correlation analyses (for H1–H3) and OLS regression models (for H4). Additionally, a path model was developed to examine the relationships between conspiracy mentality, media trust, and beliefs in both COVID-19- and Ukraine war-related conspiracy theories. Control variables included education and party preference. Analyses were weighted by strata. We employed mean and variance-adjusted weighted least squares estimation (WLSMV), and model fit was evaluated using standard indices: Comparative Fit Index (CFI; ≥ 0.95 excellent, ≥ 0.90 good), Tucker-Lewis Index (TLI; ≥ 0.95 excellent, ≥ 0.90 good), and Root Mean Square Error of Approximation (RMSEA; ≤ 0.06 excellent, ≤ 0.08 good), along with its 90% confidence interval.

Hypothesis Testing

Consistent with H1, COVID-related and war-related conspiracy beliefs were significantly and positively correlated ($r = 0.55$, $p < 0.001$), representing a strong effect size per Cohen’s conventions and accounting for 30.2% shared variance (R^2). This association remained robust after controlling for vertical predictors such as conspiracy mentality and trust in media (see path model below). Following van Prooijen et al. (2023), we tested whether this correlation stemmed from respondents who rejected all conspiracy theories (endorsing official accounts). Interestingly, the correlation was stronger in the lower halves of both scales than in the upper halves, suggesting that shared disbelief may partly drive the association.

Supporting H2, conspiracy mentality was significantly associated with both COVID-related ($r = 0.41$, $p < 0.001$) and war-related ($r = 0.26$, $p < 0.001$) conspiracy beliefs. The correlation was significantly stronger for COVID-related theories ($z = -3.78$, $p < 0.001$). Notably, the correlation between the two specific domains ($r = 0.55$) exceeded the correlation between conspiracy mentality and either set of beliefs.

Path Model

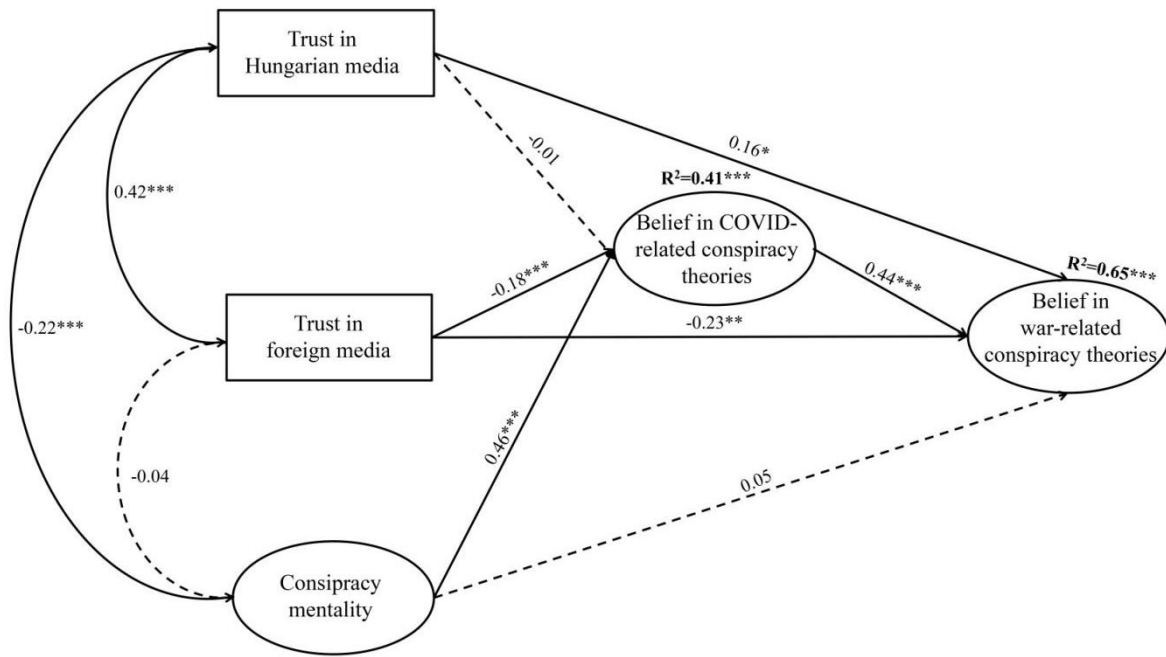
The path model demonstrated acceptable fit ($\chi^2 = 1478.04$, $p < 0.001$; CFI = 0.937; TLI = 0.929; RMSEA = 0.059 [90% CI: 0.055, 0.062]). Conspiracy mentality was strongly associated with belief in COVID-related conspiracy theories ($\beta = 0.46$, SE = 0.03, $p < 0.001$), which in turn predicted belief in war-related conspiracy theories ($\beta = 0.44$, SE = 0.04, $p < 0.001$). The direct effect of conspiracy mentality on war-related beliefs was non-significant ($\beta = 0.05$, SE = 0.04, $p = 0.19$), but the total ($\beta = 0.25$, SE = 0.04, $p < 0.001$; 95% CI: 0.18, 0.32) and indirect effects ($\beta = 0.20$, SE = 0.03, $p < 0.001$; 95% CI: 0.15, 0.25) were both significant, indicating full mediation by COVID-related beliefs.

Trust in foreign media negatively predicted COVID-related conspiracy beliefs ($\beta = -0.18$, SE = 0.05, $p < 0.001$), which, as noted, were positively linked to war-related conspiracy beliefs. Trust in foreign media also showed a modest negative direct effect on war-related beliefs ($\beta = -0.23$, SE = 0.07, $p = 0.001$). Both total ($\beta = -0.31$, SE = 0.08, $p < 0.001$; 95% CI: -0.47, -0.15) and indirect effects ($\beta = -0.08$, SE = 0.02, $p = 0.001$; 95% CI: -0.13, -0.03) were significant, suggesting partial mediation.

By contrast, trust in Hungarian media had a small but significant positive association with war-related conspiracy beliefs ($\beta = 0.16$, SE = 0.06, $p = 0.01$), but showed no significant relationship with COVID-related conspiracy theories ($\beta = -0.01$, SE = 0.04, $p = 0.80$).

Overall, the full model—including conspiracy mentality, trust in domestic and foreign media, education, and party preference—accounted for 65% of the variance in war-related conspiracy beliefs. These mediators also explained 41% of the variance in COVID-related conspiracy beliefs. (See Figure 17.)

17. FIGURE: PATH MODEL REPRESENTING THE ASSOCIATIONS BETWEEN TRUST IN HUNGARIAN AND FOREIGN MEDIA, CONSPIRACY MENTALITY, AND BELIEFS IN COVID-19 AND BELIEF IN WAR-RELATED CONSPIRATORIAL DISINFORMATION STATEMENTS



Notes. $*p < 0.05$, $**p < 0.01$, $***p < 0.001$ Ovals represent latent variables, while brackets represent observed variables in the model. Nonsignificant paths ($p > 0.05$) are presented with dashed arrows. Educational level and party preference were control variables in the model.

3.4.6. Discussion

Our pre-registered, representative survey supported our hypotheses. Consistent with earlier findings that logically unrelated or contradictory conspiracy theories can cohere at the attitudinal level (Goertzel, 1994; Swami et al., 2011, 2012; Miller, 2020; Lamberty & Imhoff, 2021), we found a strong association between Covid-19 and Ukraine war-related conspiracy beliefs—even after controlling for trust and Conspiracy Mentality (H1). This link remained significant across both “believers” and “non-believers,” though the strength varied (stronger among non-believers).

Contrary to the dominant vertical model of conspiracy beliefs, we found that the effect of Conspiracy Mentality is not uniform: it had a strong impact on Covid-related beliefs, but only a weak or no direct effect on war-related ones, as shown by our path model. Although our cross-sectional data limits causal inference, the temporal sequence allows for the hypothesis that Covid-related conspiracy beliefs may serve as a “gateway theory” into other conspiratorial content, including war-related disinformation (see Sutton & Douglas, 2022; Figure 1). This

echoes findings that Covid-related conspiracy beliefs can facilitate belief in unrelated narratives, such as U.S. election fraud (Granados Samayoa et al., 2022).

Given that Hungarian governmental media did not promote Covid-skeptic conspiracy theories but did disseminate war-related disinformation (Molnár, Surányi & Krekó, 2023), we can rule out the possibility that media promoted both types as a package. The differing media treatment also suggests the correlation is not driven by exposure to a unified media narrative. The lack of moderation by party preference further indicates that the observed relationship between the two conspiracy beliefs transcends partisan ideology.

Our findings support the notion that conspiracy beliefs can be horizontally linked, independent of overarching dispositions like trust or Conspiracy Mentality. This aligns with theories of a universal “psycho-logic” driven by underlying preferences and aversions (Abelson & Rosenberg, 1958; Hunyady, 1998, 2002). However, vertical constructs such as trust and media context remain relevant, albeit not exclusively determinative.

Importantly, our results underscore how specific political and media contexts shape the interplay between trust and conspiratorial thinking. The most novel and counterintuitive result is that trust in domestic Hungarian media positively predicted war-related conspiracy beliefs—while having no effect on Covid-related ones. In contrast, trust in international media negatively predicted belief in both types. This is surprising given that trust in institutions typically correlates positively across domains (Quaranta, 2018), and trust in domestic and international media also correlated positively in our sample.

This paradoxical pattern reflects Hungary’s status as an informational autocracy (Guriev & Treisman, 2022; Orosz et al., 2022), where pro-Russian war disinformation is actively spread by state-aligned media (Molnár et al., 2023). In this context, trust in domestic media can increase susceptibility to conspiracy theories—especially among pro-government voters. In contrast, international media did not mainstream such narratives, highlighting the need for context-sensitive models. Treating “trust” as a generalized protective factor can be misleading; differentiating its dimensions is essential.

These findings also have practical implications for policy and communication strategies, which we elaborate in the final chapter.

Nonetheless, our study has limitations. It is based on cross-sectional data from a single country, precluding causal claims. Hungary's deviation from WEIRD norms due to its authoritarian trajectory (Guriev & Treisman, 2022) also calls for replication in diverse national contexts. Moreover, reliance on self-reported beliefs introduces potential biases such as agreement bias or social desirability effects.

Despite these limitations, our study offers important insights. In contexts like Hungary—where conspiracy narratives are pushed by mainstream rather than fringe actors—trust in domestic media and institutions may amplify rather than mitigate conspiracy belief. This is not unique to Hungary; it applies to other states where disinformation stems from official sources, including Russia, Turkey, and the U.S. under Trump (Guriev & Treisman, 2022). In such environments, strengthening trust in state institutions may exacerbate, rather than solve, the problem of conspiratorial thinking.

4. Belief in fake news and their background motives

As we discussed in the First Chapter, not all of the false or improbable beliefs have a conspiracy narrative behind them. In a series of empirical research conducted in Hungary, we also aimed to understand the background motives behind the belief in fake news - deliberately fabricated false information intended to mislead (Allcott and Gentzkow, 2017). In this series of research, we tried to investigate both the cognitive and motivational factors that make the Hungarian public susceptible to fake news and disinformation.

4.1. Political wishful thinking and belief in “pipedream” fake news

Our first study (Faragó, Krekó, Kende, 2019) investigated the extent to which political partisanship influences belief in politically motivated fake news. Through a representative survey involving 1,000 participants and a supplementary student sample of 382 individuals in Hungary, we examined how political orientation, partisanship, and conspiracy thinking predict acceptance of pro- and anti-government “pipedream” fake news. The findings revealed that partisanship significantly outweighs conspiracy mentality in predicting fake news acceptance. These relationships were mediated by perceptions of source credibility and economic sentiment. This first piece of research underscored the critical role of motivated partisan bias in shaping public trust in fake news narratives. Unlike traditional misinformation, fake news often mimics credible news sources, increasing its effectiveness in influencing public opinion (Allcott & Gentzkow, 2017). The phenomenon gained significant attention during the 2016 US presidential election, where it was considered a potential factor influencing voter behavior. Surveys revealed widespread susceptibility to fake news; for instance, 75% of Americans admitted being deceived by fake news headlines (Silverman & Singer-Vine, 2016). In Hungary, similar trends have been observed, where government-linked disinformation has amplified societal divisions (Juhász & Szicherle, 2017).

The rapid spread of fake news can be attributed to its novelty and emotional appeal, which trigger heuristic processing in audiences (Vosoughi et al., 2018). Cognitive explanations suggest that individuals often rely on superficial cues, such as sensational headlines, rather than critically evaluating the content (Metzger, Flanagin, & Medders, 2010). Motivated reasoning further exacerbates this issue, as individuals are more likely to accept information that aligns with their pre-existing beliefs and reject contradictory content (Kahan, 2013). This has profound

implications for democratic discourse, where fact-based debates are increasingly overshadowed by partisan narratives.

Partisan motivated reasoning, a specific form of motivated cognition, is particularly relevant in politically polarized societies. This phenomenon involves individuals evaluating information based on its consistency with their ideological stance, often resulting in asymmetrical trust in news sources (Lewandowsky, Stritzke, Freund, Oberauer, & Krueger, 2013). For example, supporters of a political leader are more likely to perceive information favoring that leader as credible, while dismissing critical narratives as unreliable (Swire, Berinsky, Lewandowsky, & Ecker, 2017). These dynamics are especially pronounced in Hungary, where political polarization has intensified in recent years (Enyedi, 2016).

We applied Knapp's (1944) categorization of rumors to fake news, as they highlight three distinct types with differing emotional appeals and narrative structures. "Pipedream fake news" aligns with individuals' hopes and desires but lacks a conspiratorial element. In contrast, "bogeyman news" taps into fears and anxieties, often incorporating conspiratorial themes. Lastly, "wedge-driving" or aggressive news is designed to provoke anger and hatred. In this research, we focused on "pipedream" fake news to separate them from the more conspiracy-prone narratives. In this study, we aimed to address the following research questions: Does partisanship outweigh political orientation and conspiracy mentality in predicting belief in pipedream fake news? To what extent do economic sentiment and perceived source independence mediate these relationships?

This research employed two complementary studies to explore the relationship between partisanship and fake news belief. The first study utilized a nationally representative survey, while the second study replicated the findings using a student sample. Both studies were conducted in Hungary.

Participants in Study 1 were drawn from a stratified sample of 1,000 Hungarian adults, ensuring representativeness across age, gender, and educational background. Respondents were asked to evaluate the credibility of fabricated news headlines spanning three categories: pro-government, anti-government, and non-political. Headlines were carefully crafted to reflect contemporary political narratives while avoiding explicit threats or conspiratorial elements. For instance, one pro-government headline stated, "Viktor Orbán honored for preserving European

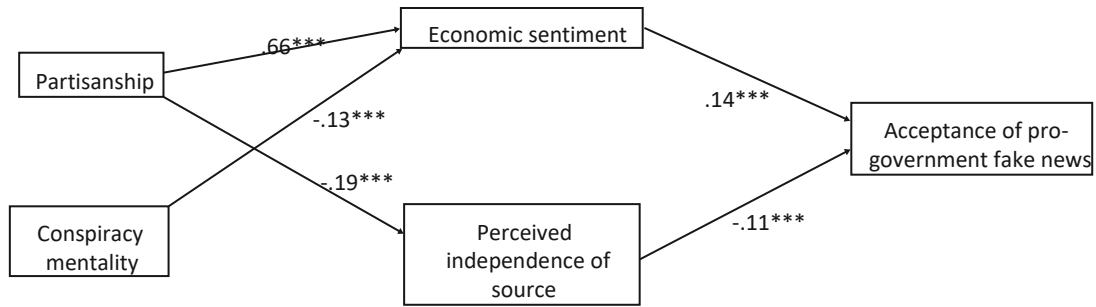
Christian values," while an anti-government headline read, "Prime Minister Orbán admitted to psychiatric treatment."

Participants also rated the perceived independence of the news source on a scale from "certainly independent" to "political propaganda." Additional measures included self-reported political orientation, partisanship (government supporter vs. opposition), economic sentiment, and conspiracy mentality using validated scales (Bruder, Haffke, Neave, Nouripanah, & Imhoff, 2013). The survey was designed to capture nuanced attitudes toward politically charged content and assess the psychological factors underpinning these beliefs.

Study 2 involved 382 university students, offering a complementary perspective to the representative sample. Participants were presented with a broader array of fabricated headlines, including multiple pro- and anti-government examples, alongside real news as control items. The survey incorporated self-assessed political knowledge to examine its role as a potential confounding variable. The results were analyzed using multivariate techniques to replicate and extend the findings of Study 1. By including a younger, more digitally active cohort, this study provided additional insights into how different demographic groups process fake news.

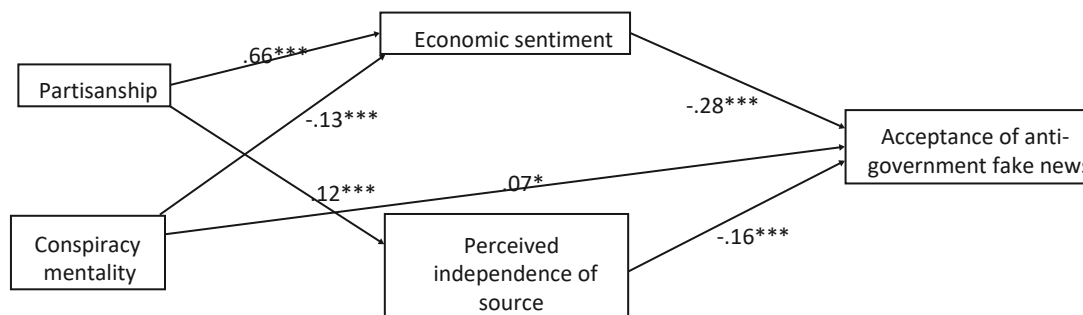
Both studies revealed that partisanship strongly predicts belief in politically motivated fake news. Supporters of the government were more likely to accept pro-government headlines as credible, attributing them to independent journalists. Conversely, opposition supporters found anti-government fake news more believable, perceiving it as authored by impartial sources. These effects were consistent across both samples, underscoring the pervasive influence of partisan bias (See the results of the path analysis for study 1 for pro-governmental and anti-governmental fake news on Figure 18 and 19). This finding aligns with existing literature suggesting that group identity significantly shapes information processing (Bliuc, McGarty, Reynolds, & Muntele, 2007).

18. FIGURE: THE PATH MODEL OF PRO-GOVERNMENT FAKE NEWS ACCEPTANCE (STUDY 1, FARAGÓ, KENDE, KREKÓ, 2019).



Note: ***p < .001; **p < .01; *p < .05.

19. FIGURE: THE PATH MODEL OF ANTI-GOVERNMENT FAKE NEWS ACCEPTANCE (STUDY 1, FARAGÓ, KENDE, KREKÓ, 2019).



Note: ***p < .001; **p < .01; *p < .05.

Conspiracy mentality played a relatively minor role in shaping “pipedream” fake news beliefs. While it modestly predicted acceptance of anti-government fake news, its overall explanatory power was limited compared to partisanship. This finding challenges the notion that conspiracy thinking is a primary driver of fake news susceptibility. Instead, it suggests that broader socio-political factors, such as group identity and economic perceptions, play more substantial roles.

Economic sentiment emerged as a significant mediator. Government supporters who perceived economic conditions as favorable were more inclined to believe pro-government fake news. Similarly, opposition supporters experiencing economic dissatisfaction were more likely to trust anti-government narratives. Perceived source independence also mediated these relationships, highlighting the importance of trust in determining credibility.

In Study 2, we replicated the main findings of Study 1 relying on more political fake news headlines that cover a broader range of political situation.

Non-political fake news did not exhibit significant associations with partisanship or conspiracy mentality. Instead, its acceptance was influenced by general perceptions of source independence, suggesting distinct cognitive processes for evaluating political and non-political content (motivated versus non-motivated reasoning?). This distinction also highlights the need for tailored strategies to address different types of misinformation, as cognitive factors might play a more important role in processing non-political disinformation.

The findings highlight the critical role of partisan bias in shaping fake news beliefs in general, and “pipedream” fake news in particular. Unlike previous studies emphasizing ideological asymmetry (see for example, Jost et al, 2017)., our results suggest a more symmetrical pattern: individuals from both sides of the political spectrum are equally prone to accepting information that aligns with their views. This challenges previous findings that conservatives, but not liberals, are uniquely susceptible to fake news. Economic sentiment amplifies partisan motivated reasoning, with optimism favoring pro-government narratives and pessimism driving anti-government beliefs. Perceived source independence further reinforces these biases, as individuals attribute credibility based on their ideological alignment with the source.

We intentionally used pipedream political fake news unrelated to threat and anxiety, as our focus was on measuring acceptance rather than conservatives’ sensitivity to negative information and threat (Fessler et al., 2017; Miller et al., 2016). We think that “wedge-driver” and “bogeyman” fake news may have stronger links to conspiracy theories (and to conservative political leanings), but further research is needed to explore this. Nonetheless, conspiracy mentality emerged as a weak but significant predictor of anti-government fake news in both studies. This aligns with prior research suggesting that the feeling of being excluded from political power increases susceptibility to fake information and belief in conspiracies (Uscinski & Parent, 2014).

This study had several limitations. First, the reliance on Hungarian data may limit generalizability to other contexts. Second, the correlational design precludes definitive causal inferences. Future research should employ experimental designs to establish causality and explore cross-cultural variations in fake news belief. Additionally, longitudinal studies could

provide insights into how beliefs evolve over time and whether interventions have lasting effects.

4.2. The role of analytic thinking and partisanship behind the belief of fake news.

In a next study (Faragó, Krekó, Orosz 2023), we aimed to do a next round of research, an in-depth exploration of the cognitive and partisan factors that influence individuals' ability to distinguish fake news from real news, by replicating and expanding on the findings of Pennycook and Rand (2019). The study's geographical scope is especially relevant as we replicated the study that was originally conducted in Hungary in a region characterized by high level of political polarization, illiberal governance, and pervasive state-controlled propaganda, without very strong and stable democratic institutions and traditions.

Rand and Pennycook's original research, *"Lazy, Not Biased: Susceptibility to Partisan Fake News is Better Explained by Lack of Thinking Than by Motivated Reasoning,"* challenged the notion that susceptibility to fake news stems primarily from partisan biases or motivated reasoning. Their findings suggested that "cognitive laziness"—defined as a failure to engage in reflective thinking, and measured by the Cognitive Reflection Test (CRT)—better explains why individuals believe and share false information, including partisan fake news. Using experiments, they demonstrated that individuals who score higher on cognitive reflection tests are better at discerning true from false news, regardless of whether the news aligns with their political preferences. This underscores the role of critical thinking over political motivation in resisting misinformation.

The central question guiding our research is whether reasoning abilities help individuals differentiate between fake and real news or whether reasoning amplifies partisan biases. We expected that in the Hungarian context partisanship might play a more important role than in the original research. The specificity of Hungary, as explained above, is that state-controlled media outlets systematically disseminate pro-Kremlin narratives and disinformation campaigns. Such a media environment has been described as a "laboratory of illiberalism" (Krekó & Enyedi, 2018), making Hungary a critical case study for understanding how cognitive and partisan factors intersect in an informational autocracy (Krekó, 2022).

The theoretical backdrop of the study is framed by two competing models:

1. **Motivated System 2 Reasoning (MS2R)** suggests that individuals with higher analytic thinking are more likely to reinforce their pre-existing ideological biases through reasoning (Kahan, 2013; Drummond & Fischhoff, 2017, 2017/b).
2. **Classical Reasoning Theory** argues that cognitive laziness, rather than bias, drives susceptibility to fake news. This model posits that analytic thinking reduces belief in misinformation irrespective of political alignment (Pennycook & Rand, 2019; Bronstein et al., 2019).

Additionally, the **integrative model** that we found the most valuable, incorporates elements of partisanship, identity-protective reasoning, and cognitive reflection to explain how individuals process and evaluate news content (Rozenbeek et al., 2022, Van Bavel et al., 2021; Van Der Linden, 2022). This approach highlights the interplay between cognitive capacities and partisan predispositions, particularly in environments dominated by disinformation.

During the study we tested the following hypotheses:

1. Higher analytic thinking will reduce belief in fake news and enhance media truth discernment (H1).
2. Analytic thinking will not amplify partisan motivated reasoning for ideologically consistent fake news (H2).
3. Individuals will discern politically consistent news more effectively than inconsistent news (H3).
4. Opposition voters will outperform pro-government voters in distinguishing fake from real news (H4).
5. Analytic thinking will benefit opposition voters more than pro-government voters in discerning fake news (H5).
6. Political fake news will be better predicted by partisanship, while non-political fake news will rely more on analytic thinking (H6).
7. Digital literacy will enhance media truth discernment, while source salience will have minimal impact (H7, H8).

The study's dataset comprised responses from 991 Hungarian adults, sampled to represent internet users in terms of age, gender, and geographic distribution. Participants were recruited through an online survey in April 2021, administered by the highly respected Medián polling agency. The sample was designed to include diverse political affiliations, with 38.6%

identifying as pro-government voters and the remainder supporting opposition parties or remaining neutral.

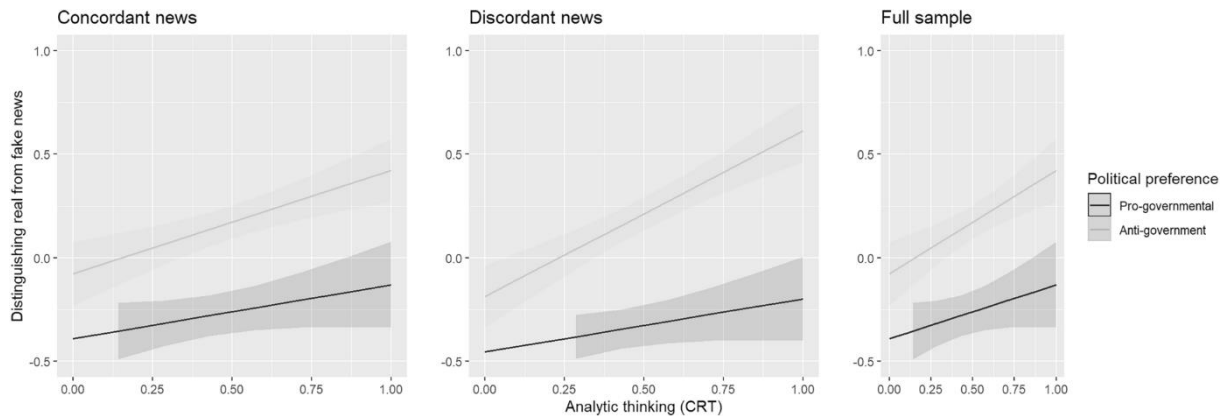
Participants evaluated 30 news headlines, consisting of 15 real and 15 fake news items. These headlines were categorized into pro-Orbán, anti-Orbán, and neutral news. Designed to mimic social media posts, the headlines included images, titles, and bylines. Participants were asked to rate the accuracy of each headline and indicate whether they would consider sharing it online.

To measure cognitive abilities, respondents completed a 7-item Cognitive Reflection Test (CRT), which assesses analytic thinking by posing questions that challenge intuitive responses (Frederick, 2005). A digital literacy assessment was also administered to gauge participants' familiarity with online information environments.

The study employed Pearson correlations, ANOVAs, and OLS regression to examine the relationships between analytic thinking, partisanship, digital literacy, and fake news discernment. The statistical analysis adhered to the methodological guidelines of Pennycook and Rand (2019), ensuring comparability with prior research.

The findings confirmed that higher CRT scores were associated with better discernment of real versus fake news. Participants with strong analytic thinking rated fake news as less accurate and were more likely to recognize real news as truthful. This relationship was consistent across ideological divides, supporting the classical reasoning theory. The protective effect of analytic thinking against misinformation is illustrated in Figure 20, which shows a significant decrease in the perceived accuracy of fake news among high-CRT individuals, both in the case of concordant and discordant news", and across different voter groups.

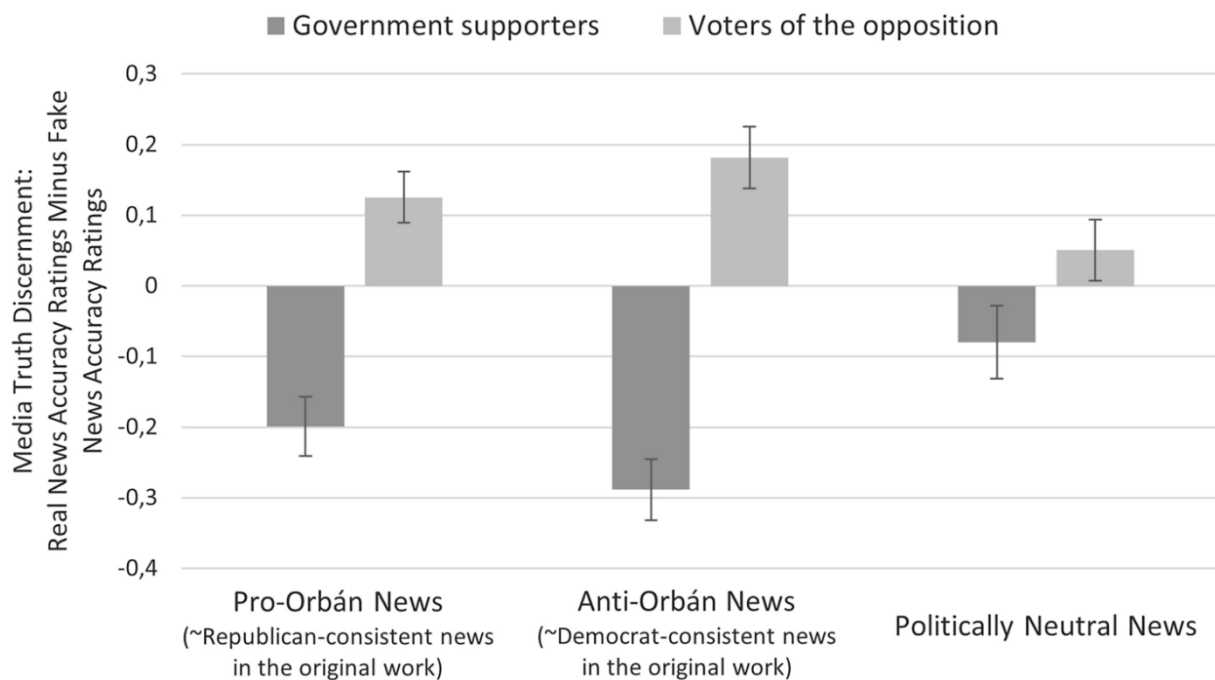
20. FIGURE: THE INTERACTION BETWEEN ANALYTIC THINKING AND PARTISANSHIP ON MEDIA TRUTH DISCERNMENT FOR CONCORDANT NEWS, DISCORDANT NEWS, AND FOR THE FULL SAMPLE (FARAGÓ, KREKÓ, OROSZ, 2023)



The interaction between analytic thinking and partisanship on media truth discernment for concordant news, discordant news, and for the full sample (including all types of news). The result suggests that anti-government voters can benefit more from analytic thinking in terms of distinguishing fake from real news compared to pro-government voters. *Note.* Analytic thinking (x-axis): 0 = minimal score of analytic thinking; 1 = maximal score of analytic thinking. Distinguishing real from fake news = Media truth discernment. On the y-axis, low values indicate the correctness of fake news with incorrect ratings of real news, while high values indicate the perceived inaccuracy of fake news with correct ratings of real news. Negative values mean that people found fake news more accurate than real news. Positive values indicate that real news correctness ratings are higher than fake news correctness ratings (From Faragó, Krekó, Orosz, 2023).

On the other hand, partisanship emerged as a significant moderator in the relationship between analytic thinking and fake news discernment. Opposition voters exhibited higher CRT scores and demonstrated greater ability to distinguish fake from real news compared to pro-government voters. As shown in Figure 21, opposition voters consistently outperformed pro-government voters in media truth discernment, regardless of the political leaning of the news content. Furthermore, in the case of pro-governmental voters, stronger cognitive reflective skills improved the discernment skills less than in the case of pro-governmental voters- even if the main effects persisted across voter groups.

21. FIGURE: MEAN PERCEIVED ACCURACY OF FAKE AND REAL NEWS HEADLINES AS A FUNCTION OF POLITICAL CONCORDANCE (FARAGÓ, KREKÓ, OROSZ, 2023).



Media truth discernment as a function of political ideology and political leaning of the headline. Supporters of the opposition were considerably better at discerning fake from real news (irrespective of the type of news) than supporters of the government. Error bars represent 95% CIs. *Note.* High media truth discernment score indicates an increased capacity to distinguish real from fake news. “Government supporters” is rather similar to “Republican voters” in the context of the original work (and the US context) while “Voters of the opposition” is an analogy with “Democrat voters” in the Trump era (From Faragó, Krekó, Orosz, 2023).

As we expected, Digital literacy positively predicted participants’ ability to discern real from fake news, corroborating prior research (Guess et al., 2020). However, contrary to our expectations, the salience of news sources—whether explicitly indicated or omitted—did not significantly affect accuracy judgments. This suggests that participants relied more on headline content and visual cues than on source credibility when evaluating news items.

The distinction between political and non-political news revealed that partisanship had a stronger influence on the evaluation of political fake news, whereas analytic thinking played a more substantial role in identifying non-political misinformation. Figure 21 highlights these differences, showing that opposition voters excelled in discerning fake news even when the content was ideologically discordant.

These findings largely replicate Pennycook and Rand's (2019) results, affirming the classical reasoning theory's assertion that cognitive reflection enhances fake news discernment. However, the study's Hungarian context—characterized by pervasive state-sponsored disinformation—reveals additional nuances. The interaction between analytic thinking and partisanship, as well as the differences in processing political and non-political fake news supports the integrative model, highlighting how cognitive capacities and ideological alignment jointly shape news evaluation, and how “classical” and “motivated” reasoning can intertwine.

Pro-government voters' lower CRT scores and greater susceptibility to misinformation are likely attributable to prolonged exposure to systematic disinformation. Hungary's media landscape, dominated by state-controlled outlets, fosters an environment where disinformation is normalized, reducing citizens' motivation to engage in critical thinking (Krekó & Enyedi, 2018; Jost, 2017, Krekó, 2022).

The findings affirm that analytic thinking enhances individuals' ability to discern fake news, but the Hungarian context reveals that partisanship and disinformation exposure significantly mediate this relationship.

Opposition voters' higher CRT scores and superior discernment capabilities underscore the protective role of critical thinking in resisting misinformation. Also, in contrast with our earlier results (Faragó, Kende, Krekó, 2019) where we found a more symmetric receptivity to disinformation- suggesting that a stronger political gap emerges when we broaden the scope and focus on a wider range of disinformation, not only wishful “pipedream” fake news. Pro-government voters' vulnerability to fake news highlights the need for targeted interventions to foster cognitive engagement and digital literacy. In the last two chapters (6 and 7) we are going to discuss the practical implications of the results and also, introduce the results of experimental interventions that can help to improve discernment even among voters who are more vulnerable to disinformation.

5. Factual Relativism: when nothing is true but everything is possible⁷

The earlier chapters of this dissertation have shown how conspiracy theories, pseudoscientific beliefs, and fake news are not isolated anomalies, but interconnected expressions of collective motivated cognition. We have seen how they flourish in political and health crises, offering emotionally and ideologically satisfying alternatives to reality.

This chapter turns to the cumulative epistemic consequence of these trends: factual relativism—the belief that truth itself is subjective, negotiable, or irrelevant. While previous chapters examined specific beliefs or a set of beliefs on a certain topic (e.g. political and healthcare conspiracies) this chapter explores a broader mentality: one shaped by chronic exposure to disinformation, declining trust in institutions, and the psychological fatigue of navigating a saturated, polarized media landscape.

Drawing on empirical research from Hungary and comparative data from the region, this chapter argues that factual relativism is not just a byproduct of conspiracy culture—it is a key enabler. When nothing is perceived as objectively true, all narratives become equally plausible, and the line between evidence and opinion collapses. In this sense, factual relativism represents the cognitive climate in which motivated ignorance can fully thrive.

The nature of modern disinformation is that it seeks not to persuade but to confuse. One of the most important impacts of being systemically surrounded by, and exposed to, non-credible information is the looming doubt about objective facts and reality. This relativism and skepticism are the hotbed for belief in fake news and conspiracy theories, and strongly present in domestic online and offline public discourse, as well as in public opinion. We will refer to this phenomenon as “factual relativism”. In this chapter, we focus on how this manifests in the Hungarian and Central European public opinion. By measuring factual relativism in the public opinion and discourse (Molnár and Krekó, 2024; Surányi, Molnár and Krekó, 2024) we also aim to grasp the cumulative impact of the disinformation that surrounds information consumers

⁷ The title refers to the book of Peter Pomeranzen. (2017). *Nothing is true and everything is possible: Adventures in modern Russia*. Faber & Faber.

in the society, as well as the deeper sense of epistemic uncertainty (see for example: Pléh and Nyíri, 2002 that characterizes our “post-truth” age.

5.1. Factual relativism, information apocalypse, and learned helplessness

Due to the increasingly confusing media environment and the decline of trust in the press and other knowledge-producing institutions we can observe a growing uncertainty about the existence of objective and verifiable facts (Pomerantsev, 2019; Pomerantsev and Weiss, 2014). This uncertainty is also linked to the idea that there may be logically mutually exclusive 'alternative facts' that can be equally valid on the same subject at the same time. Our study focuses on the growing doubt about the existence and knowability of facts - what others, including Wikforss et al (2019), call “factual relativism”- which we have been the first to investigate in the Hungarian public opinion⁸.

The rise of factual relativism is linked to the overwhelming feeling that it is difficult to choose the most relevant or factually correct information in the face of the increasing and often contradictory information available. Recent events such as the COVID-19 pandemic, Russia's invasion of Ukraine, and the Israel-Hamas war have only reinforced this feeling in public opinion. More and more data are just amplifying the information noise and the uncertainty and manipulability that come with it. While classical propaganda aims to reduce the amount of information and narrow the possible resources (e.g. through censorship and media takeovers), modern disinformation in “high-choice information environments” (Wikforss et al., 2019) aims to confuse minds by overwhelming them with information.

A typical reaction to this “information overdose” is to turn away from the news. According to research by the Reuters Institute in early 2023, 47 per cent of Hungarian respondents said they had avoided news about the war in Ukraine (Newman et al., 2023). Although this is not unique in Europe, it shows that the phenomenon of “information learned helplessness” (also known as

⁸ Although the study was carried out in the framework of the Hungarian Digital Media Observatory project, co-funded by the European Commission, the database was processed based on data from a public opinion survey that was conducted with the support of the Friedrich Naumann Foundation.

“information apocalypse” or “reality apathy” (Gregor & Mlejnková, 2021) is already having a real impact on news consumption.

Moreover, as trust in the traditional media weakens, there is a growing demand for the kind of news that reveals this “hidden, covert truth” – which is often more exciting, more compelling, and seemingly more coherent than reality. Fake news and conspiracy theories, promise to bring order to the chaos and reveal the “real” among the competing narratives “they” seek to hide from us. In terms of distrust in the media, Hungary is at the bottom of the league: only 25 per cent trust the news, the second lowest in a global sample of 46 countries surveyed by the Reuters Institute (Newman et al., 2023). In East Central Europe, we usually find low levels of trust – only 28% of Bulgarians and 30 % of Czechs tend to trust the news. Research by the Mertek Media Monitor (2023) shows that Hungarians are less and less likely to consider the Hungarian media objective, with almost half of pro-government voters even considering it biased in favor of the government side. Although pro-government voters prefer to read the pro-government press and opposition voters prefer to read the independent press, there is also significant “cross-consumption”: 41 per cent of news consumers also read from or watch sources they do not consider credible – which may also contribute to information uncertainty.

5.2. Truth relativism in Hungary: a pilot research and early results

5.2.1. Research methodology and research questions

In a first report (Molnár and Krekó, 2023), we seek to answer the question of how the phenomenon of factual relativism is represented in Hungarian public opinion. Our research questions were the following:

- How widespread are the views in the domestic public opinion that facts do not exist at all or cannot be known in the current situation?
- Who are more prone to this doubt?
- How does factual relativism, skepticism about the existence and accessibility of news and facts, relate to belief in conspiracy theories and fake news?

Methodology: a representative public opinion survey was conducted by Inspira Research between 24 March and 11 April 2023, with a sample of 1,000 people, representative of gender,

age, education and type of settlement, interviewed face-to-face. The questionnaire was divided into four blocks:

- media consumption habits on public and political issues;
- susceptibility to disinformation narratives about Russian aggression against Ukraine;
- susceptibility to other disinformation narratives not related to the war; -
- views on objective reality and factual relativism.

Below, we analyze the data from the last block and draw on some of the questions from other blocks.⁹

5.2.2. The salience of factual relativism

Five items have been put together to capture the uncertainty about the existence and knowability of facts. As there was no published research in the literature from which we could draw on tested questions, the authors of this paper created additional questions beyond the one used by Peter Pomerantsev in an earlier poll¹⁰:

The exact wording of the introduction and questions:

I am going to read out statements that some people agree with, and others do not. Using the five-point scale, tell me to what extent you agree with each statement. 1 means you strongly disagree and 5 means you strongly agree. Of course, you can also use the intermediate grades.

1. The 'truth' is really the position one chooses for oneself.
2. Objective reality does not really exist, there are only different opinions.
3. Anyone who claims to know what the facts are is actually lying.
4. Many things that are quoted in the press as facts are really just opinions.
5. We cannot be sure about what is reported as fact is true.

A typical trend of our time, as mentioned in the introduction, is that the role of objective journalism is increasingly being replaced by the production of opinion pieces, from which news

⁹ The responses to the first three blocks are analyzed [in this study](#).

¹⁰ „'Truth' is what somebody chooses to believe.”

is less and less distinct. This tendency is also strongly reflected in domestic public opinion, with 67 per cent of the respondents (37% fully, 30% partly) agreeing with the statement that “*Many things that are quoted in the press as fact are really just opinions*”. The percentage of those who disagreed was only 8 per cent.

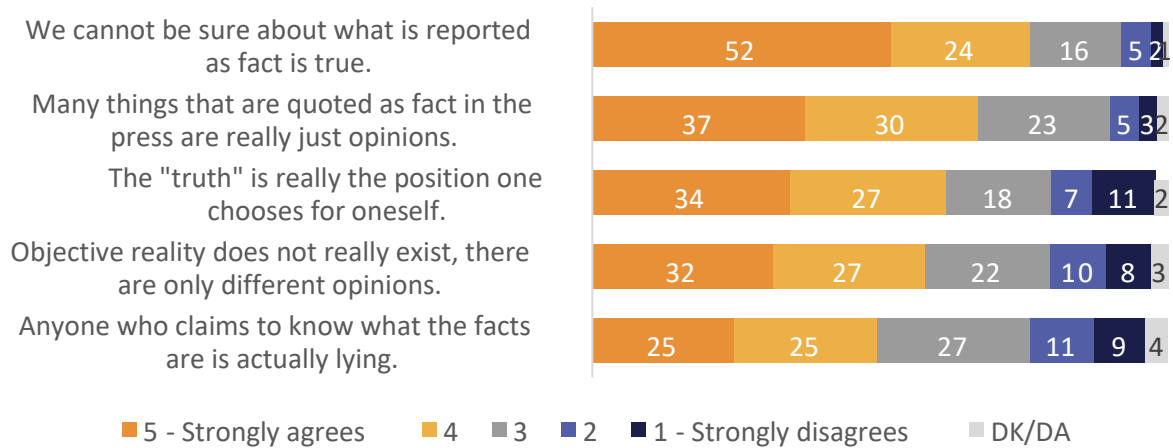
Doubts about claims treated as fact in the public domain are very strong in Hungarian society. This is reflected in the fact that more than three-quarters of the respondents said, “*We cannot be sure about what is reported as fact is true*”. Fifty-two per cent of the respondents very strongly agreed with this statement, while a further 24 per cent somewhat agreed. This also indicates a critically low level of trust in information sources, as shown by several previous studies, including research by the Mertek Media Monitor.

The “opinionated” interpretation of truth is shown by the fact that 60 per cent of respondents said that “*The ‘truth’ is really the position one chooses for oneself*” (34% strongly agreed, another 27% rather agreed).

The following statement, which expresses stronger skepticism (“*Anyone who claims to know what the facts are is actually lying*”), was agreed by half of the respondents (25% strongly, another 25% somewhat).

However, an even higher level of agreement was found for the most radical fact-relativist statement, “*Objective reality does not really exist, there are only different opinions*”. 59 per cent of the respondents agreed with this (32% strongly, 27% rather, see Figure 22 below).

22. FIGURE: AGREEMENT WITH FACTUAL RELATIVIST STATEMENTS IN HUNGARY (% OF TOTAL SAMPLE)



For further analysis, we created a scale by calculating the average of the responses to the five items¹¹.

5.2.3. Who are the most sceptical about the facts?

In our research, susceptibility to factual relativism was found to be independent of most demographic variables (gender, age, education). Only by type of settlement we could find significant differences: people living in Budapest were less likely than those living elsewhere in the country to agree with relativist views of facts.

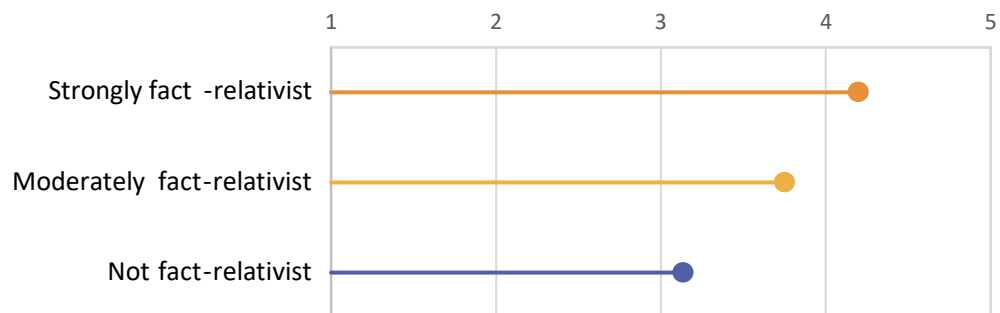
The same can be said for party preference. Critical views about facts and reality do not differ substantially among supporters of the government vs. the opposition parties, and there is therefore no political polarisation in this question – which is highly atypical, as polarisation is otherwise practically omnipresent in the Hungarian public opinion (See for example: Vegetti, 2019).

However, stronger factual relativism does predict higher levels general belief in conspiracy theories. The more one is critical of facts, of objective reality, the more one believes it to be true that events that seem to be independent of each other are often the result of coordinated clandestine activities, or that there are secret organisations that have a major influence on

¹¹ The categorization was based on the average of the responses to the questions, ranging from 1 to 5, which also ranges from 1 to 5. A higher value means that the respondent identifies more strongly with skeptical views that relativize the facts. The percentage of missing answers was low, with 92% of respondents giving a valid answer to all questions. On the other hand, the internal consistency of the items reached an acceptable level (Cronbach's alpha of 0.704). The five items were, if not robustly, clustered into a single factor, explaining 47.2% of the variance. This also shows that the responses to the different questions are correlated (strongest pairwise correlation coefficient +0.521, weakest +0.145), thus justifying the combined treatment of factual relativism, perception of post-truth opinion-based public discourse and these different aspects of epistemic uncertainty.

political decisions. There was a significant positive correlation between factual relativism and Conspiracy Mentality (See Figure 24 and Figure 25)¹².

24. FIGURE: SUSCEPTIBILITY TO CONSPIRACY MENTALITY IN DIFFERENT GROUPS



note: (averages on a scale from 1: immune to 5: highly susceptible¹⁵)

¹² Conspiracy Mentality was measured by two items. The formulation of the questions was: 'I am going to read out statements that some people think are true and some people think are not. Please use the five-point scale to tell me how true you think each statement is. 1 means that it is definitely not true and 5 means that it is definitely true. You can, of course, use the intermediate grades. (1) "Events that appear to be unrelated are often the result of covert activities." (2) "There are secret organizations that greatly influence political decisions." Susceptibility was assessed using a scale constructed from the two questions using simple averaging. The Pearson-correlation between the Fact Relativism Scale and the Conspiracy Mentality Scale is +0.429

25. FIGURE: CORRELATION BETWEEN THE FACT-RELATIVISM SCALE AND THE SCALES AND ITEMS EXAMINED IN THE STUDY.

	Pearson correlation coefficient
Conspiracy Mentality Scale (Average of 2 items, range of values 1-5)	+0,429
War-related disinformation scale (Average of 4 items, range of values 1-5)	+0,284
In this war everyone lies and spreads disinformation (1 item, range of values 1-5)	+0,392
Internal Pfizer documents also show that many people have died because of their coronavirus vaccine (1 item, range of values 1-5)	+0,243

Factual relativism was also found to make us more susceptible to disinformation about the war. Those with a high degree of factual relativism are more likely to believe allegations that have already been refuted by fact-checkers, such as that Ukraine had previously committed genocide against the Russian minority living on its territory, or that a significant part of Ukraine's territory was owned by the US.

Factual relativism is associated not only with a susceptibility to disinformation about the war but also with a distrust of news and information about Russian aggression against Ukraine. Those who believe that everyone in the war is lying and spreading fake news identify strongly with the relativist view of the facts.¹³

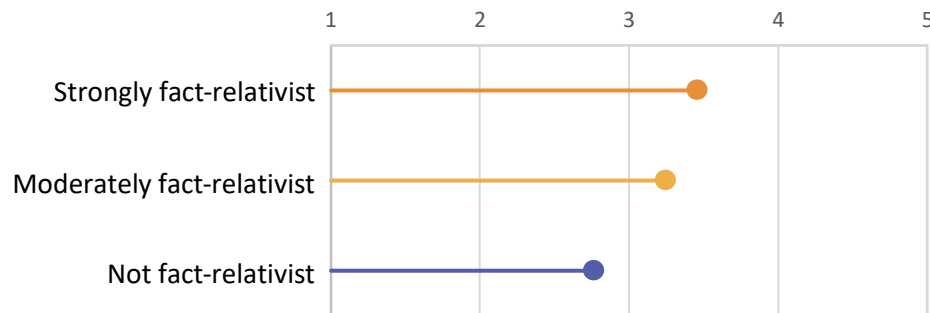
Furthermore, fact relativism makes them susceptible not only to geopolitical disinformation but also to less politicised health disinformation.¹⁴ The more strongly fact-relativist persons tend to

¹³ The Pearson-correlation between the factual relativism scale and the war-related item is +0.392. (p=0,000)

¹⁴ The Pearson-correlation between the fact-relativism scale and the vaccination item is +0.243. (p=0,000)

believe the claim – refuted in Lakmusz’s fact-checking (Teczár, 2023) – that Pfizer’s internal documents also prove that many people died from their coronavirus vaccine (See Figure 26). The spread of this piece of disinformation in the Hungarian public discourse was discussed in a previous think-tank report (Molnár, Surányi, Krekó, 2023).

26. FIGURE: THE SUSCEPTIBILITY TO DISINFORMATION ABOUT THE PFIZER VACCINE WITHIN THE FACT-RELATIVISM-SCALE GROUPS



Note: (based on the on perception of truth of statement of the statement: "Pfizer internal documents also show that many people have died from their coronavirus vaccine."; averages on a scale of 1: definitely not true to 5: definitely true)

5.2.4. Summary of the Hungarian results

In sum, it is clear that the acceptance of fact relativising views increases susceptibility to both conspiracies and Russian disinformation, as well as health fake news. Summary of the results In Hungarian society, factual relativism and distrust of news sources are relatively widespread. Two-thirds (67%) of Hungarian respondents fully or partly agreed with the statement that *"Many things that are quoted in the press as facts are really just opinions"* and 76 per cent agreed with the statement that *"We cannot be sure about what is reported as fact is true"*. Strikingly, 59 per cent of the respondents also agreed with the statement *"Objective reality does not really exist, there are only different opinions"*. Based on the aggregated answers to the five questions, respondents were divided into four groups. 36 per cent of the respondents were found to be strongly fact-relativist, and 38 per cent are moderately fact-relativist – which means that the overwhelming majority of Hungarians are strongly skeptical about the factuality of the information environment that surrounds them. Only 18 per cent firmly believe that facts can be known, and 8 per cent of the respondents could not be classified because they did not answer at least one item. Factual relativism is a hotbed of belief in conspiracy theories and fake news. According to our data, factual relativism is higher among believers of conspiracy theories and

geopolitical (e.g. Kremlin disinformation statements) and medical hoaxes (including conspiracy theories about vaccines). At the same time unrelated to age, education, and gender. Type of settlement makes some difference: people living in Budapest were less likely than those living elsewhere in the country to agree with relativist views of facts.

Factual relativism is party-independent and strong across all voter bases. Partisanship is typically a strong predictor of most opinions in Hungary, where tribal political cleavages are becoming deeper, and polarization is growing (Krekó, 2021). Critical views on facts and reality do not differ substantially among supporters of one party or another and thus do not reflect the political polarization that pervades domestic public opinion on most issues. Factual relativism is thus a phenomenon that cuts across socio-political fault lines, is widespread in Hungarian society and offers ample scope for manipulation.

The current information environment explicitly reinforces doubt about the facts. This phenomenon is clearly related to both the growing political divisions and propagandistic media environment dominated by government campaign narratives and to the nature of these crises – the COVID-19 pandemic, then Russia's invasion of Ukraine¹⁵ – which have allowed the public to experience the confusion that conflicting news and opinions can cause.

5.3. Comparative Results of a regional survey on truth relativism

We have conducted a comparative survey as well in 2024 before the European Parliamentary elections in four country: Hungary, Czechia, Slovakia, and Bulgaria, offering critical insights into how populations in these countries perceive the nature of truth and objective reality. The findings indicate significant differences in the levels of factual relativism, with Hungary displaying the highest susceptibility among the surveyed nations. We briefly summarize the results on Figure 27 below.

When it comes to belief in the Non-Existence of Objective Reality, Hungary was an outlier: In Hungary, 56% of respondents agreed with the statement that "objective reality does not exist; only different opinions do." In Czechia and Slovakia, the levels of agreement were considerably lower, at 36% and 30%, respectively. Bulgaria displayed intermediate levels, with 42% of

¹⁵ The survey was conducted before the attack of Hamas on Israel on 7 October 2023.

respondents agreeing with the statement, indicating a moderate inclination toward relativistic thinking compared to the Czech and Slovak populations but still significantly less than Hungary.

A strong majority in all countries expressed doubt about the truthfulness of information presented as factual. This reflects widespread mistrust in traditional and new media, creating fertile ground for disinformation to thrive. The survey highlighted that over two-thirds of respondents across all four countries agreed with statements that questioned the existence of objective truths, signaling a shared challenge despite regional differences in the intensity of factual relativism.

When it comes to socio-political correlates, Hungarian respondents' stronger belief in the absence of objective reality correlates with the country's higher acceptance of conspiracy theories and disinformation narratives, as identified in other parts of the survey. This suggests that a relativistic worldview may serve as a cognitive foundation for embracing misinformation.

Czechia and Slovakia, while showing lower levels of factual relativism, still demonstrate substantial skepticism, likely influenced by broader societal debates about trust in institutions and media reliability. The lower figures in these countries might also reflect a stronger tradition of critical thinking and higher resistance to state-sponsored narratives.

Bulgaria's intermediate position may be linked to its political context, where both Western and Russian influence shape media consumption patterns, potentially fostering a more relativistic view of truth.

27. FIGURE: TRUTH RELATIVISM: COMPARATIVE DATA FROM CENTRAL AND EASTERN EUROPE

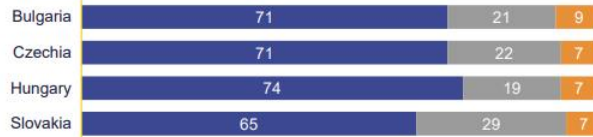
Objective reality does not really exist, there are just different opinions



Many things quoted as fact in the press are really just opinions



We cannot be sure that what is communicated as fact is true



- Skepticism toward facts and objective reality has reached alarming levels across all four countries.
- Hungary is the champion of factual relativism – deeply rooted in the mistrust of media.
- More than two-thirds of citizens in the four countries question the credibility of information presented as fact ("We cannot be sure that what is communicated as fact is true")
- This pervasive skepticism and pessimism create an ideal environment for disinformation and conspiracy theories to flourish and spread.

LEGEND: ■ Agree (strongly or rather) – ■ Neither agree nor disagree – ■ Disagree (strongly or rather)

This project has received funding from the European Union



6. Counterstrategies: debunking, prebunking, and prosocial wise interventions

In the previous chapters, I presented numerous evidence-based arguments illustrating why and how false beliefs can pose dangers at both individual and collective levels. Given the challenges posed by an increasingly disinformation-polluted environment, testing effective interventions has also become an essential task for scientists. This is not merely an altruistic endeavor; the “post-truth environment” and growing narrative polarization also erode public trust in science itself, having long-term implications, among others, on health and environmental policies (see for example: Goertzel, 2010; Lewanowsky and Oberauer, 2016).

There is numerous research on the functions and background motives underlying belief in conspiracy theories (Douglas et al. 2017) and also the negative consequences of conspiracy theories (Douglas et al. 2015). Also, we have more and more knowledge on the most practical implications of conspiracy theories: How they can be changed, debunked and modified. This chapter tries to systemically overview and summarise the most important research so far concerning the possibilities of changing conspiracy beliefs via targeted interventions. In this chapter, I will summarize and systematize the relevant behavioral science literature, without claiming exhaustiveness. I will embed the research I have undertaken and published in the taxonomy aimed to systemize the literature. Specifically, this chapter will address: 1) when interventions are justifiable and necessary, 2) the potential obstacles to interventions, 3) an own taxonomy on the counterstrategies 4) the most important findings to date on effective debunking strategies (the first four points are based on Krekó, 2018 and Krekó, 2020), 5) insights from our results summarized above on prebunking and debunking, and 6) findings from our own experimental research on interventions.

6.1. To Debunk or not to debunk? When interventions are justifiable and necessary?

There is consensus in the academic literature over the need for interventions. In this subchapter, we take a look at the epistemological, moral and democratic arguments on whether, and when,

we need to use interventions to address false beliefs. In the next chapter, we will also identify a broader avenue for future research.

The majority of the psychological research on conspiracy theories is based on the facts that most conspiracy theories are possibly harmful (van Prooijen, van Lange 2014; Douglas *et al.* 2015; van Prooijen 2018). However, before we jump into the practicalities of interventions and debunking, it is worth elaborating on the question of why and when interventions against conspiracy theories are needed and justified. We will consider three arguments why conspiracy theories and false beliefs may not always need interventions: the epistemic, the moral and the democratic argument. Based on these considerations, we identify the theories we think are the most important to get debunked.

1. *The epistemic argument.* As some philosophers argue, conspiracy theories can be, in some cases, accurate descriptions of events in the world since history is full of conspiracies and conspiratorial assumptions (e.g. Pigden 1995). Also, conspiracy theories can sometimes be the official explanation of events, as in the case of the Iraq War, where the *casus belli* was the alleged existence of weapons of mass destruction in Iraq. It proved to be false – raising a new suspicion of conspiratorial intentions of political leaders who might have been aware of their non-existence, but manipulated the public to reach their political goals (Coady 2006). Therefore, a priori rebuttal of conspiracy theories can be epistemically problematic. Also, a lack of convincing evidence is not necessary proof for their non-existence. “*Whatever we might think about conspiracy theories generally, there is no prima facie case for a scepticism of conspiracy theories based purely on their use of evidence*” (Dentith 2017: 1). Also, in some cases, we have some good reasons to question the knowledge that comes from traditional sources, especially when this ‘knowledge’ is still not rock-solid, and/or there is contradicting evidence on the field. As Uscinski (2018: 5) put it: “Our knowledge-generating institutions are not—nor should they be above suspicion or reproach”.

2. *The moral argument.* Some scholars who are more ‘empathic’ towards conspiracy theories argue that conspiracy theories are mostly beneficial, as they can foster more transparency via challenging the established social hierarchy as narratives of non-privileged groups (Fenster 1999; Clarke 2002), and challenge the ones who are abusing the power. Also, sometimes believers of conspiracy theories can embrace democratic principles, as it was found, for example, among the supporters of the 9/11 conspiracy theories in the UK (Swami *et al.* 2010). Conspiracy theories, according to this line of argumentation, can serve as alarm bells

and early warning systems (Uscinski 2018) and articulate some concerns of the ‘losers’ of the society (Uscinski *et al.* 2011).

3. *Democratic argument: Freedom of speech and pluralism.* The third line of arguments is based on the notion that conspiracy theories are a legitimate part of the democratic discussion and deserve defense as a form of free speech as ‘a crucial part of the marketplace of ideas’ (Uscinski 2018: 6.). According to this perspective, debunking and regulation might be problematic as a form of political suppression.

Of course, while some of these arguments contain valid points, interventions against conspiracy theories are still justified in most of the cases. But in which cases? I will argue that we can identify a sub-group of conspiracy theories that need to be challenged, taken into consideration the arguments above. The features of conspiracy theories that require urgent interventions share three characteristics: 1) harmfulness, 2) low plausibility and 3) high popularity and extensive presence in the society. However, not all of the three conditions should be fulfilled in order for an intervention to be justified. For example, ideologically fuelled conspiracy theories of terrorist groups legitimizing violence against the victims are rarely popular and omnipresent- especially in the democratic contexts. Still, they can be extremely harmful and need to be addressed by targeted interventions in vulnerable groups (e.g. disengaged minority youth). Also, theories that are non-plausible but popular should be debunked in some cases (even if not prohibited) if they are not directly harmful – e.g. the flat earth theory.

1. *Plausibility.* While conspiracies sometimes occur, most conspiracy theories are not the most plausible explanations of events (e.g. Aaronovitch 2010). Not every conspiracy theory is necessarily false, but most of them contain logical pitfalls and weaknesses. Although our ability to distinguish between true and false conspiracy theories is limited, many conspiracy theories fail to withstand even the most basic logical scrutiny. Basic formal logical analysis can help us to decide on the veracity of some conspiracy theories on an a priori basis or based on the available information (for an overview, see Coady 2006). Probably the most important logical fallacy behind conspiracy theories is that they assume that a massive conspiracy can take place and remain a secret at the same time. Along this line, Grimes (2016) made an estimation of how many people would need to have been involved in the plot to make some conspiracies happen and found extremely high figures: U.S. moon landings were a hoax (411 000 people); climate

change is a fraud (405 000 people); unsafe vaccinations are being covered up (22 000); the cure for cancer is being suppressed by the world's leading pharmaceutical firms (714 000 people).

2. *Impact.* Some conspiracy theories are harmless in themselves. For example, if one believes in lizard people, U.F.O.s, flat earth, the moon landing theory is fake – these beliefs (if not systemically connected to other conspiracy beliefs such as antisemitism– which is often the case (e.g. Falyuna, 2019, Allington et al., 2021) – are not necessarily causing any harm or manifesting in some problematic behavior. At the same time, we can say that believing in these theories can dramatically erode trust in public institutions (lizard men, moon landing hoax) or spread distrust in scientists (flat earth), which can be an important reason to counterargue and debunk them – without prohibiting these views. However, many well-known and relevant conspiracy theories are directly harmful – not only for the individual but for broader society, as has been found in many studies (for a summary, see Douglas *et al.* 2015).

Political conspiracy theories can lead to alienation, cynicism and political disengagement (Butler *et al.* 1995). Exposure to conspiracy theories decreases trust in governmental institutions, even if the conspiracy theories are unrelated to those institutions (Einstein & Glick 2015). Conspiracy theories not only can cause disenchantment with politicians, but also with scientists and scientific institutions (Jolley & Douglas 2014a). Scientific findings such as vaccination, that can prevent diseases such as measles, are even questioned by some conspiracy theories, and exposure to these conspiracy theories can lead to lower vaccination intentions (Jolley & Douglas 2014a). More generally, medical conspiracy theories can lead to irrational health behaviour that shortens or terminates lives (Oliver & Wood 2014). Conspiracy theories about the H.I.V. virus (e.g. that it was created in governmental laboratories) can lead to reduced condom use as both are associated with the same belief of genocidal intentions against blacks by the U.S. government (Bogart & Thorburn 2005), therefore raising the chance of H.I.V. infection and unintended pregnancy. Also, conspiracy theories about climate change, such as that global warming is a hoax, can discourage steps to reduce one's carbon footprint (Jolley & Douglas 2014b; Van Der Linden *et al.* 2015). There may also be a more general 'conspiracy effect' such that exposure to conspiracy theories decreases pro-social behaviour and acceptance of scientific findings (Van Der Linden 2015). Conspiracy theories against Jews are the most important predictor of negative behavioural intentions towards them (Bilewicz *et al.* 2013). Conspiracy theories against outgroups can also serve as

‘radicalization multipliers’ (Bartlett, Miller 2010) and encouraging ‘apocalyptic aggression’ towards outgroups that seem to pose a danger (Berlet 2009).

Many conspiracy theories that are popular and not so plausible can still be harmful as well. For example, ‘global warming is a hoax’ theories that discourage efforts to save the environment as well as decreasing trust in science, are shared by 37 per cent of the U.S. electorate, and more than 60 per cent of the Republican voters in the U.S. (Jensen 2013).

While conspiracy theories are often a stigmatized form of knowledge (Barkun 2003), in many cases the stigma is justified. Popular conspiracy theorists and superspreaders of anti-science, anti-democratic conspiracy theories such as Alex Jones provide very few arguments regarding when these theories should be defended, as they are epistemically wrong, morally malevolent, and pose a danger to democratic systems.

3. *Popularity*. Any countermeasures towards conspiracy theories should mainly target the popular theories that are shared by a significant portion of society, for two simple pragmatic reasons. First, popular theories are more likely to lead to negative consequences (see above). Second, refuting less well-known theories can have a countereffect: Making the previously unknown theories more known and popular. The popularity of conspiracy theories is sometimes the result of their political manufacturing. Conspiracy theories these days are not necessarily the ‘theories of losers’, but official or semi-official narratives of events that are spread by non-democratic actors. We can see current examples in Turkey, Russia, and North Korea, but also Poland and Hungary (for an overview, see Echeverria et al., 2025) . Conspiracy theories are spread by powerful actors such as Russia, using all the resources of the state (e.g. Yablokov 2015, 2018). Conspiracy theories exploiting a victim identity are disguised to be the tools of the weak and oppressed and are often dangerous tools in the hands of the strong and powerful. Solidarity with the powerless therefore should not translate to solidarity with conspiracy theorists.

Based on the summary above, when we talk about counterstrategies and debunking, we will mostly focus only on the theories that fit all the three conditions set above, so the claims that are non-plausible, harmful and popular at the same time. As we see from the list above, this is still a very broad category within conspiracy theories.

6.1. Obstacles to interventions: the persistence of false beliefs

It is easier to spread conspiracy theories than to refute them. Conspiracy theories have a strong functional basis: They can serve epistemic, existential, social motives at the same time (Douglas et al. 2017). Therefore, even if conspiracy theories are sometimes self-defeating forms of motivated cognition, their refutation is often extremely difficult. We can mention at least seven important psychological obstacles when we would like to debunk, or change, false beliefs. These factors should be taken into consideration when tailoring counterstrategies.

1. *The resistance of conspiracy theories to factual information.* Conspiracy theories are often nonfalsifiable (Keeley 1999; Uscinski & Parent 2014), as they are referring to invisible, secret, dark dealings behind the curtain. Therefore, the invisibility of the conspiracy is frequently used as an argument for its success and its existence. Furthermore, refuting attempts are often incorporated in a ‘metaconspiracy theory’: The belief that people and institutions who try to debunk conspiracy theories may, themselves, be part of the conspiracy (Lewandowsky et al. 2015, 2013). Disconfirming evidence (e.g. scientific findings) can therefore be regarded as products of a conspiracy. Given that traditional knowledge-producing institutions are perceived as part of the ‘establishment’, their arguments are particularly easy targets for conspiracy theorists. But this principle is not universal: the resistance to factual information is mainly an obstacle to changing the minds of the ones who already have very strong conspiracy beliefs: the ‘true believers’.
2. *Lingering effect of misinformation: ‘mud sticks’.* As Ecker et al. (2017) found, even after careful and repeated counter-argumentation, the original information still leaves traces on people’s attitudes, as the cognitive representation does not disappear from memory. Therefore, there is no such thing as perfectly refuted misinformation. This is a strong argument for interventions aiming to prevent any exposure to conspiracy theories (see below).
3. *The sleeper effect.* As was found in early persuasion research and then confirmed by more recent metanalytic overviews (Kumkale & Albarracín 2004), if the information comes through with some discounting cue (e.g. the messenger is a highly unreliable source), it will still have an impact on the attitudes of the recipient. Furthermore, as time

passes, the discounting cue, that is the ‘tag’ of lack of credibility, can gradually disappear from the original information. Therefore, the information prevails without the warning sign of non-credibility. It can be especially important in the case of fake news and conspiracy theories that mainly originate from highly unreliable sources. Even if the person is aware of the tainted nature of the source, the fake information can prevail in memory while the information of the source fades away. The cure for this problem could be to focus more on the content of the conspiracy theory than the source during the interventions, or to repeat the disconfirming information.

4. *Familiarity Backfire Effect.* In order to debunk a belief, one has to repeatedly mention it. However, this can have an unintended effect: The debunking effort itself can strengthen the belief by increasing its familiarity through mere exposure. Or, in the case that the belief was unknown, the debunking can spread the belief (Cook & Lewandowsky 2011). In the case of conspiracy theories, this question can be particularly relevant given that some conspiracy theories are rather unknown. To avoid the trap of unintentionally spreading conspiracy theories, we should therefore very carefully evaluate each conspiracy theory to determine if it deserves refutation or not. If a theory is not widespread (see popularity as a precondition above), or because of its weak presence in the public is therefore probably not highly accessible, debunking can do more harm than good.
5. *Reactance.* Individuals tend to reject persuasion efforts if they feel that the messenger wants to limit their personal freedom of opinion or limit their behavioral alternatives (Miron & Brehm 2006). The result can be an even stronger embrace of this particular belief to prove that the individual makes sovereign decisions. This danger is also particularly apparent when it comes to conspiracy theories, as it is difficult not to formulate the debunking message as ‘lecturing’ that comes from the position of a kind of intellectual authority. Too intense, propagandistic counter-messaging can lead to stronger reactance.
6. *Identity and motivated reasoning.* It is difficult to refute group-based beliefs on the level of the individual. This is what Cook and Lewandowsky (2011) call the ‘Worldview Backfire Effect’. While most of the debunking and counter messaging efforts focus on refuting conspiracy theories as a form of ‘crippled epistemology’ and assume that

providing adequate information is the cure, this ‘information deficit model’ is often totally insufficient, as conspiracy theories can be deeply rooted in group identities and a wider set of beliefs. Given that conspiracy theories are forms of ‘motivated collective cognition’ (Krekó 2015), they can serve important advantages for the ingroup, such as raising collective self-esteem, putting the blame on external actors and strengthening ingroup identity via self-victimization. Also, more intense communication of a position can lead to a boomerang-effect via further polarizing opinions about an issue, and just strengthening the beliefs of conspiracy theorists – as it was found in the case of climate change (Hart & Nisbet 2012).

7. *True believers and vulnerable groups.* Connected to the previous point, conspiracy beliefs of ‘true believers’ (the ones for whom conspiracy beliefs constitute a strong, central part of their belief system) are more difficult to change. Generally, more central, extreme and polarized attitudes are resistant to change (Banas & Miller 2013). Also, conspiracy theories are frequently strongly connected to extreme political positions that are strong and stable (van Prooijen et al. 2015). Furthermore, some social groups are traditionally more receptive to conspiracy theories than others, notably low-status groups, minority groups, and groups with lower levels of education. These groups can be logical targets of interventions, especially immunization – but the problem is, they are more difficult to reach via institutions. The problem of ‘true believers’ and vulnerable groups can be especially acute when dealing with demand-side solutions (see below).

6.3. A taxonomy of interventions and counterstrategies

While there is abundant research on what induces conspiracy theories, the literature on how to reduce them is thinner. Given this limitation, in the section below I try to give a theoretical framework for the possible tools for debunking conspiracy theories, and also highlight some experiences beyond the strictly academic literature. According to this simple framework, every intervention aimed to counter conspiracy theories can be put on a two-dimensional matrix. The first dimension is temporal: does the intervention take place before the person meets with the conspiracy theory (prevention), or does it target a belief that the person has already encountered (harm reduction)? The second dimension deals with the target of the intervention: is it the messenger/source of the information (supply side) or the recipients of the intervention (demand side)?

This 2x2 matrix gives us four possible options: (1) the intervention takes place before the spread of the message, and targets the supply side (pre-emptive strike); (2) it takes place before the dissemination, but targets the recipient (immunisation) (3); it takes place after the message was spread and targets the source, (striking back); or (4) it takes place after the dissemination but targets the recipient (healing). The matrix of the theoretical interventions can be found in the table below (Figure 28).

28. FIGURE: THE MATRIX OF POSSIBLE INTERVENTIONS AGAINST CONSPIRACY THEORIES AND DISINFORMATION (BASED ON KREKÓ, 2020)

	Supply side (targets the source of information)	Demand side (targets the recipients)
Prevention (before meeting with conspiracy theories)	Preemptive strike (e.g. removal)	Immunisation (e.g. inoculation)
Harm reduction (after meeting with conspiracy theories)	Striking back (e.g. labelling the content as disinformation)	Healing (e.g. debunking)

In the next subchapter, we go through these interventions one by one, evaluating them in the light of the academic literature and experiences with interventions from outside the academia.

Exposure to conspiracy theories is an important predictor behind such beliefs (Swami et al. 2010). Also, as discussed above, conspiracy theories are difficult to refute after the person is exposed to them.

Furthermore, conspiracy theories have a hidden impact on the recipients' attitudes and behavior (Douglas & Sutton 2008). That is, they can influence people without them even knowing that they have been influenced. For these reasons, preventative interventions, when possible, are better than focusing on harm reduction. Therefore, we start our discussion with the preventive strategies.

6.4. Empirical research and practical experiences on interventions

6.4.1. Immunisation

‘Theories of conspiracy represent a permanent temptation for us all’ (Groh 1987). Interventions focusing on immunisation aim to shield the audience with the necessary cognitive, emotional or motivational skills to resist this temptation. However, while it sounds like the ‘magic wand’ solution against conspiracy theories, it is not: People are often motivated to accept conspiracy theories and this is especially the case for some more vulnerable groups (see the ‘difficulties we face when debunking conspiracy theories’ above). Still, immunization has been found to be successful in many cases. It can be general, aimed at reducing the general receptivity to conspiracy theories; or particular, focusing on specific beliefs.

Given that conspiracy thinking is often a result of a lack of logical thinking (e.g. Sunstein, Vermeule 2009), a general way of reducing the receptivity to conspiracy theories in advance can be the improvement of logical, analytic thinking. Swami et al. (2014) found that verbal fluency and cognitive fluency tasks eliciting analytic thinking reduced belief in conspiracy theories and conspiracist ideation.

Targeting the root causes of conspiracy theories can be another efficient approach for reducing conspiracy beliefs. While certain personality traits, social status or minority status are difficult or impossible to change, reducing feelings of uncertainty, mistrust, powerlessness, and lack of control, which are found to be important factors that enhance conspiracy thinking, seems to be a possible way (Hamsher et al. 1968; Mirowsky & Ross 1983; Abalakina-Paap et al. 1999; Imhoff & Bruder 2014; Newheiser et al. 2011). While using interventions that reduce powerlessness and uncertainty on a social scale might sound naïve and utopian, interventions in organizations might have a positive effect on trust and feelings of control that reduce conspiracy theorizing (Kramer 1999; van Prooijen & de Vries 2016; Douglas & Leite 2017). To be more specific about re-building feelings of control, we can think about reversing one important scientific finding. Specifically, many studies have found that it is easy to induce conspiracy thinking by recalling personal experiences where people failed to exercise control and therefore felt uncertain (Whitson & Galinsky 2008; Sullivan et al. 2010; van Prooijen & Acker 2015). Recalling experiences of successfully controlled events, on the other hand, might strengthen the feeling of self-efficacy and might contribute to reducing conspiracy ideation.

Also, a less self-evident specific way of immunization against false beliefs and conspiracy theories can be the deliberate ignorance of false information to avoid its impact on our thinking (Hertwig & Engel 2016). It is a bit counterintuitive as our post-enlightenment ideals may suggest that knowing more is always better than knowing less. However, tactical avoidance of false information can protect the person from the inevitable impact of blatant lies, false information and conspiracy theories. The problem is, though, that this is very difficult to do, given that some popular conspiracy theories in politics (such as climate scepticism, Pizzagate, 9/11) surround people in the ‘populist zeitgeist’ (Mudde 2004) they live in and people can only avoid meeting them if they totally close their minds to political information in general.

Immunization can also be specific, targeting particular conspiracy beliefs. Preliminary warning seems to be an efficient solution for raising awareness about the possible misleading nature of the information that the individual is going to encounter. As Cook and Lewandowsky (2011) propose, any mention of false information should be preceded by warnings to notify the audience that the upcoming information is not true. Similarly, inoculation strategies that present weak arguments of the conspiracy theory in advance, in order to raise the attitudinal immune system of the person against such threats in the future, have been found efficient in the case of misinformation on climate change (Cook et al. 2017). Jolley and Douglas (2017) found inoculation an effective tool against anti-vaccination theories, underlining that the counterargument is efficient only when presented before meeting with misinformation. Banas and Miller (2013) also found that inoculation strategies can be effective in creating resistance to conspiracy theory propaganda, with fact-based (vs. logic-based) treatment being the most effective. However, this latter study also revealed that inoculation is a double-edged sword that can be a dangerous weapon in the hands of conspiracy theorists as well. The positive effect of inoculation can be significantly diminished if it is used against the inoculated arguments, and therefore it can defend the original conspiracy theory (called meta-inoculation). Inoculation is also frequently labelled as ‘prebunking’ expressing that it aims to refute the belief in advance, and has been found efficient in improving identification of, and resistance against, manipulation tactics even in the form of short videos (Roozenbeek et al., 2022).

6.4.2. Pre-emptive strike

Pre-emptive strikes against conspiracy theories aim to target the source of misinformation in order to reduce the chance that the target audience will encounter the undesirable piece of information. If this measure is successful, the piece of information will have no impact at all. The most obvious – but, at the same time, morally and technically most problematic – way of

doing so is the removal of the harmful content or banning the source of misinformation from certain platforms. Especially after 2016 (the Brexit referendum and the U.S. presidential election campaign), social media companies came under increasing pressure to step up more harshly against disinformation, including conspiracy theories. Still, any specific strategy is controversial, and whilst some argue that social media companies are doing nothing, or not enough, against this challenge (e.g. Applebaum 2019), others argue that social media companies already poses an existential threat to freedom of speech (French 2019).

When it comes to the most popular social media platforms, Facebook's community standards (Facebook 2019) reserve the right to remove 'objectionable content': Hate speech, content that 'glorifies violence or celebrates the suffering or humiliation' or is 'cruel or insensitive'. Conspiracy theories that fall within these categories are often also targeted for removal. For example, in 2019, Facebook removed, among others, the profile of well-known conspiracy theorist Alex Jones, claiming that they remove sites that 'promote or engage in violence and hate, regardless of ideology' (Salinas 2018). Twitter made a similar decision, along with some other social media providers in 2016 (Salinas 2018).

Another typical reason for removal of sites that are spreading conspiracy theories can be malign foreign influence, and especially interference into elections. For example, in June 2019, Twitter announced that it banned almost 5000 accounts that it thought to be associated with foreign governments, claiming that Twitter has a responsibility to hamper 'attempts to manipulate TWITTER to influence elections and other civic conversations by foreign or domestic state-backed entities' (Roth 2019). Following a similar logic, Twitter banned the advertisements of Russian propaganda channels RT and Sputnik that are spreading conspiracy theories on an industrial scale (see for example Yablokov 2018), referring to the assessment of the U.S. intelligence agencies that they aimed to influence the result of the 2016 U.S. presidential elections (Twitter Public Policy 2017). This is also an important step, as no advertisement can substantially reduce the ability of these accounts to reach the target audience.

Facebook's new – and probably most fruitful – attempt is to 'bury' disinformation instead of 'banning' it – which means, significantly downplaying the chance of 'low quality' content appearing in one's News Feed or searches. This occurs through changing the algorithms. Pages that contain malicious or deceptive advertisements can be significantly downgraded (Facebook Business 2017). Facebook, at the same time, have a targeted policy against anti-vaccination sites that are often spreading conspiracy theories about the malicious impact of the vaccinations

(Bickert 2019). Fight against anti-vaccine misinformation contains the following specific steps: Reduction of ranking of groups and pages that spread misinformation about vaccinations in news feeds and searches; rejecting advertisements that spread misinformation about the vaccines, removing related targeting options and disabling accounts that violate these policies. Of course, such interventions are the targets of intense political, moral and legal discussions (see, for example, Wood and Ravel 2017). Also, it is not only the social media companies that are exposed to such controversies: The French ‘fake news law’ was passed in 2018 (Young 2018) as a reaction to the wave of disinformation during the 2017 French presidential election campaign (Ferrara 2017).

A possible tool for journalists can be the ignorance of the source of disinformation and avoid covering disinformation pieces (see, for example, Hellman and Wagnsson 2017). This is what the French press did during the last phase of the French presidential election campaign in 2017. When President Macron’s emails were leaked, the mainstream press refused to cover the content, and instead focused on the fact that hacking was used as a part of the influence operation, ignoring the content of the hacked material (Prior 2017, Lewandowsky 2019).

Based on the research above suggesting that conspiracy theories leave a trace on the psychological processes of the individual, these pre-emptive strike approaches, from a merely practical point of view, can be the most efficient. However, these measures, obviously, can backfire. This is especially the case when it comes to conspiracy theories since the advocates of these theories can only feel assured that their theories about ‘global censorship’ of information are correct. Of course, most interventions do not focus on the ‘true believers’ but the general public, and less access to conspiracy theories can lead to less advocates of conspiracy theories. The moral and legal implications of content moderation though are numerous and complex, and goes beyond the scope of this paper.

6.4.3. Healing

If the target audience has already encountered messages of false content, one possibility is to try to minimize their negative impact. The most obvious form is debunking the arguments of the conspiracy theories in the hope that it will discredit them in the eye of the observer. In an experimental research, Orosz, Krekó et al (2016) found in experimental research that rational and ridiculing arguments were effective in reducing conspiracy beliefs (with modest effect sizes), whereas empathizing with the targets of conspiracy theories had no effect. Individual differences played no role in the reduction of conspiracy beliefs, but the perceived intelligence

and competence of the individual who conveyed the conspiracy belief contributed to the success of reducing beliefs. Considering these results and previous studies focusing on the benevolent effects of analytic thinking (Swami et al. 2014), and fact-based inoculation (Banas, Miller 2013) in reducing conspiracy beliefs, we can assume that uncovering arguments regarding the logical and factual inconsistencies of conspiracy beliefs can be an effective way to discredit them. This statement goes against the mainstream of the communication literature and the notion of ‘post-truth’ in which emotions trump all other factors. One possible explanation why rationality might have a bigger impact on shaping (sometimes irrational) beliefs than previously expected might be that, in the current communication environment, people are overloaded with emotional messages coming from advertisements, and political and social campaigns, and therefore rational and factual arguments have more informational value.

According to Cook and Lewandowsky (2011), efficient debunking requires three major elements. First of all, refutation must focus on the facts instead of the myth or false belief to avoid the misinformation becoming more familiar. Second, mentions of the false information should be preceded by warnings to notify the audience of the falseness of the upcoming information. Third, refutation should include an alternative explanation. Finally, to avoid the ‘overkill backfire effect’, that the refutation fails to persuade the audience because of too many counterarguments, less but strong arguments are usually more efficient than more but weaker arguments. Conspiracy theory-related metacognition can also be an efficient tool in diminishing the impact of such beliefs. Conspiracy exposure increases conspiracy beliefs and reduces trust, but asking about the beliefs that the recipient just heard facilitates additional thinking about the conspiracy claims and can soften or even reverse the effect of exposure on the conspiracy beliefs and their impact on trust.

One other possible solution is ‘cognitive infiltration’ (Sunstein & Vermeule 2009), that, according to its proponents, can be an efficient tool for breaking up the closed epistemic universe of ‘the hard core of extremists’. However, this also entails deceptive behavior: government agents or their allies (operating either virtually or in physical spaces, and either openly or anonymously) disrupt the ‘crippled epistemology’ of believers by instilling doubts about the theories and ‘stylised facts’ prevalent within such groups, thereby fostering beneficial cognitive diversity (Sunstein & Vermeule 2009).

While sowing the seeds of doubt can in itself bring beneficial effects, this idea had mixed reception at best. The fact that a former media advisor to President Obama proposed that the state interferes into private discussions served as a proof for the worst nightmares of conspiracy theorists, and inspired books as well, painting a dystopic future for opponents and critics of the US administration (Griffin 2011). Also, of course, diversity of views is not enough in itself: In order for any messenger to challenge the attitudes of a group, they should affirm other beliefs of that individual or group or the values or position of the group, to gain more sympathy for any attitude change (Sherman & Cohen 2006; Feygina et al. 2010; Sunstein 2014; Wolsko et al. 2016).

6.4.4. Striking back

Interventions that target the source of information after the encounter with the message is not necessarily the most promising approach. Measures of removing certain social media profiles and networks because of their interference into the U.S. election (as it happened repeatedly after 2016, Clune, C., & McDaid, E. (2024). are following this kind of ‘retaliatory’ logic, but we discussed them under the ‘pre-emptive strike’ solution because the real function of these measures is not to do harm for the source of the message after the damage is done, but to prevent further damage for other recipients. Discrediting the source of the information to do reputation damage fits in this logic, but according to the research on ‘sleeper effect’ (see above), this approach is not necessarily useful.

The logic of ‘tagging’ false or unreliable information on social media sites (see Clayton et al., 2023) in order to undermine the credibility also follows the logic of ‘striking back’ The recipients become aware of the fact that this information was categorized as nontrustworthy by either other users or fact-checkers. Unfortunately, tagging items does not necessarily reduce their reach, and can rather trigger the opposite effect, especially as tagging can be perceived as the cue for credibility by the “True Believers” of conspiracy theories. Practical experience by Facebook in cooperation with certified fact-checkers has shown that this tool can backfire and tagging certain articles as ‘disputed’ can only boost the interest towards them. As the author of a misinformation piece told the Guardian: *‘A bunch of conservative groups grabbed this and said, “Hey, they are trying to silence this blog – share, share,” (...) With Facebook trying to throttle it and say, “Don’t share it,” it actually had the opposite effect.’* (Levin 2017). At the same time, tagging is not always unsuccessful in raising skepticism towards the information provided. It was found, for example, that tagging messages as advertisements can decrease their persuasive impact. While consumers rarely notice the promotion on the tweets, tweets promoted

by a political party increased recognition of the advertisement and thus reduced behavioral intention, increased scepticism and negatively affected the source and also the attitudes. This effect, however, was not present for corporate brands (Boerman & Kruikemeier 2016).

Fact-checking is an extensively used tool to undermine epistemologically flawed information – a tool that can be used against conspiracy theories as well. Existing sites such as snopes.com, euvidisinfo.eu, stopfake.org, or lakmusz.hu in Hungary debunk a lot of conspiracy theories and disinformation. Fact-checking services can be used to filter and remove news that contains false information or to make consumers realize that what they have encountered is false. The efficiency of fact-checking sites is the subject of debates. Ecker et al. (2017) found that retractions based on fact-checks (especially ones that explicitly repeated the misinformation) were efficient in reducing misinformation effects. At the same time, however, fact-checking efforts mostly reach the higher educated and the better informed, and trust in fact-checkers is not even on the political spectrum: Democrats, for example, tend to trust more in fact-checkers than Republicans (Nyhan & Reifler 2015). Also, not surprisingly, voters selectively share fact-checking messages that are beneficial for their own candidate and the opposing party's candidate (Shin & Thorson, 2017), which seriously limits the opportunities of objective fact-checking. This is especially true for voters with strong partisan views. An examination of Twitter networks found that moving from the periphery to the core of the network, fact-checking nearly disappears and spreading low credibility information becomes the default (Shao et al. 2018).

A different approach that can be highly successful is “demonetization”: cutting the financial resources of conspiracy websites via warning the social media advertisement companies not to channel advertisement to these sites. Konspiratori.sk first published a list of conspiracy websites spreading harmful content (Čížik 2017). Webpages spreading fake news often generate income by selling advertising space (see also: Falyuna and Krekó, 2023, for a Hungarian research), thus konspiratori.sk tries to make advertisers aware and help them to prevent their advertisements appearing on such websites.

6.5. The implications of empirical research so far on countermeasures

The empirical research in the chapters above that we conducted or contributed to already had some implications for possible strategies countermeasures and interventions against disinformation. Below, we briefly highlight some of these practical implications without the need for exhaustiveness before introducing the interventions that we ourselves have planned and elaborated.

6.5.1. Culturally sensitive approaches

The research of Adam-Troian et al. (2021) indicates that interventions to reduce conspiracy beliefs may benefit from culturally sensitive approaches, such as promoting critical thinking in collectivist societies through priming individualistic goals or fostering social cohesion in high-masculinity cultures. The study found a significant influence of masculinity and collectivism in shaping conspiracy theories. If collectivism serves as a key driver of CTs, interventions focused solely on enhancing analytical thinking might falter in culturally adverse contexts. Such interventions could be more effective if paired with strategies that prime individualistic values, like fostering moralized rationality for oneself, which has been shown to reduce endorsement of conspiracy theories.

Similarly, if masculinity's association with conspiracy theory is linked to increased competitiveness, interventions aimed at fostering social cohesion may provide indirect benefits. Initiatives promoting group activities, intergroup contact, or the cultivation of prosocial traits among targeted audiences could help mitigate the spread of CTs by addressing the underlying cultural and psychological dynamics.

6.5.2. Critical evaluation of resources and systemic processing in media literacy education

The research by Faragó, Kende, and Krekó (2019) emphasized the importance of the credibility of the source. The findings of that study suggest that media consumers draw conclusions about the credibility of a source based on how well the information aligns with their expectations: partisan voters found news sources credible when they received favorable “pipedream” (fake)

news from them. This also implies that voters tend to automatically trust sources that confirm what they want to believe.

Therefore, efforts to improve media literacy should focus on enhancing the critical evaluation of sources rather than merely debunking content. By fostering greater awareness of cognitive biases, encouraging systematic processing, and identifying the sources of bias, the credibility of political "pipedream" news could be diminished. Interventions can help individuals navigate complex information environments more effectively.

Future initiatives should prioritize fostering critical thinking and promoting trust in credible sources to mitigate the impact of fake news. Additionally, by addressing the root causes of susceptibility to misinformation—such as partisan biases and economic grievances—policymakers and educators can contribute to creating a healthier information ecosystem.

6.5.3. Debunking without targeting the root causes

As the study of Krekó et al. (in press) found, conspiracy theories about the covid might open a gateway towards other conspiracy theories (e.g. on the Russo-Ukraine war). The traditional “vertical”, deductive approach of conspiracy theories suggest that debunking simply makes no sense „*To the extent that COVID-19 CTs—even contradictory ones—form a monological belief system organized by above, attempts at debunking them individually will likely fail. A more effective approach may be to tackle the higher-order needs/beliefs that give rise to the belief system in the first place.*” (Miller, 2002). But, as our findings suggest, if conspiracy theories are positively connected and can spread “horizontally” as well, debunking specific conspiracy narratives in a targeted manner (e.g., through fact-checking of conspiracy statements) can be similarly important as targeting “root causes”, the abstract background factors of disinformation and conspiracy theories such as mistrust, disillusionment, or feeling of lack of control (see for example Hornsey, Fielding, 2017). Therefore, targeted interventions debunking specific conspiracy theories should be taken seriously as an important tool against dangerous conspiracy theories even if they do not target the “root causes”. Also, our findings-raise questions about the universality of such “root causes” of conspiracy theories - such as mistrust, as we found that belief in some conspiracy theories are positively correlated with trust in domestic media. Therefore, we have to abandon the “on-size-fits-all” approach and call for a more nuanced, context-specific and sophisticated methodology, including targeted interventions against specific conspiracy beliefs.

6.5.4. Interventions targeting the politically vulnerable groups in heavily polluted information environments

The study, of Faragó, Krekó and Orosz (2023) underscored the importance of interventions aimed at enhancing digital literacy and critical thinking skills. Tailored programs targeting pro-government voters could help mitigate the effects of disinformation, particularly in politically polarized societies. Additionally, promoting diverse media consumption habits may counterbalance the influence of state-controlled narratives.

6.6. Experimental findings: debunking and prosocial wise interventions

This subchapter provides a concise overview of our experimental research on the effectiveness of interventions. It includes a study on debunking conspiracy narratives through various communication strategies, as well as a series of prosocial wise intervention experiments that demonstrated success in enhancing the ability to identify fake news and differentiate it from real news. Lastly, we will highlight key psychological and sociological characteristics of adolescents for whom our interventions were particularly effective and who seemed to be less vulnerable to deception.

6.6.1. Reducing conspiracy beliefs through ridiculing and rational arguments

Our first experiment on interventions (Orosz, Krekó, Paskuj, Tóth-Király, Bóthe, Roland-Lévy, 2016) examined effective strategies for reducing conspiracy beliefs. We tested three strategies: rational argumentation, ridicule, and empathy toward targets of conspiracy theories.

The study involved an online experiment with an extensive Hungarian sample of 813 participants. After excluding participants who did not complete the experimental conditions, the final sample consisted of 709 individuals aged 18 to 75. During the experiment, participants listened to an audio recording that presented a "super-conspiracy theory," integrating several common themes, such as Jewish world domination, Hungary's victimization by global financial powers, the European Union's alleged dysfunctionality, and bankers exploiting the Hungarian economy. This super-CT aligned with key characteristics of conspiracy theories, including the belief that "nothing happens by chance," "nothing is what it seems," and "everything is

interconnected." After listening to the initial recording, participants rated their acceptance of the CT on an eight-item scale.

Participants were then randomly assigned to one of four conditions: rational arguments, ridicule, empathy, or a control condition. In the rational condition, the counterarguments focused on logical inconsistencies in the CT narrative, presenting factual evidence and numerical data to challenge the claims. The ridicule condition targeted the irrationality of CT believers, emphasizing the absurdity of their beliefs and increasing the social distance between participants and CT proponents. The empathy condition sought to humanize the targets of CTs, emphasizing shared experiences and common humanity, while also challenging the tendency to demonize specific groups. The control group listened to a neutral weather forecast unrelated to CTs.

The study used a variety of tools to assess the effectiveness of these strategies:

1. **Conspiracy Assessment Tool (CAT):** This eight-item scale measured participants' agreement with specific conspiracy narratives related to Hungary, Jews, the EU, and bankers. Participants also rated their general acceptance of CTs and the perceived intelligence and competence of the speaker delivering the counterarguments.
2. **Conspiracy Mentality Questionnaire (CMQ):** This scale measured participants' general predisposition toward conspiracy ideation.
3. **Big Five Personality Inventory:** Personality traits like openness, agreeableness, and emotional stability were measured to examine potential moderating effects.
4. **Social Desirability Measures:** The Balanced Inventory of Desirable Responding (BIDR) assessed participants' tendencies to present themselves in a socially desirable manner.

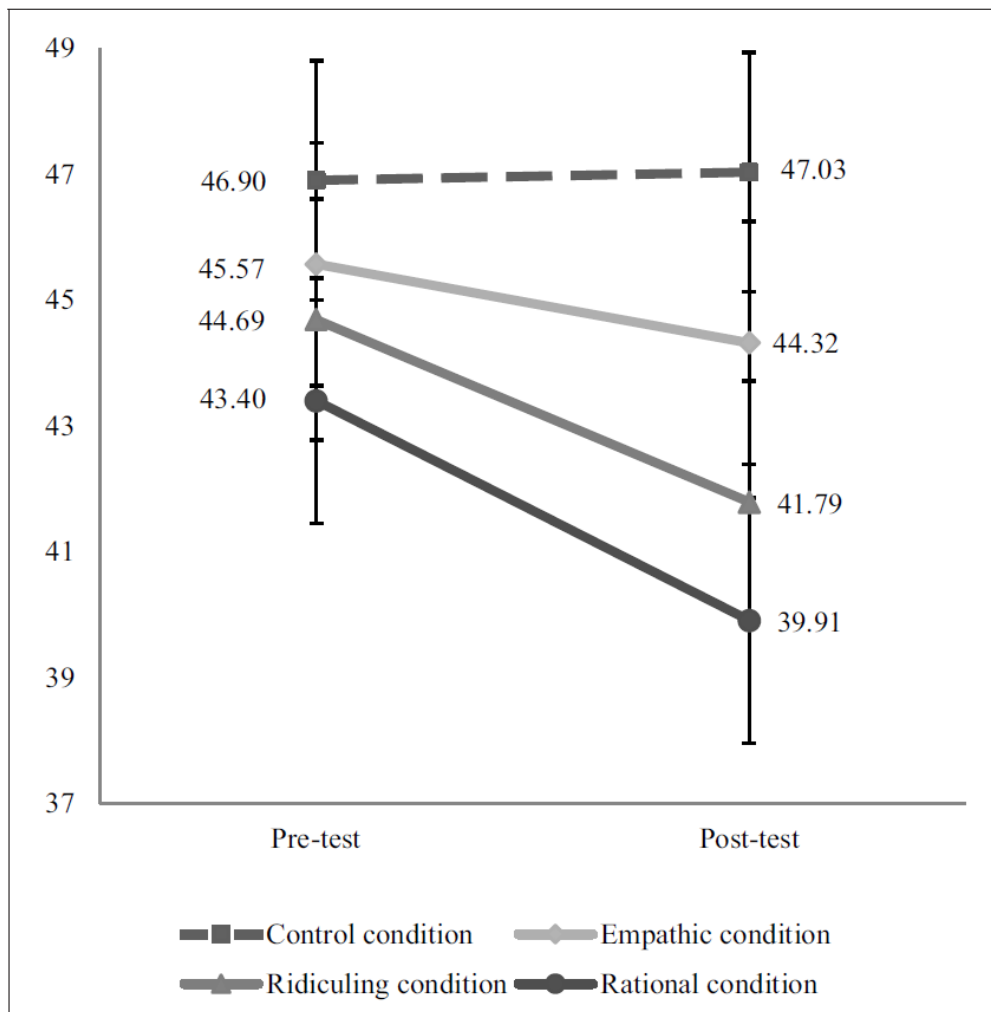
The results showed significant differences in the effectiveness of the three strategies (See Figure 29 below).

Rational Argumentation: This approach proved most effective in reducing CT beliefs. By pointing out logical flaws and inconsistencies in the CT narrative, the rational arguments prompted participants to reconsider their beliefs. The success of this strategy aligns with cognitive theories of belief change, which suggest that challenging the perceived coherence of a belief can lead to its modification. Rational argumentation also

appeared less confrontational than ridicule, making it more palatable for participants with pre-existing conspiracy beliefs.

- **Ridicule:** Ridiculing CT believers also reduced belief levels, albeit to a slightly lesser extent than rational argumentation. This strategy worked by increasing social distance from CT believers, leveraging participants' desire to avoid association with irrational or absurd groups. The approach created cognitive dissonance between participants' self-concept as logical individuals and the irrationality associated with CT belief systems.
- **Empathy:** Contrary to expectations, the empathy condition had no significant effect on reducing conspiracy beliefs. Previous research suggested that perspective-taking can have mixed results, it can even induce stronger conspiratorial thinking (Van Prooijen & Van Dijk, 2014). This study found that deeply entrenched conspiracy beliefs, particularly those tied to participants' immediate sociopolitical context, were resistant to empathic appeals. Empathy might be more effective for less entrenched or emotionally charged conspiracy theory.
- **Control condition:** As expected, the control group showed no significant change in CT beliefs, underscoring the effectiveness of the rational and ridicule conditions.

29. FIGURE: CONSPIRACY ASSESSMENT TOOL POINTS BEFORE AND AFTER LISTENING TO AUDIO EXCERPT RELATED TO CONSPIRACY THEORY REDUCTION IN EACH CONDITION (OROSZ, KREKÓ, PASKUJ, TÓTH-KIRÁLY, BÓTHE, ROLAND-LÉVY, 2016).



The study also revealed the importance of the perceived competence and intelligence of the speaker delivering the counterarguments. Participants were more likely to reduce their conspiracy beliefs when they perceived the speaker as knowledgeable and credible. Interestingly, individual differences in personality traits, conspiracy mentality, and social desirability had minimal influence on the effectiveness of the interventions. This suggests that situational factors, such as the quality of the arguments and the characteristics of the speaker, play a more critical role in belief change than stable individual differences.

Our findings challenge the prevailing assumption that CTs are entirely resistant to rational argumentation. While CTs are often described as self-sealing systems that dismiss disconfirming evidence, this study demonstrates that well-structured logical arguments can effectively undermine such beliefs. The results also highlight the potential of ridicule as a

peripheral route to persuasion, creating social and cognitive pressures that prompt individuals to distance themselves from CTs.

Multiple theories can explain our findings: Elaboration Likelihood Model (ELM): Rational arguments operate through the central route of persuasion, encouraging careful evaluation of evidence (Petty & Cacioppo, 1986). Ridicule, in contrast, functions through the peripheral route, relying on emotional and social cues to influence attitudes.

Cognitive Dissonance Theory: Both rational and ridiculing arguments create dissonance by challenging participants' self-concept or worldview, motivating belief change as a way to resolve the inconsistency (Festinger, 1957).

Functional Attitude Theory: Rational arguments address the knowledge function of attitudes, providing participants with a more coherent and accurate understanding of the world (Katz, 1960). Ridicule leverages the ego-defensive function, helping participants protect their self-esteem by distancing themselves from stigmatized groups.

Our findings had practical implications for designing interventions to counter CTs. Rational arguments, presented by credible speakers, appear to be a particularly effective strategy for reducing belief in CTs. Media campaigns and public education initiatives could incorporate these findings to address conspiracy ideation.

6.6.2. Prosocial “anti-populist” interventions

In a series of research, we tested a novel psychological intervention designed to mitigate the effects of misinformation. Our series of research conducted in Hungary, we used prosocial family-based values, self-persuasion, and empowerment to promote critical engagement with news content. Previous interventions have typically relied on accuracy nudges (Pennycook & Rand, 2019, 2020), inoculation techniques (van der Linden et al., 2022; Roozenbeek et al., 2022), or digital literacy training (Guess et al., 2020) to reduce susceptibility to fake news. However, these approaches often focus on individual cognitive strategies, are not always scalable, and their effects tend to diminish over time. These studies addressed these challenges by using family-based prosocial motivations to encourage long-term vigilance against misinformation.

Study 1: Durable impact of a prosocial intervention on a university student sample

The primary goal of the first research (Orosz, Paskuj, Faragó, Krekó, 2023) was to assess the short- and long-term effectiveness of our prosocial intervention in improving fake news recognition. The study also aimed to explore the potential of family-based social motivations to enhance participants' critical thinking about misinformation. Additionally, it sought to harness Hungary's cultural emphasis on family values to create an intervention that resonates deeply with the target population.

The study was conducted as a preregistered randomized controlled trial (RCT) with 801 young adult participants from a Hungarian university. Participants were randomly assigned to one of two groups: the intervention group or the control group.

In the intervention group, participants were asked to write advisory letters to digitally less competent family members, such as parents or grandparents. These letters outlined six evidence-based strategies for spotting fake news. The strategies included techniques such as questioning the validity of headlines, verifying sources, cross-checking evidence, and identifying fear-mongering. By engaging participants in this letter-writing exercise, the intervention aimed to position them as digital experts within their families, fostering both a sense of competence and social responsibility.

In the control group, participants wrote similar letters, but the topic was limited to avoiding socially awkward behaviors on social media, such as inappropriate use of emojis or profile pictures. This task was unrelated to fake news and served as a baseline for comparison.

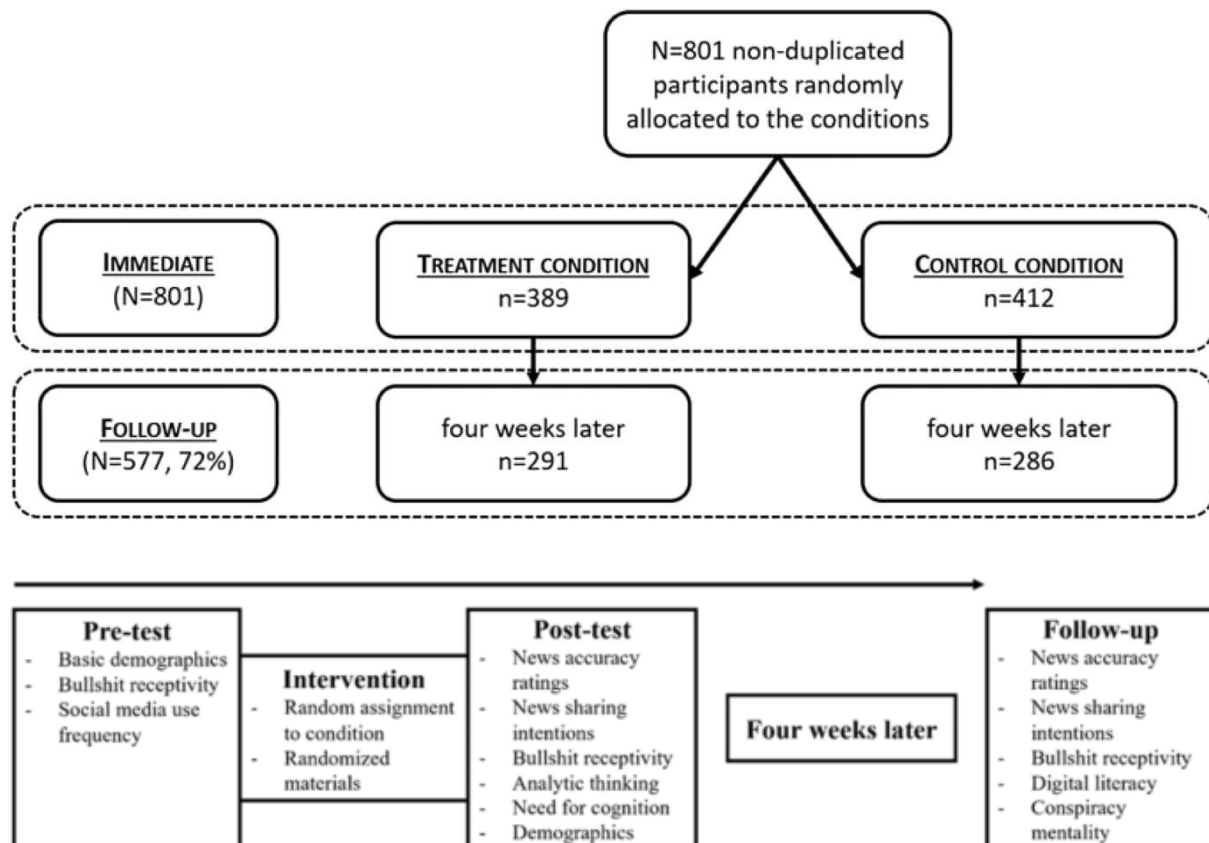
The study evaluated several outcomes using a combination of self-reported and performance-based measures:

1. Fake News Accuracy Ratings: Participants rated the accuracy of real and fake news headlines, with headlines adapted to the Hungarian cultural context.
2. Bullshit Receptivity Scale (BSR): This scale measured susceptibility to pseudo-profound but nonsensical statements.
3. Sharing Intentions: Participants indicated their likelihood of sharing fake news online.

4. Cognitive Measures: Additional metrics included digital literacy, need for cognition, and performance on cognitive reflection tasks.

Data were collected at three points: before the intervention, immediately after, and one month later (See Figure 30).

30. FIGURE: THE INTERVENTION STUDY DESIGN (OROSZ, PASKUJ, FARAGÓ, KREKÓ, 2023)



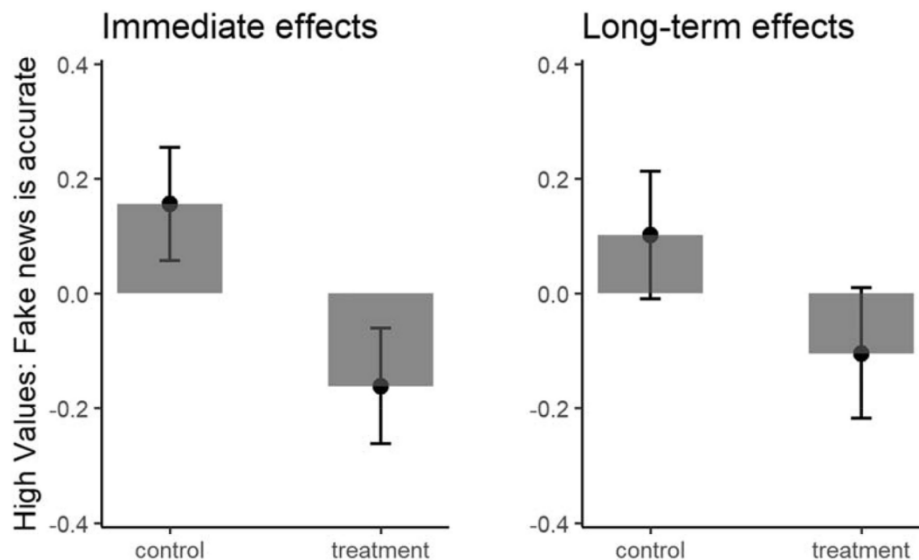
The intervention produced several significant outcomes:

Fake News Accuracy: Participants in the intervention group demonstrated significantly greater accuracy in recognizing fake news than those in the control group. The effect size was moderate immediately after the intervention ($d = 0.32$) and persisted one month later ($d = 0.22$), See Figure 31 below.

Bullshit Receptivity: The intervention group showed lower susceptibility to pseudo-profound statements both immediately after the intervention ($d = 0.16$) and at the one-month follow-up ($d = 0.17$).

Sharing Intentions: The intervention did not significantly affect participants' intentions to share fake news. This outcome may reflect the low baseline of sharing behavior among the study's sample.

31. FIGURE: ACCURACY EVALUATION OF FAKE NEWS IMMEDIATELY AFTER THE INTERVENTION (LEFT PANEL) AND 4 WEEKS LATER (RIGHT PANEL), OROSZ ET AL., 2023.



Note: Error bars represent standard errors. The y-axis represents standardized scores in terms of fake news accuracy ratings controlled for real news accuracy ratings. Higher scores indicate that fake news is accurate. (Orosz et al., 2023).

The intervention's use of family-oriented prosocial values resonated strongly with participants, reflecting the deeply ingrained cultural importance of familial bonds in Hungary. These values effectively motivated participants to engage critically with misinformation. Our approach leveraged social relationships to create a sustained impact. By framing participants as digital experts and encouraging them to educate loved ones, the intervention not only improved fake news recognition but also promoted self-efficacy and intergenerational dialogue. The findings suggest that prosocial motivations rooted in cultural values can complement existing strategies like nudges and inoculation techniques. This approach may be particularly effective in collectivist or interdependent cultural contexts where family and community ties play a central role in shaping behavior.

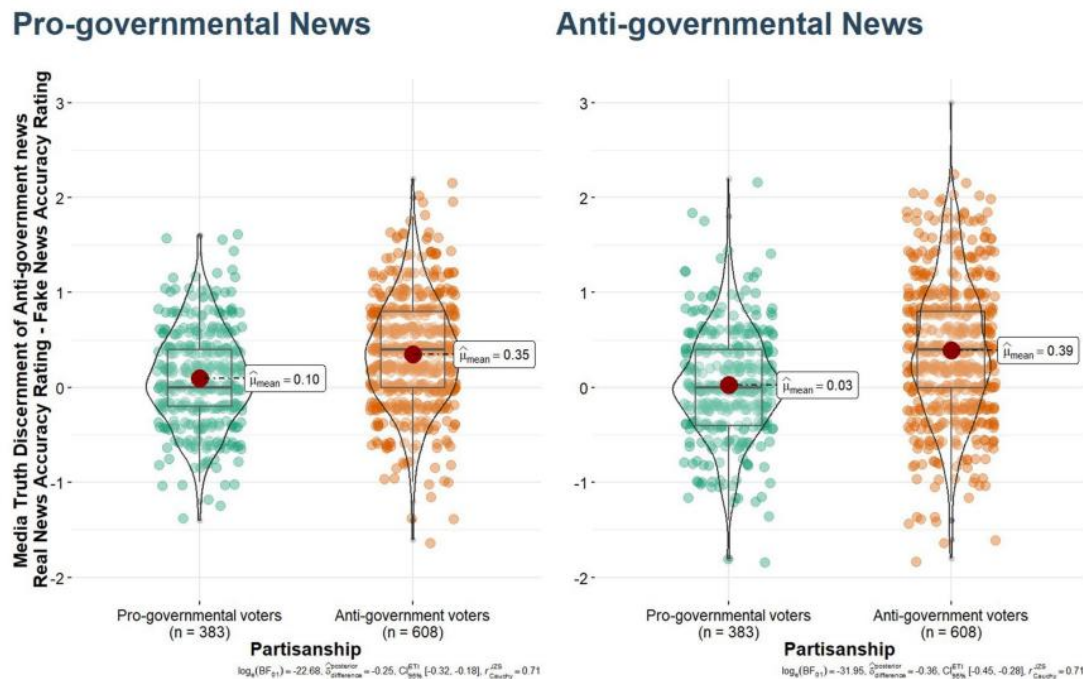
Study 2: Prosocial intervention on a representative sample in Hungary

Study 2 (Orosz, Faragó, Paskuj, Rakovics, Sam-Mine; Audemard, Krekó, 2024) investigated the extent of misinformation susceptibility among Hungarian citizens. The study employed a representative sample of Hungary's online population (N = 991) and measures participants' ability to discern fake news from real news using 30 news headlines. These headlines represent pro-governmental, anti-governmental, and neutral topics, equally divided between fake and real news.

An intriguing aspect of the study was the influence of political orientation on participants' responses to the intervention. Our study found three important differences in how pro-governmental and pro-opposition groups might differ in their receptivity to the intervention.

1. **Baseline Differences in Fake News Recognition and Truth Discernment:** Participants who identified as pro-governmental were generally less accurate in recognizing fake news compared to their pro-opposition counterparts. This may be attributed to the alignment of pro-government participants with state-sponsored narratives, which often blur the lines between factual reporting and misinformation. In contrast, pro-opposition participants might have developed a more critical stance toward media content due to their distrust of government-controlled outlets (See Figure 32 below).
2. **Baseline Differences in Bullshit Receptivity:** Pro-governmental participants exhibited higher baseline levels of bullshit receptivity, indicating a greater susceptibility to pseudo-profound statements. However, the intervention reduced bullshit receptivity in both groups, demonstrating its effectiveness in encouraging participants to critically evaluate misleading information, regardless of political orientation.
3. **Intervention Effectiveness Across Groups:** The intervention significantly improved fake news recognition in both groups, but the magnitude of the effect was more pronounced among pro-opposition participants. Pro-governmental participants showed slightly less improvement in bullshit receptivity than pro-opposition participants. This difference could stem from the cognitive dissonance experienced when encountering information that challenges their worldview. For example, state-aligned narratives may reinforce trust in certain types of misinformation, making it harder for pro-governmental individuals to internalize critical thinking strategies introduced by the intervention.

32. FIGURE: MEDIA TRUTH DISCERNMENT ACCORDING TO PARTY PREFERENCES



Study 3: Prosocial intervention among adolescents

Our third Study (Orosz, Paskuj, Faragó, Krekó, 2024) examined the effectiveness of our brief, scalable online intervention designed to enhance adolescents' ability to detect misinformation on a secondary school student sample. The study focused on leveraging prosocial values and assigning participants an expert role to build resistance against fake news. Importantly, it investigated the role of individual differences, particularly Need for Cognition (NFC), in moderating the intervention's long-term effects.

A total of 1,476 high school students from 25 institutions in Hungary participated in this randomized controlled trial. The students ranged in age from 14 to 21 years, with a mean age of 16.37 years (SD = 1.11). The sample included 52.23% girls, 45.05% boys, and 2.71% who identified as other genders. Participants came from diverse backgrounds in terms of residence (urban and rural areas), socioeconomic status, and ethnicity. Approximately 8.67% identified as belonging to an ethnic minority, and 24.93% were first-generation students (neither parent held a college or university degree).

The study was conducted in two phases: the initial intervention and a follow-up four weeks later. Participants were randomly assigned to either the treatment group (n = 735) or the control group (n = 741) through Qualtrics, ensuring randomization within classes.

In the Treatment Group, Participants were informed that they would contribute to an online media education program for parents and grandparents. They were presented with six strategies for identifying misinformation, adapted from Guess et al. (2020):

1. Be skeptical of headlines.
2. Look beyond fear-mongering.
3. Inspect the source.
4. Check the evidence.
5. Triangulate sources.
6. Consider if the story is a joke.

These strategies were accompanied by peer testimonials to provide normative information about others' experiences with fake news. After reading the materials, participants were asked to write a letter to a digitally less experienced family member (e.g., a grandparent), summarizing the six strategies and offering advice on adopting them. This task employed the "saying-is-believing" technique, where giving advice reinforces the advisor's own beliefs and behaviors.

In the Control Group, Participants received materials about appropriate social media behavior, focusing on avoiding awkward or embarrassing online actions by older adults. The content included six examples of implicit social norm violations (e.g., misusing emojis, uploading inappropriate profile pictures). Participants were then asked to write a letter to an older family member, providing advice on proper social media etiquette. Importantly, the control materials did not mention misinformation or fake news.

Immediately after the intervention, participants were presented with a series of real and fake news headlines in random order and asked to rate their accuracy on a four-point scale ranging from "Not at all accurate" to "Very accurate." Different news items were used in the initial assessment and the follow-up to prevent familiarity effects.

Four weeks later, participants completed a follow-up assessment, again rating the accuracy of a new set of real and fake news headlines. This allowed the researchers to evaluate the long-term effects of the intervention.

We used the following measure as dependent variables and mediators:

- Need for Cognition (NFC): Assessed using a five-item scale measuring the tendency to engage in and enjoy effortful cognitive activities (Cacioppo & Petty, 1982). Higher scores indicated a greater preference for complex thinking and problem-solving.
- Other Individual Difference Measures:
 - Analytic Thinking: Measured using the Cognitive Reflection Task (Frederick, 2005; Shenhav et al., 2012), which assesses the ability to override intuitive but incorrect answers.
 - Bullshit Receptivity: Assessed participants' susceptibility to meaningless but superficially profound statements (Pennycook et al., 2015).
 - Digital Literacy: Evaluated using a five-item scale measuring skills in navigating and critically assessing digital information.
 - Sociodemographic Variables: Included age, gender, parental education level, ethnic minority status, and first-generation college student status.

Two types of analyses were conducted:

1. **Intent-to-Treat (ITT) Analysis:** Included all participants who completed the outcome measures, regardless of their adherence to the intervention instructions. This approach provides a conservative estimate of the intervention's effectiveness in real-world conditions.
2. **Treatment-of-the-Treated (ToT) Analysis:** Included only participants who followed the intervention instructions and engaged seriously with the task. Letters written by participants were coded based on adherence criteria (e.g., mentioning at least one strategy, not copying text verbatim). This analysis estimates the intervention's potential effectiveness under ideal compliance.

Multilevel linear regression analyses were used to account for the hierarchical data structure (students nested within schools). The researchers examined the main effects of the intervention and the interaction effects of potential moderators, particularly Need for Cognition.

The treatment group demonstrated a statistically significant improvement in detecting fake news immediately after the intervention compared to the control group ($b = 0.10$, $t(1453) =$

3.30, $p < 0.001$). The effect size was small but meaningful ($d = 0.17$). This effect remained significant after controlling for demographic variables.

When considering only participants who adhered to the instructions, the immediate effect was slightly stronger ($b = 0.18$, $t(791) = 4.63$, $p < 0.001$), with an effect size of $d = 0.29$. This suggests that task engagement enhanced the intervention's immediate effectiveness.

The treatment group did not show a significant long-term benefit in detecting fake news compared to the control group ($b = 0.03$, $t(827) = 0.81$, $p = 0.419$), with an effect size of $d = 0.05$. This indicates that the intervention's overall effects dissipated over time in the general sample.

Among participants who adhered to the instructions, the long-term effect remained non-significant overall ($b = 0.05$, $t(490) = 1.06$, $p = 0.290$), with an effect size of $d = 0.09$.

A key finding emerged when examining Need for Cognition as a moderator in the ToT analysis: Need for Cognition significantly moderated the long-term effects of the intervention ($\beta = 0.23$, $t(488) = 2.54$, $p = 0.011$). This means that the intervention's effectiveness in improving fake news detection over time depended on participants' levels of NFC. Participants with NFC scores one standard deviation above the mean showed a significant long-term improvement in detecting fake news ($b = 0.16$, $t(488) = 2.54$, $p = 0.012$), with an effect size of $d = 0.28$. Participants with NFC scores two standard deviations above the mean demonstrated an even larger effect ($b = 0.28$, $t(488) = 2.77$, $p = 0.006$), with an effect size of $d = 0.51$. Participants with NFC scores below the mean did not show significant long-term benefits from the intervention. The differences were not statistically significant for those one or two standard deviations below the mean ($p = 0.203$ and $p = 0.598$, respectively). See Figure 33 below:

33. FIGURE: FAKE NEWS CORRECTNESS RATINGS BY CONDITION AND NEED FOR COGNITION (OROSZ, PASKUJ, FARAGÓ, KREKÓ, 2024)

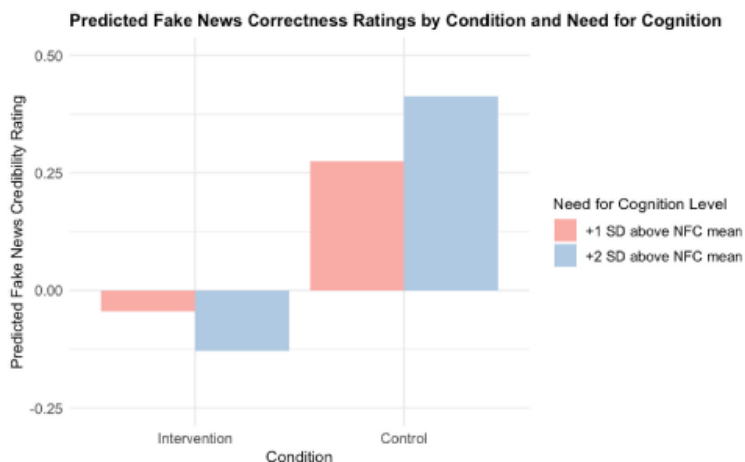


Fig. 4. Standardized and predicted fake news evaluation accuracy differences between the control and treatment groups among students who took the intervention task seriously and who are one and two standard deviations above the need for cognition mean.
Note. Low credibility values on the y-axis mean that adolescents find fake news less credible; higher values mean that they find fake news credible.

The significant long-term effects among high NFC participants suggest that they continued to use and benefit from the critical evaluation strategies taught during the intervention. Implications: The findings underscore the importance of considering individual differences in cognitive motivation when designing interventions. Tailoring approaches to engage participants with lower NFC may be necessary to achieve broader effectiveness.

Only participants who took the intervention task seriously and followed the instructions showed significant improvements. This highlights the role of motivation and engagement in the success of educational interventions. Future interventions might incorporate elements to boost engagement, such as interactive activities, personalized feedback, or incentives for participation.

However, the intervention's long-term effectiveness depends on participants' cognitive engagement and motivation. Those with a higher Need for Cognition were more likely to internalize and apply the critical evaluation strategies over time. This highlights the importance of considering individual differences in cognitive motivation when designing educational interventions to combat misinformation.

Overall, the findings suggest that while brief, scalable interventions have potential, they must be tailored to engage all participants effectively. Addressing factors such as Need for Cognition

and task engagement is crucial for achieving sustained improvements in critical thinking and digital literacy among adolescents.

Study 4: Cognitive and socioeconomic factors behind resistance to fake news among adolescents

Our fourth study (Faragó, Orosz, Paskuj, Krekó, 2024). examined the cognitive and socioeconomic factors influencing adolescents' susceptibility to fake news, focusing on a large, diverse Hungarian sample. The findings emphasize the critical role of cognitive abilities such as analytic thinking and bullshit receptivity, which outweigh socioeconomic variables in predicting susceptibility to misinformation. This summary delves deeply into the study's results, methodology, and broader implications, incorporating necessary context to ensure a comprehensive understanding.

Adolescents are poised to become key players in democratic processes, yet their ability to discern misinformation is critical for informed political participation and the prevention of democratic erosion. Despite their heavy reliance on social media for news, many adolescents struggle to critically evaluate the content they consume. Previous studies have focused extensively on adults, leaving a significant gap in understanding the protective and vulnerability factors in adolescents.

This study aimed to:

1. Identify how cognitive and socioeconomic factors influence adolescents' susceptibility to fake news.
2. Explore the relative importance of cognitive skills versus socioeconomic variables in discerning misinformation.
3. Provide empirical evidence for designing interventions to improve critical media literacy among adolescents.

The study employed a robust methodological framework to ensure reliable and valid results:

1. **Participants:** The sample included adolescents from diverse backgrounds in urban (e.g., Budapest) and rural areas. Among participants, 41.6% identified as female, 35.4% as male, and 2% as non-binary or other. Ethnic minority representation was 6.4%, and 55.7% of participants had parents with tertiary education.

2. Measures:

- **Fake News Accuracy:** Adolescents evaluated the accuracy of pretested fake and real news headlines presented in a Facebook-style format. Headlines were sourced from fact-checked Hungarian outlets and designed to mimic realistic scenarios.
- **Cognitive Reflection:** Assessed using tasks that required participants to suppress intuitive but incorrect answers.
- **Bullshit Receptivity:** Measured using nonsensical yet seemingly profound statements.
- **Need for Cognition:** Captured via a Likert scale assessing participants' preference for intellectual engagement.
- **Digital Literacy:** Evaluated using self-reports of confusion and ability to navigate online information.
- **Socioeconomic Status:** Assessed through parental education and the McArthur ladder for subjective social rank.

3. **Procedure:** Data were collected via online surveys administered in classrooms. Ethical approval and informed consent were secured, and participants were debriefed about the veracity of the news items after the study.

The key findings were the following:

Cognitive Reflection: Adolescents with higher levels of cognitive reflection were significantly less likely to believe fake news ($\beta = -0.18$, $p < 0.001$). Cognitive reflection refers to the ability to engage in analytic thinking and suppress intuitive but incorrect responses. The findings align with prior research showing that deliberative thinking reduces belief in misinformation, regardless of its alignment with personal biases (Pennycook & Rand, 2019).

Bullshit Receptivity: Adolescents with low receptivity to bullshit—defined as the tendency to assign profundity to nonsensical statements—demonstrated greater resilience to fake news ($\beta = 0.24$, $p < 0.001$). This measure serves as a proxy for skepticism and the ability to critically evaluate implausible claims.

Need for Cognition: Adolescents with a stronger need for cognition, or the intrinsic motivation to engage in effortful thinking, were less likely to perceive fake news as credible ($\beta = -0.12, p < 0.001$). This result highlights the importance of intellectual engagement in filtering out misinformation.

Digital Literacy: Surprisingly, digital literacy did not significantly predict fake news susceptibility ($p = 0.113$). The digital literacy scale used focused on general online navigation rather than specific skills related to verifying information accuracy. This finding suggests that digital literacy interventions might need refinement to address misinformation-specific challenges.

Parental Education: Adolescents whose parents had higher educational attainment (tertiary education) were less susceptible to fake news ($\beta = -0.08, p < 0.002$). This finding underscores the role of parental influence and the transmission of cognitive habits that promote critical thinking.

Ethnic Minority Status: Adolescents identifying as ethnic minorities were more vulnerable to misinformation ($\beta = -0.09, p < 0.001$). This finding aligns with prior research linking marginalized groups to higher susceptibility to misinformation due to systemic disparities in educational and informational access.

Subjective Social Status: Measured using the McArthur ladder (a self-assessment of social rank), subjective social status was not significantly associated with fake news susceptibility ($p = 0.230$). The absence of this relationship suggests that perceptions of socioeconomic standing may not directly influence critical media engagement in adolescents.

When cognitive and socioeconomic factors were combined in a single regression model, cognitive variables—especially **cognitive reflection** and **bullshit receptivity**—emerged as the most robust predictors of fake news resistance. Socioeconomic variables, including parental education and ethnic minority status, became less significant, suggesting that cognitive abilities play a more decisive role in determining susceptibility to misinformation.

Despite the limited role of socioeconomic factors, targeted support for marginalized groups, such as ethnic minorities, remains essential. These groups may benefit from tailored interventions addressing systemic disparities in educational access and media literacy resources. The surprising insignificance of digital literacy underscores the need to refine measures and interventions. The findings are particularly relevant in an age where adolescents consume most of their news on social media platforms dominated by algorithmic content. The study's results suggest that efforts to combat misinformation should prioritize cognitive education over broad digital literacy campaigns. This focus could help equip the next generation of voters with the skills needed to navigate increasingly complex media landscapes.

7. General conclusions and future directions

The previous chapter provided an overview of the existing research and practical experiences of interventions against conspiracy beliefs, fake news and pseudoscientific beliefs. This concluding chapter explores the crucial role that epistemic authorities and institutions play in shaping public understanding and acceptance of knowledge in democratic and authoritarian contexts alike. The chapter synthesizes the key findings of the dissertation, which explored the psychological and institutional mechanisms behind the spread and persistence of false beliefs—including conspiracy theories, pseudoscience, and politically motivated disinformation. It reflects on how these epistemically unfounded beliefs take root and endure within democratic and authoritarian contexts, and emphasizes the interplay between individual psychological predispositions and broader structural influences. The closing chapter also outlines the broader theoretical and practical implications of the research, highlighting how “manufactured ignorance” can be both a bottom-up and top-down process. Finally, it proposes future research directions to deepen understanding of the dynamic relationship between political power, knowledge production, and belief formation in an increasingly polarized and information-saturated world.

7.1. Conclusions for the social psychological research on interventions in general

The previous chapter proposed a matrix that, in our view, can be a useful but simple tool to categorise the possible ways of interventions using two dimensions: temporal (before or after the recipient met with the conspiracy theory), and the target (source – supply side vs. the recipient – demand side). It highlights four possible options: the intervention takes place before the spread of the message, and targets the supply side (pre-emptive strike), or it takes place before the dissemination, but targets the recipient (immunisation); it takes place after the message was spread and targets the source (striking back), or takes place after the dissemination but targets the recipient (healing). Most of the research suggests that prevention is more useful than harm reduction, as conspiracy theories that have already spread are already having an impact on the recipient that is often difficult to neutralise. Also, the research suggests that fact and logic-based interventions have found to be efficient in many cases.

There is good news and bad news from the perspective of the research on interventions. The good news is that, especially as a result of the misinformation campaigns threatening the integrity of the elections in 2016 (the Brexit campaign and the U.S. presidential election), the discussion of the possible counterstrategies is on a much more advanced level both in academic discussions and in policy discussions than before. The bad news is that experiences and academic research results are, in many cases, contradictory (e.g., on the usefulness of fact-checking, see the previous chapter), and it is difficult to put together a holistic picture from the very small and sporadic mosaics of research. A multiannual research project, based on meta-analyses of the existing research, replications, and filling the existing gaps using a coherent theoretical framework and research design would be needed to have a more solid knowledge.

As we live in an era of information warfare, there would be a need for a similar grand project to know more on propaganda and how to resist it than the one that was implemented during the biggest traditional war of the twentieth century: the Yale-program was focusing on the possibilities for attitude change and the resistance to persuasion in the context of the World Wars (for an overview, see McGuire 1996).

7.2. Combating science skepticism -avenues and pitfalls

The motivated scepticism towards science, as explored through multiple examples in previous chapters—such as political and COVID-related conspiracy theories (Chapters 2 and 3)—is a theoretically grounded and realistic approach that recognises the powerful moral and ideological barriers to persuasion (Krekó, 2022). Attempts to change the minds of highly cohesive and ideologically committed groups often face limits; political polarisation, religious or ideological identities, and entrenched mistrust toward scientific institutions are not easily overturned by simple fact-checking. In social psychology, two primary forms of intervention can be distinguished (Kahneman, 2011), based on whether they engage *System 2* (deliberate, effortful thinking aimed at changing opinions) or *System 1* (automatic, intuitive processes that shape behaviour without necessarily shifting beliefs). One effective *System 1* approach is the use of social conformity to influence behaviour. As demonstrated in a multi-stage German study, descriptive social norms—such as the vaccination choices of close others—can override conspiratorial beliefs when it comes to actual behaviour, even if attitudes remain unchanged

(Winter et al., 2021). This aligns with the Hungarian case, where KSH data showed that vaccination willingness surged from 15% in November 2020 to over 60% a year later, with anti-vaccine sentiment dropping by more than half. This highlights the powerful role of peer pressure in shaping public health outcomes.

Among *System 2*-based strategies, *inoculation theory* stands out as a promising intervention. As discussed earlier (Chapter 6), inoculation leverages an immunological metaphor to “train” individuals’ belief systems by exposing them to weak versions of misinformation and prompting active refutation. For example, refuting a clearly absurd theory—such as the alleged link between 5G networks and COVID-19—can strengthen resilience against more persuasive forms of vaccine scepticism. This principle has been successfully implemented in interactive tools and games that help users understand and deconstruct disinformation strategies, including those related to COVID-19 (van der Linden et al., 2021). Such interventions acknowledge the emotional and motivational foundations of anti-scientific attitudes (Chapter 1) and respond to the reality that behaviour is often shaped less by individual reasoning than by the social and digital environments in which people are embedded (Freeman et al., 2020).

The pandemic has exposed and intensified the entanglement of biological and social domains, necessitating greater collaboration between fields that rarely interact. As this dissertation has argued, effective responses to motivated scepticism must combine empirical knowledge from both natural and social sciences. Social scientists must engage deeply with virology, epidemiology, and medical data to earn legitimacy in public debates. Conversely, natural scientists need to become more attuned to the psychological and cultural dynamics that fuel resistance to their findings. Institutionalising dialogue between these domains is essential for addressing the growing “infodemic” of pseudoscientific narratives that pose a measurable threat to public health. To bridge the widening gap between scientific experts and lay audiences, the scientific community must combine the necessary epistemic elitism of rigorous inquiry with a form of communication populism—one that respects the audience while strategically simplifying and emotionalising messages without compromising integrity. Only through more intensive interdisciplinary collaboration and communicative adaptation can the epistemic divide be narrowed and the damage of science scepticism mitigated.

7.3. Fight fire with fire - combating pseudoscience with populism and pseudoscience?

The idea that pseudoscience only appeals to the uneducated masses is not only incorrect, but it is also counterproductive: it casts representatives of science in an arrogant and unapproachable role. A seemingly positive image of science that is abstract and distant discourages identification—and thus becomes vulnerable and easy to undermine. This misconception can also lead to flawed approaches in the communication of science – and negative consequences on the public understanding of science.

Effective scientific practice starts by understanding the social context in which it operates and then adapting accordingly (Krekó & Falyuna, 2022). This requires an approach that is empathetic to so-called “irrationality” and resists the kind of rigid rationalism that dismisses everything outside the scientific canon as pseudoscience. A good example of the opposite stance is Richard Dawkins’ oft-cited remark:

“Religion is capable of driving people to such dangerous folly that faith seems to me to qualify as a kind of mental illness. It is a virus, and so it should be eradicated” (Dawkins, 2003). This view exemplifies a dogmatic and dismissive mindset that can alienate rather than engage.

There is no such thing as a wholly “rational” individual or society in the strict sense of science or formal logic, nor should this ever be a standard. Scientific thinking is “artificial” in the sense that it demands an even and steady application of systematic, abstract and logical System 2 information processing that contrasts with the quick, heuristic, and often successful nature of adaptive everyday System 1 thinking. Furthermore, myths and fiction have played a crucial role in human survival — the capacity to create imaginary worlds is one of the features that make us uniquely human (Donald, 1991). So it is entirely “normal” that both scientific and non-scientific, even ‘irrational’, practices coexist in everyday life. The real danger lies in their entanglement—for example, when miracle cures are promoted as alternatives rather than complements to legitimate treatments.

To prevent the public from becoming alienated from science and losing trust in it, the scientific community must also move closer “to the people.” It must find a balance between the necessary institutional elitism of science and a healthy dose of populism. This means being attuned to the values, fears, attitudes, and traditions of the society it hopes to

influence. Understanding the psychological appeal of pseudoscience is equally essential. We must know why it becomes attractive to people in the first place, if we want to counteract that appeal. This calls for in-depth, cross-national research into the mindsets of groups most vulnerable to pseudoscience and anti-science thinking, across different age groups. Only then can we grasp the nature of the motivated resistance that education needs to overcome.

Science must not only understand but also adjust to the social environment in which it operates if it is to dismantle the two main barriers to its reception: ignorance and resistance. This requires engaging with hard-to-reach groups using the language and platforms they are most receptive to. Science communication is meaningless without an audience willing to listen. Education clearly remains crucial in spreading scientific knowledge. But we must also examine how top-performing countries in science literacy (e.g., Sweden, Belgium, Finland) succeed: what part is due to effective education, and what part to lower levels of motivated resistance?

To meet these dual goals—understanding society better and influencing it more effectively—closer cooperation between natural and social scientists is vital. This collaboration needs to be better institutionalised, and communication must become more professional. The surge of pseudoscientific narratives during the COVID-19 pandemic made this need more obvious than ever, yet the domestic scientific community has largely failed to seize this opportunity. A more unified, self-aware scientific communication effort and cross-disciplinary collaboration could make a real impact on policymaking—if the political will is there on the receiving end.

The fight against pseudoscientific conspiracy theories hinges on trust. Scientific communities cannot assume trust and respect—they must earn it continuously. In the edited volume *Why Trust Science*, Naomi Oreskes and Stephen Macedo (Oreskes, 2021) outline three key virtues that can help science gain public trust. The norm of honesty requires openness about methods, values, and funding sources. The principle of humility calls for acknowledging uncertainty and the limits of current knowledge—even if the public often demands absolute certainty. These expectations run counter to the nature of science, where knowledge evolves, mistakes happen, and correction is central. Finally, diversity—in perspective, methodology, and worldview—is essential to scientific progress. Competing approaches foster quality research and help identify and eliminate misconduct. This doesn't

rule out scientific consensus on core issues—but it reinforces that such consensus is earned through rigorous and open debate.

Information overload and learned helplessness can only be countered with less but more systemically elaborated scientific knowledge. Content moderation is not perfect and has to be used with caution. It is neither realistic nor morally justifiable in a democratic society to set the goal to create an information environment free of disinformation and pseudoscience. But pseudoscience can not only be a curse- but a cure as well. Paradoxically, using the logic of inoculation, pseudoscientific content and logic can play an important role in science education as well (Krekó & Falyuna, 2022). By refuting pseudoscientific ideas and theories, and thus by defining science negatively, scientific logic can be better explained to students. Furthermore, the refutation of pseudo-scientific beliefs is often more interesting and enjoyable for the listener than the more traditional and 'linear' approach, which focuses on the simple transfer of scientific knowledge, the study of the principles and methods of scientific knowledge acquisition, and the taxonomic listing of the characteristics of scientific knowledge. If trust in science is not combined with a critical (source) thinking, it can easily make people vulnerable to pseudoscientific claims. Society needs to be "vaccinated" or inoculated against pseudoscience.

Of course, the representatives of science do not operate in a socio-political vacuum. In order for their work to reach the broader layers of society in a meaningful way, it is also necessary that the most influential political actors do not work to destroy the authority, independence, diversity and institutional framework of science. It has also become clear, in the case of the coronavirus and vaccines, that society will accept science and its products as a social conformist principle to the extent that they are accepting or rejecting social norms. If these norms are strong enough, the position of science can be strengthened - at the same time, trust in science can be effectively destroyed. An instructive example of this is the United States, where scientific issues such as vaccination, evolution, global warming or even academic freedom of speech (Lewandowsky & Oberauer, 2021) have become so politicised that they increasingly undermine the ability of science to create a relative socio-political consensus on important issues and push scientists themselves into increasingly 'political' roles.

It would be crucial that the scientific community can show unity on the most basic issues (e.g. the efficacy of vaccination against viruses). Research (Lewandowsky & Oberauer, 2016) suggests that spectacular and public disagreements among scientists can undermine trust – but,

at the same time, consent can undermine motivated skepticism towards science. One additional challenge, of course, is that sometimes business actors (e.g. oil lobby, tobacco industry, arms industry) also work internally to undermine the scientific consensus around certain issues (Oreskes & Conway, 2011).

To disseminate vital scientific knowledge effectively, sometimes atypical sources and intermediaries are needed. A recent example illustrates this: during a US field experiment (Cohen, 2022), a group of natural scientists and political scientists produced an online

cost: the targeted impact of the \$100,000 ad on the campaign spot resulted in approximately 100,000 people getting vaccinated in the lowest-vaccination prevalence regions of the US.

7.4. Avenues for future research

In this section, I briefly highlight a few ideas that I aim to explore in future research in the broader topic of false beliefs for the coming years (some research projects -e.g. 2 and 3 below – have already been started.

7.4.1. Truth Relativism – Experimental Manipulation

To better understand the causal mechanisms behind truth relativism, we are going to develop an experimental design that manipulates participants' exposure to contradictory and emotionally loaded information. Drawing on the concept of “epistemic overload,” (Bernal, 2018) the experiment simulates a post-truth environment by exposing subjects to conflicting narratives about a politically or scientifically contentious topic. Our expectation is that such exposure increases epistemic uncertainty and weakens participants' confidence in the very idea of objective truth – measured by our Truth Relativism Scale introduced in Chapter 5. We also expect the experimental condition to boost tolerance for contradictory claims and reduce reliance on analytic reasoning—findings that underscore how relativistic attitudes can be actively cultivated under conditions of informational chaos.

7.4.2. Anxiety and Conspiracy Theories

As part of a new OTKA-funded research initiative (K14792) we are investigating the dynamic relationship between situational anxiety and belief in conspiracy theories. While prior studies have shown correlations between anxiety and conspiratorial thinking, our longitudinal and experimental designs aim to disentangle causality and timing. The program

focuses on how collective uncertainty—triggered by crises such as war, economic instability, or public health threats—amplifies conspiratorial narratives by offering emotionally satisfying explanations. We also explore individual differences in anxiety and how these mediate the appeal of specific conspiracy themes, with the goal of developing targeted interventions that address the emotional precursors of belief rather than only the cognitive content.

7.4.3. Vaccine Regret – The Long-Term Impact of COVID-Skepticism and Science-Skepticism

A new and underexplored phenomenon emerging from the COVID-19 crisis is *vaccine regret*—a post-hoc rationalization among some vaccinated individuals who, influenced by persistent misinformation and anti-scientific narratives, come to doubt the safety or legitimacy of their own decision. We explore this phenomenon in cooperation with Joseph Uscinski from University of Miami. This trend is symptomatic of a broader, long-term erosion of trust in science, and “long-Covid” political effects, where COVID-skepticism and experiences during the pandemic metastasizes into generalized science skepticism. Our empirical findings from the United States suggest that accepting COVID-vaccines in a part of the population has led to cognitive dissonance, emotional unease, and increased openness to pseudoscientific health beliefs. This poses a serious threat to future public health initiatives and vaccination campaigns.

7.4.4. The Advantages of False and Unfounded Beliefs

While much of the literature—and this dissertation—focuses on the negative consequences of false beliefs, it is crucial to acknowledge their adaptive and functional advantages for individuals and groups. False beliefs can foster group cohesion, reduce existential anxiety, and serve as identity markers in polarized environments. They can offer cognitive closure in the face of uncertainty and provide simplified moral narratives that help individuals navigate complex social realities. In some cases, they may even have mobilizing effects, strengthening collective action or resistance against perceived injustice. The advantages of some false beliefs (e.g. historical or collective self-serving beliefs) need further investigation.

8. References

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