Hertie School

Tinker Tailor Soldier Lie

Investigating Intra- and Extra-Individual Factors of Susceptibility to False Information

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Christoph M. Abels

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Advisors

First advisor
Prof. Alina Mungiu-Pippidi, PhD
Professor of Democracy Studies, Hertie School
Director, European Research Centre for Anti-Corruption and State-Building, Berlin

Second advisor
Prof. Stephan Lewandowsky, PhD
Chair in Cognitive Psychology, School of Psychological Science, University of Bristol

Third advisor
Prof. Daniela Stockmann, PhD
Professor of Digital Governance, Hertie School

Summary

At least since the 2016 presidential elections in the United States and the Brexit referendum in the United Kingdom, misinformation has gained increasing prominence in the public discourse. Only four years later, the COVID-19 pandemic emerged and was accompanied by an "Infodemic", misleading individuals about the origin of the virus, its severity, and the intentions of governments coping with the virus. Misinformation was itself deemed a considerable threat to public health. Although COVID-19 misinformation was widely circulating at that time, and continues to do so, a substantial share of individuals did not believe this misleading information. That begs the question, why do people fall for misinformation?

This question is at the heart of this dissertation project, which explores the role of social media, trust, and values in individuals' susceptibility to false information. Through comparative research, the project investigates how these variables affect the reception of misinformation and attempts to combine multiple levels of analysis and consider different forms of misinformation.

The core of this dissertation consists of three chapters, each of which addresses the research question from a different but complementary perspective. Chapter 2 provides the conceptual basis for the subsequent empirical chapters. The chapter investigates how individual, group, and system-level variables contribute to social media's role as a vector for misinformation. In the third chapter, I employ an experimental research design to assess whether superficial characteristics of different social media platforms affect users' credibility judgements regarding manufactured news. Contrary to existing literature, the experiment's results suggest that social media platforms do not differ in their effects on perceived credibility of news. The fourth chapter builds on data from a multinational research project that explored the role of values during the COVID-19 pandemic and their impact on individuals' propensity to believe in COVID-19-related conspiracy theories. Through a comparative design, using samples from Germany and Poland, the chapter finds considerable differences in the pattern of influential values and trust concepts on the adoption of conspiracy beliefs.

Although the findings of this dissertation project come with limitations, the research nevertheless highlights the importance of comparative research designs in the study of misinformation. The dissertation concludes by discussing avenues for further research.

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"Learn the facts, [...] then try on the stories like clothes."

- *John le Carré, Tinker Tailor Soldier Spy*

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List of Abbreviations

AfD	Alternative für Deutschland (Alternative for Germany)
AP	Associated Press
CEO	Chief Executive Officer
CIA	Central Intelligence Agency
COVID-19	Coronavirus disease 2019
CT	Conspiracy theory
FBI	Federal Bureau of Investigation
GDP	Gross domestic product
ISCED	International Standard Classification of Education
OR	Odds ratio
PiS	Prawo i Sprawiedliwość (Law and Justice)
PVQ	Portrait Value Questionnaire
RKI	Robert Koch Institute
SNS	Social network site
U.K.	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
U.S.	United States of America
V-Dem	Varieties of Democracy
VIC	Values in Crisis
WEF	World Economic Forum
WEIRD	Western, educated, industrialized, rich, democratic
WHO	World Health Organization
WVS	World Values Survey

1. Introduction

In John le Carré's famous novel *Tinker Tailor Solider Spy*, the story's protagonist George Smiley is tasked with identifying and uncovering a Soviet mole (a double agent) among the five most senior ranking intelligence officers in the British Secret Intelligence Service, known as MI6 (Military Intelligence, Section 6). Throughout the novel, le Carré, who had worked within MI6 himself, describes a complex hunt to catch the Soviet agent.

For Smiley, a veteran intelligence officer, discriminating friend from foe is a challenging but achievable task, given his knowledge of the craft and specialized training. Yet, individuals around the globe encounter an equally challenging assignment on a daily basis, without the superior skills an intelligence officer will acquire throughout the course of their career. Every day, individuals must decide whether a piece of information they encounter in an ever-growing information ecosystem is trustworthy or intended to mislead them. The struggle to successfully navigate this information sphere and identify the informational mole is at the heart of this dissertation project.

Since the early 2000s, the problem of misinformation, understood as information that is incorrect or misleading although not intentionally so (European Comission, 2018), has been growing, primarily through technological means. Although it remains unclear how much false information is in circulation globally (Lecheler & Egelhofer, 2022), the issue has alarmed academics and policymakers alike. Conceptually, misinformation is only one within a broader universe of false information types. Other concepts include disinformation, which is intentionally misleading (European Comission, 2018); fake news,[1] referring to fabricated news pieces that are designed to mimic high-quality outlets but mislead their users with manufactured stories (Lazer et al., 2018; Tandoc et al., 2018); and conspiracy theories (CTs), which are not limited to certain misleading claims in a piece of misinformation, but entail entire belief systems, in which a set of conspirators is said to deliberately and covertly work against the public

[1] The concept initially referred to news satire, such as *The Daily Show* (Baym, 2005), or news parody, like *The Onion* (Tandoc et al., 2018). The term's current definition is a more recent phenomenon. However, several authors (e.g., Egelhofer & Lecheler, 2019) have suggested avoiding the use of the term fake news when referring to disinformation, given that the term has been used by politicians, most prominently former U.S. president Donald Trump, to delegitimize political opponents and critical media outlets.

good (Douglas & Sutton, 2023; van Prooijen, 2018).[2] Additionally, artificial intelligence-powered technology has been simplified in a way that it enables lay users to develop sophisticated visual disinformation with both still and moving images, so-called deepfakes (Chesney & Citron, 2018; Weikmann & Lecheler, 2022).

These various concepts have been collectively placed under the umbrella of post-truth (Lewandowsky et al., 2017; Rabin-Havt & Media Matters, 2016; Uscinski, 2020). This overarching concept is intended to capture the growing prevalence of misinformation and its ensuing consequences for societies around the globe. The emergence of a post-truth era is attributed to megatrends such as declining social capital, growing economic inequality and political polarization, declining trust in science, and changes in the media system (Lewandowsky et al., 2017). Jointly, these trends have created an alternative epistemic space resulting in a situation in which, as Lewandowsky et al. (2017) conclude, "the current state of public discourse can no longer be examined through the lens of misinformation that can be debunked but as an alternative reality that is shared by millions" (p. 360).

Whether someone adopts misleading claims, incorporates the misinformation into one's belief system and eventually acts upon these claims depends on a variety of factors. Initially, individuals need to encounter misinformation or disinformation. These encounters frequently occur on social media, which has become a major vector[3] for misleading information (Bradshaw & Howard, 2018). To capture the use of social media in this manipulative manner, researchers developed the idea of computational propaganda, defined as "the use of algorithms, automation, and human curation to purposefully manage and distribute misleading information" (Woolley & Howard, 2019, p. 4). The idea of computational propaganda highlights several of the technical and social aspects that make social media a potent vector for misinformation, such as the creation of filter bubbles, in which individuals are only exposed to attitude-congruent information (Pariser, 2011), and algorithmic content curation and recommender systems, aimed at capturing users' attention for as long as possible (Alfano et al., 2021; Lewandowsky et al., 2020).

[2] The conceptual distinction between misinformation and CT is also made by Hornsey et al. (2022) who illustrate this by using the example of 5G technology. While merely believing that COVID-19 is caused by 5G is not a CT, believing that 5G is part of a larger operation to depopulate the Earth, and that telecommunication companies are part of the plot and suppress evidence, is a CT.

[3] The term vector is based on its use in the field of medicine, subsequently employed to describe social media's function as a carrier of mis- and disinformation.

The latter point in particular is crucial in respect to misinformation and the broader information ecosystem. Today's information environment is largely based on various supposedly free services: from YouTube to Facebook, Instagram to WhatsApp, these platforms can be used free of charge by users in many countries around the world. That said, "there is no such thing as a free lunch"[4]: while users do not pay financially for these services, they pay with their attention, that is the time spent on the respective platforms. Hence, the ecosystem commodifies attention to replace financial means of payment (Wu, 2017).

As a result, the algorithmic presentation of content (e.g., tweets, recommended videos, status updates) is designed to maximize time spent on the respective platform, because more time means more revenue from advertising. The algorithm therefore prefers content that is likely to capture users' attention. Research has provided evidence that content with a negative valence (Soroka et al., 2019) as well as arousal-evoking content, either negative or positive arousal (Berger & Milkman, 2012), is especially powerful in attracting people's attention, making this type of content more likely to be presented to users. Lewandowsky and Pomerantsev (2022) argue that these attentional biases are the reason misinformation is prevalent online. As those spreading misinformation are not bound by the limits imposed by facts, their messages can deliberately exploit these attentional biases and make their content more viral. The authors conclude that "the flood of disinformation and online outrage is [...] arguably a price we pay for the 'free' service provided by the platforms" (Lewandowsky & Pomerantsev, 2022, p. 3), another mega-trend that contributes to a post-truth world.

Once an individual is exposed to misinformation, several intra-person variables affect information processing and subsequent belief updating. Different domains of research have been described to identify relevant variables in relation to CTs, including cognitive, motivational, and personality-based approaches (Hornsey et al., 2022). Cognitive science research on misinformation documents, for example, that low levels of analytical thinking (Pennycook & Rand, 2019; Swami et al., 2014) and cognitive ability (Stasielowicz, 2022) are associated with believing in CTs. Individuals who hold conspiracy beliefs also show a tendency to apply biased heuristics to explain events, e.g., a "major event-major cause" bias (Leman & Cinnirella, 2007) or disconfirmation

[4] Milton Friedman used and popularized the term to illustrate the concept of opportunity costs in his 1975 book of the same name.

bias (Georgiou et al., 2021). Believing in one CT is associated with believing in further CTs, even if they are mutually exclusive (Wood et al., 2012).

The motivational approach finds for instance that a need for uniqueness (Lantian et al., 2017), feelings of social exclusion (Graeupner & Coman, 2017), and a desire to maintain a positive image of the self or one's in-group (Douglas et al., 2017) are associated with higher conspiracy beliefs. The same relation could be established for feelings of powerlessness (Abalakina-Paap et al., 1999).

Research on personality and misinformation provides evidence for general susceptibility to believe in CTs, i.e., the conspiracy mentality (Bruder et al., 2013; Imhoff et al., 2022). Beyond that, the Dark Triad consisting of narcissism, Machiavellianism, and psychopathy has been found to be associated with a tendency to embrace CTs (Cichocka et al., 2016; Douglas & Sutton, 2011; March & Springer, 2019). Demographic characteristics, including lower levels of education (Douglas et al., 2016), income (Uscinski & Parent, 2014) and media literacy (Craft et al., 2017), have also been explored and found to be influential.

Belief in false information has been found to lead to various detrimental attitudes and behaviours, such as science denialism, in particular in respect to climate change (Lewandowsky et al., 2013; Lewandowsky, Cook, et al., 2015; Lewandowsky, Gignac, et al., 2015), lower intentions to engage in politics (Jolley & Douglas, 2014), out-group hostility (Marchlewska et al., 2019), an increased openness to everyday crime (Jolley et al., 2019), a lower adoption of protective measures during the COVID-19 pandemic (Bierwiaczonek et al., 2022), and vaccine hesitancy (Hornsey et al., 2018, 2021).

In the face of these myriad factors that influence individuals and the wide-ranging consequences of the resulting false beliefs, this dissertation project addresses the following research question:

What makes individuals susceptible to false information?

In the remainder of this chapter, I introduce the conceptual framework and research approach of this dissertation project, before describing the individual contribution of each chapter. I conclude this chapter with an overview of findings and an outlook for future research.

1.1 Conceptual Framework

Given the wide range of potential ways to approach this research question, this dissertation project builds conceptually on Kurt Lewin's seminal work. As early as 1931, Lewin postulated that behaviour is the function of a person and its interaction with the environment, given in the equation $B = f(P,E)$ (Lewin, 1939). Embedded in field theory, Lewin stated that it is possible to understand and predict behaviour by identifying the psychological forces that affect a person, and thereby the person's behaviour, at a given point in time (Diamond, 1992). Although field theory is largely used in organizational behaviour studies as a basis for understanding change, Lewin initially developed the theory to assess individual behaviour (Burnes, 2007). As Burnes and Cooke (2013) point out, field theory offers "a holistic view of human behaviour that focuse[s] on the entirety of a person or group's perceptual or psychological environment" (p. 420). Field theory is applied here as an analytical framework to better dissect the forces that influence individuals, i.e., that make them more susceptible to misinformation. I understand susceptibility in respect to the factors that increase an individual's propensity to adopt beliefs based on false information. Hence, in the context of this dissertation, the B in Lewin's formula refers to "beliefs", P to psychological forces within the person, and E to the (techno-)environment.

As mentioned above, the role of intra-individual factors in the context of misinformation and CTs (e.g., conspiracy mentality, traits that interfere with knowledge acquisition and transmission such as epistemic vices and bullshit receptivity, etc.) has been widely discussed in academic literature (Imhoff & Bruder, 2014; Meyer et al., 2021; Pennycook & Rand, 2020; Swami & Furnham, 2014). In contrast, environmental factors beyond social media have received far less attention. Nonetheless, several authors have implicitly referred to environmental factors, such as high-choice media environments (Van Aelst et al., 2017), network heterogeneity (Hampton et al., 2011; Mutz & Martin, 2001), or group polarization (Isenberg, 1986; Sunstein, 2018) that could be influential in the adoption, consolidation, or further dissemination of misleading beliefs. However, with the exception of some recent studies (such as Adam-Troian et al., 2021; Imhoff, 2022; van Prooijen & Song, 2021), cultural aspects, as quasi-environmental or contextual factors, and values remain largely understudied with respect to misinformation.

While Lewin underscores the relevance of the physical environment (Lewin, 1939), the physical space surrounding an individual is in isolation insufficient to explain

susceptibility to misinformation. Due to widespread penetration of the internet and availability of mobile devices, individuals now have unfettered access to digital media, discussion fora, and other social media. Fundamentally, social media became a crucial part of many people's informational environment and therefore needs to be addressed in misinformation research.

In light of these various forces, this dissertation project focuses on a selection of two types of factors: intra-individual, in particular trust and values, as well as techno-environmental, in particular social media and culture. Figure 1 illustrates the resulting analytical approach to discern aspects of misinformation susceptibility.

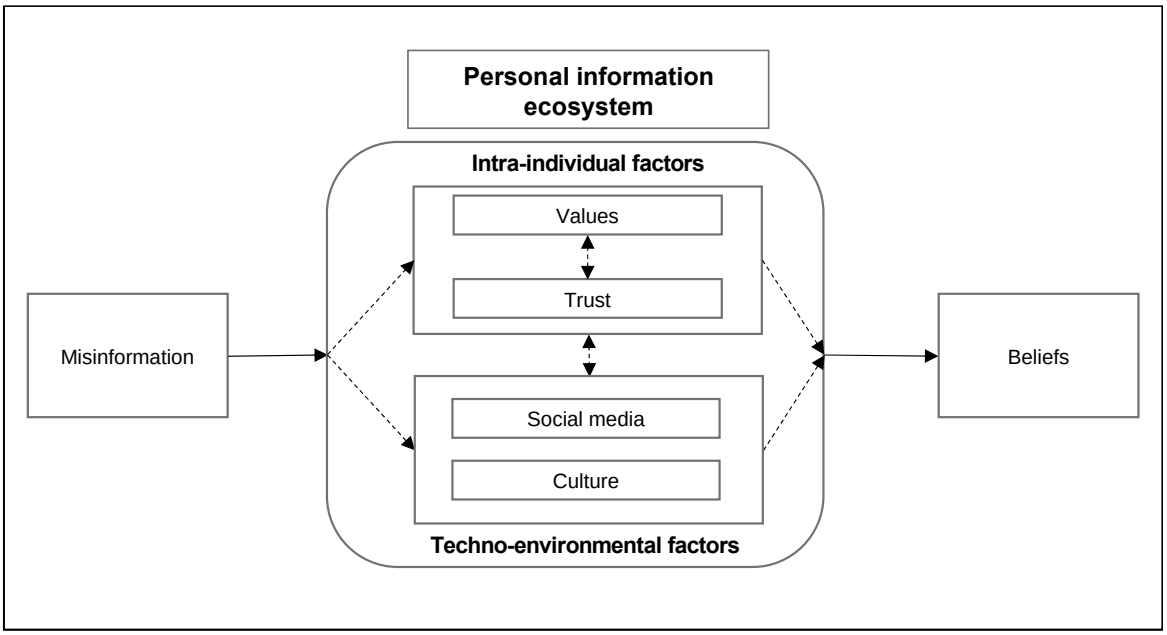

Figure 1. Analytical approach for dissertation project

The selection of values and trust for the intra-individual domain is driven in part by a lack of research on the association between values and misinformation. Trust, in contrast, is discussed often in the literature, but rarely in a comparative manner in the context of misinformation. Additionally, trust offers a bridge between the psychological and political science literature.

The techno-environmental variables connect the micro with the macro level through culture and, given the outsized role of technology in the contemporary information ecosystem, also addresses how social media shape individuals' exposure to and perception of false information. Conjointly, the research design addresses the general research question from various perspectives and offers an attempt to integrate different levels of analysis.

1.2 Research Approach

To address the overarching research question, I chose a cumulative approach. My dissertation consists of three academic articles, each of which approaches the research question from a different angle, both conceptually and methodologically. One chapter is a theoretical analysis, and two chapters are empirical investigations.

Chapter 2 serves as both the conceptual basis and starting point for the dissertation. It reviews the academic literature on the negative effects of social media and their impact on democracy, as well as develops a taxonomy that informs my understanding of social media as a vector for misleading information. Some of the ideas developed in this chapter have been used in subsequent articles (Abels, 2022; Abels & Hardegger, 2022) and book chapters (Anheier & Abels, 2020).

In Chapter 3, I approach my research question experimentally. Based on the finding that comparative research has largely neglected social media platforms beyond Facebook and Twitter, I investigate a range of popular social network sites, such as Instagram, LinkedIn, Telegram, and WhatsApp, and assess their respective impact on the trustworthiness of news items presented on them. Consequently, Chapter 3 analyses how an individual's informational environment affects credibility judgements.

Chapter 4 concludes my investigation by offering an analysis of intra-individual factors related to the belief in false information. Based on a data set collected in a special iteration of the *World Values Survey* in the wake of the COVID-19 pandemic, the so-called Values in Crisis project (Aschauer et al., n.d.), I assess the role of country-level culture on individual-level trust and values in a person's propensity to believe in CT. In particular, I compare respondents from Germany and Poland to identify trust and value patterns that affect conspiracy beliefs. The following sections provide an overview of each chapter.

1.2.1 The Impact of Social Media on Democracy – Investigating the Effects on Individuals and Groups

Chapter 2 will provide an overview of the mechanisms in which social media affects individuals and groups. A particular focus of this chapter is to review the literature on news consumption via social media, selective exposure and motivated reasoning, political sophistication, and ideology, as well as media use and political discussion. In

this respect, it incorporates various strands of literature, ranging from journalism to political science and cognitive science. In terms of group-level effects, the chapter discusses group polarization and network heterogeneity, both of which potentially contribute to an increasing societal trend towards political polarization (Bail, 2021). Beyond the individual and group levels, the chapter also addresses the role of systemic factors. Here, the increasing availability of niche media outlets that cater to every political position resulting in a high-choice media environment (Van Aelst et al., 2017), as well as the growing concern about misinformation and relativism, are discussed.

Although this chapter primarily assesses social media in respect to its effects on democracy, it fulfils an intellectual dual purpose for the subsequent parts of this dissertation. Firstly, the chapter informed my further understanding of the research question by highlighting the mechanisms by which social media distributes misinformation. Accordingly, this second chapter of my dissertation provided the basis for Chapter 3. Second, it connects the individual with the societal level by focussing on the potential of social media to weaken democracy.[5] This connection between the individual and the broader cultural context is subject to further investigation in Chapter 4.

1.2.2 Is Social Media Affecting the Perceived Trustworthiness of Misinformation? Evidence from Experimental Comparisons

After having analysed the role of social media as a vector for misinformation, Chapter 3 investigates whether the respective platform on which misleading content is distributed matters in respect to the likelihood of individuals both believing and sharing news items that contain misleading information. Although research on misinformation has substantially increased in the wake of the 2016 U.S. presidential election, most research focusing on social media was confined to Facebook or Twitter (Vraga & Bode, 2018), and occasionally WhatsApp (Rossini et al., 2021), with relatively few articles choosing a comparative approach that included other platforms.

This chapter draws specifically on media credibility and information processing literature, as I argue that credibility cues can be seen as properties of the digital environment, i.e., the social network sites (SNSs). Based on the suggestions of dual processing models (Chaiken, 1980; Kahnemann, 2011), I hypothesize that most users

[5] Although recent literature suggests that social media can both weaken and strengthen democracy (see Lewandowsky & Pomerantsev (2020) as well as Lorenz-Spreen et al. (2022)).

of SNSs are inattentively browsing sites, and therefore do not question the credibility of either the message or its sources in detail, thus making the superficial properties of the information environment more important. Furthermore, I assume that those users with a higher cognitive ability, e.g., expertise in domains encountered on SNSs, do not have to rely on these superficial cues as information processing is less resource-demanding to them. In these situations, surface credibility might serve as the more salient heuristic to assess news credibility (Tseng & Fogg, 1999). Beyond credibility judgements, the chapter tries to assess whether the perceived trustworthiness also affects individuals' willingness to share pieces of information, with both friends and family as well as strangers. Hence, the research described in this chapter asks whether different SNSs vary in their effect on the perceived trustworthiness of news and respondents' reactions to them.

Based on an experimental approach, I compare seven different SNSs (Discord, Facebook, Instagram, LinkedIn, Telegram, Twitter, WhatsApp) with the Associated Press (AP) website, the latter of which served as a control group. For this purpose, I developed stimulus material that mimicked the user interface of these SNSs, creating the impression of a screenshot taken while browsing the respective platform. Seven different manufactured news stories were randomly shown to participants. Each item consisted of a headline, small teaser text, and a supporting image. Figure 2 provides examples from Twitter. To avoid a partisan bias, the comparatively neutral AP was used as source cue.

Figure 2. Examples of stimulus material used in Chapter 3

In the framework of this dissertation project, Chapter 3 focuses on the techno-environmental aspect of my research question. Given the absence of a comprehensive comparison of various SNSs, as well as the increasing relevance of underregulated

platforms such as Discord and Telegram during the COVID-19 pandemic, the chapter addresses a considerable gap in the literature. Methodologically, the chapter furthermore contributes to the dissertation's mixed-methods approach and showcases my understanding of experimental methods.

The chapter was first published in the *Romanian Journal of Political Science* (Abels, 2021).

1.2.3 Providing Context to Conspiracy Theories: A Multi-Level Comparative Investigation

The fourth chapter contributes to my dissertation by addressing the post-misinformation adoption stage (i.e., holding conspiracy beliefs) and connecting country-level and individual-level aspects. For this purpose, I was able to contribute, jointly with Prof. Mungiu-Pippidi, to the Values in Crisis (VIC) project, which provided an opportunity to collect data on value changes in a multinational team. The resulting data set covered 18 countries in total. Although the research did not explicitly focus on CTs, the available data is comprehensive enough to support this aspect of my research.

To date there have been relatively few studies which investigate the effect of values on holding conspiracy beliefs, even less so ones undertaken as a comparative study. Only recently did the literature start to address this issue (Adam-Troian et al., 2021; Imhoff et al., 2022). Consequently, this study seeks to contribute to this emerging strand of academic inquiry. From a theoretical basis, this chapter builds on the work of Inglehart and Welzel (2010) and of Schwartz (1994), who developed different approaches to the measurement of values. While Inglehart and Welzel (2010) are primarily interested in the macro level, linking a country's economic development to changes in prevalent values, Schwartz's research is mostly concerned with the individual level (Schwartz, 1994; Schwartz et al., 2012). Additionally, I review the current literature on CTs and discuss individual determinants related to believing such theories.

Starting with a country-level analysis, I assess the prevalence of CTs, the average trust in social media, and COVID-19-related data, such as deaths and excess deaths, among others. Based on this data, as well as a classification of countries on Inglehart's materialist-postmaterialist taxonomy (Inglehart, 1977; Inglehart & Welzel, 2009) and the Inglehart-Welzel World Cultural Map 2022, Germany and Poland were selected as case studies for further analysis. Here, I was interested in the individual-level effects

of selected variables on the propensity to believe in CTs and whether the emerging pattern is consistent across both countries. Individual-level variables included three measures of trust (interpersonal, institutional, media), political orientation (left to right), and six values (security, conformity, tradition, benevolence, universalism, self-direction) conceptualized by Schwartz et al. (2001).

Chapter 4 again takes a comparative approach to connect the intra-individual and techno-environmental aspects of this dissertation. The cross-cultural perspective taken in this chapter serves an important purpose to inform my broader analysis. When trying to identify factors influencing individuals' susceptibility to misinformation, either the respective cultural context needs to be acknowledged or cross-cultural variation ruled out as an influential factor.

1.3 Outlook

The research conducted for this dissertation provides partial answers to my general research question. The empirical findings described in Chapter 3 do not suggest a platform-specific credibility effect. Nevertheless, an exploratory analysis provides evidence that prior exposure to misinformation does have a substantial effect on individuals' credibility judgements. In contrast, Chapter 4 illustrates how values and trust differ across countries in their impact on the adoption of conspiracy beliefs. In Germany, several values show a significant effect (security, conformity, tradition, universalism), while most values do not seem to be of influence in Poland. Trust, however, is consistently influential in both countries. Overall, my dissertation underlines the importance of employing a comparative and multi-level approach when conducting misinformation research – an assessment that is shared by various authors (Humprecht et al., 2020; Imhoff et al., 2022; Kozyreva et al., 2022).

In the following three chapters, I present the core of my dissertation. Afterwards, I summarize the findings as well as limitations and show how my research contributes to the literature. I conclude my dissertation with a discussion of avenues for future research.

2. The Impact of Social Media on Democracy – Investigating the Effects on Individuals and Groups

2.1. Introduction

People around the world spend an increasing amount of time using social media to read news, interact with family, friends, and fellow citizens, and engage in political discussion. How these different types of behaviour affect democracy is a major topic of public debate. In November 2017, *The Economist* ran a headline asking whether social media threatens democracy (The Economist, 2017). In this piece, the magazine argues that "without decent information, civility and conciliation, societies resolve their differences by resorting to coercion". Further, "[i]n a liberal democracy nobody gets exactly what he wants, but everyone broadly has the freedom to lead the life he chooses". In that sense, democracy is fundamentally a system of compromise. With the challenges posed by so-called fake news and increased partisanship, social media "erode the conditions for the horse-trading" which was the basis for compromise and therefore the precondition for people's peaceful coexistence. Here, *The Economist* points out that change in attitudes and behaviours ultimately poses a threat to democracy. The mechanisms underlying this change, however, need to be better understood in order to more clearly identify the threat.

This chapter offers a review of findings and important concepts in the context of social media. I define social media according to Margetts et al. (2016) as "Internet-based platforms that allow the creation and exchange of user-generated content, usually using either mobile or web-based technologies" (p. 5). This includes networks such as Facebook, Twitter, and YouTube as well as other communications platforms, including WhatsApp and Telegram. However, this definition only serves as an orientation because, as Sunstein (2018) states, social media is a "highly protean category, and its content changes rapidly over time" (p. 22). The chapter starts with a description of individual-level variables that contribute to social media's detrimental influence on democracy, before moving to group-level variables. Afterwards, systemic factors related to the changing media environment as well as the threatened epistemic status of information are discussed.

2.2. Individual-Level Variables of Social Media Exposure

People use social media in widely different ways. Some use them to read news, some use them merely to engage with friends. Others see social media as a forum for political

discussion. Depending on the platform used, e.g., Facebook or Twitter, and the overall behaviour related to it, one can expect that a potential influence might unfold in different ways. This chapter focuses on two levels of influence at the individual level: attitudes and behaviour.

News Consumption on Social Media

In a survey from Pew Research Center (Shearer & Gottfried, 2017), 67% of U.S. adults report using social media at least partially as a source for news. The most frequented sites here are Twitter (74%), Reddit (68%), and Facebook (68%). For the first time in 2017, Pew also included WhatsApp in their survey, which 23% of participants reported to use as a source of news. The share of individuals who use social media as a news source vary substantially across countries. In Brazil, for example, 66% of individuals consume news on social media, while only 38% in France and 29% do in Germany (Newman et al., 2017).

The news people encounter on social media are in most cases selected by different types of actors: editors and journalists who produce the content and algorithms that select which content to display based on the users' past behaviour as well as the behaviour of their friends (Fletcher & Nielsen, 2018). While in offline contexts, people are free to choose the news source they prefer, given the existing choices provided by journalists, the algorithms developed by technology companies, such as Facebook, make these choices for the users, frequently without their full awareness. This filtering is deemed necessary according to Facebook, because its feed, that is the list of information pieces presented to users, would be overfilled with content, and users might overlook those pieces they are really interested in. Therefore, the algorithm shows only content people are likely to interact with. Additionally, people are shown targeted ads, especially on Facebook, that try to influence their behaviour, mostly for marketing purposes, based on data the company has on its users (Granville, 2018). This algorithmic customization is also referred to as system driven (Dylko, 2016) or termed system-initiated personalization (Sundar & Marathe, 2010).

The Role of Attitudes

Social media provides an opportune environment for creating so-called echo chambers in which individuals can insulate themselves against conflicting opinions by surrounding themselves with like-minded others (Del Vicario et al., 2016; Flaxman et al., 2016). This problem is further exacerbated by algorithmic customization, which

exposes individuals only to content they tend to engage with when browsing social media, further shielding users from diverging views. These filter bubbles create unique realities that users are frequently unaware of and rarely have the chance to opt out of (Pariser, 2011). Therefore, by its very nature, social media has a significant impact on attitude formation. Understanding what attitudes are and how they might influence behaviour is crucial in this context.

Attitudes are understood as evaluations that prompt people to respond negatively or positively to a certain stimulus (Fiske & Taylor, 2013). They are considered to be intervening variables that mediate between a stimulus and a response. The response can be cognitive, affective, or behavioural. Attitudes can fulfil knowledge, value, or social functions. In the sense of its knowledge function, "attitudes help people to make sense of the world, to order and organize it" (Fiske & Taylor, 2013, p. 252). They can also reflect values and the importance people give to their long-term standards and orientations, and how willing they are to maintain them. In their social function, attitudes serve a communications purpose by signalling interpersonal priorities and one's wish to get along well with others (or not).

Attitudes are especially relevant in the context of cognitive dissonance theory (Festinger, 1957), which is often used to depict the mechanism that drives people's news consumption behaviour. Festinger describes two premises about cognitive dissonance: When dissonance emerges, i.e., when the information or image before them is contrary to their attitude, demeanour, belief, etc., people are motivated to reduce the dissonance and return to consonance and, therefore, their comfort zone. And if dissonance is present, individuals will not only engage in dissonance-reducing behaviour, but also "actively avoid situations and information which would likely increase the dissonance" (p. 3).

Cognitive dissonance theory states that people encounter negative arousal when being confronted with incompatible cognitions. For example, when people who smoke are confronted with information that describes the harmful consequences of smoking, but see themselves as physically healthy, cognitive dissonance occurs. The psychological discomfort resulting from this situation, cognitive dissonance theory predicts, motivates people to behave in a way that allows them to lessen that dissonance (Martinie et al., 2013). The negative arousal can be reduced in several ways: The people can change the relevant attitude to align closer to the counter-attitudinal behaviour shown by the act of smoking; support this behaviour by repeating it and

thereby rationalizing the act; maintain their usual behaviour, trivializing the relevance of the information involved in the dissonance; or deny any responsibility for their behaviour.

Selective Exposure and Motivated Reasoning

As Festinger (1957) also states, people are highly motivated to either reduce or avoid dissonance by selectively seeking information that supports pre-existing attitudes. In the case of information that supports one's own viewpoint about a certain political topic, such information-seeking behaviour is called selective exposure (Metzger et al., 2020).

Several studies provide evidence that selective exposure occurs frequently. Research by Iyengar and Hahn (2009) indicates that people choose news sources according to their political ideology. Given the choice between Fox News, CNN, BBC and NPR, conservative participants chose more often Fox News than other sources, while liberals tended to avoid Fox News. This is supported by other findings showing that liberals tend to prefer NPR, MSNBC, and the *New York Times* over other outlets as their main source of political news, while conservatives again showed a strong preference for Fox News (Mitchell et al., 2014). Knobloch-Westerwick and Meng's (2011) work reports similar findings and furthermore shows that selective exposure is independent of the political issue searched for and the context of media use (lab vs. individual usage). Garrett (2009) shows that when providing people with attitude-consistent and attitude-challenging news stories, they were more likely to choose those stories that seem to support their opinions. However, Metzger et al. (2016) argue that the mere presence of attitude-consistent sources is not necessarily preventing people from consuming attitude-inconsistent information. Additionally, it is likely that the phenomenon of selective exposure is more pronounced online, since consumers can more easily chose the kind of information they are willing to expose themselves to. Although this demands that individuals are motivated to free themselves from algorithmic content curation.

A related concept is motivated reasoning, which consists of disconfirmation and attitude congruence bias which influence how people process information that are inconsistent with their attitudes (Kraft et al., 2015). With attitude disconfirmation, people tend to believe information they like, while actively rejecting information they disagree with (Taber & Lodge, 2006; Taber & Young, 2013). Here, people engage in cognitive effort aimed at reducing any negative consequences, e.g., discomfort, that

might result from attitude-inconsistent information. People find many ways to counter-argue such attitude-challenging information, such as discrediting the way evidence was collected or questioning the reliability of the information's source (Taber et al., 2009). As Ditto and Lopez (1992) point out, when people are, for example, confronted with a threatening medical diagnosis, they actively search for alternative explanations to cope with the bad news. The authors show that people who were confronted with preference-consistent information needed less information to come to a decision and were less critical about it, while preference-inconsistent information led to a more thorough assessment. Furthermore, Ditto et al. (1998) found that information that fits or supports a person's preferences is investigated more intensely than information that contradicts one's preferences, and that judgements about inconsistent information are more likely to take the quality of that information into account. With attitude congruence bias people perceive attitude-consistent arguments and information as more convincing than inconsistent ones (Taber et al., 2009).

Another aspect of motivated reasoning is attitude polarization. Here, biased information processing leads to more polarized attitudes, causing people of different political ideologies to have stronger attitudes after having processed information than before (Taber et al., 2009). In two experiments, Nyhan and Reifler (2010) confronted participants with different mock-up newspaper articles. They manipulated whether the presented false claim from a politician was corrected or not. Their results showed that these corrections frequently failed to reduce the misperceptions, understood as beliefs about different matters that lack evidence. Depending on the participants' ideology the attempt to correct these misperceptions even exacerbated the error, what Nyhan and Reifler termed a backfire effect.

In that sense, selective exposure and motivated reasoning are related in that both deal with attention processes. While selective exposure predicts that people tend to give attention only to information that is attitude-consistent and to avoid anything that is attitude-inconsistent, motivated reasoning implies a focus on attitude-inconsistent information (Ditto & Lopez, 1992). However, this is not a contradiction. As mentioned above, many authors have found that when provided with different options, people tend to choose the information that is consistent with their attitudes (Bennett & Iyengar, 2008; Garrett, 2009a; Iyengar & Hahn, 2009). If they encounter inconsistent information, incidentally on social media for instance, they often engage in motivated reasoning and try to come up with counterarguments, proving the encountered

information wrong. Additionally, as Weeks et al. (2017) found, when strong partisans incidentally encounter attitude-challenging information, they actively seek attitude-consistent information. The authors postulate that this behaviour is driven by the need to reaffirm their political self-concept, understood as a strong identification with a political party, political beliefs, and party membership.

Political Sophistication and Ideology

People differ in the way they engage in politics, and therefore also differ in the way they process political information (Luskin, 1990). One could expect that a higher level of expertise in the interaction with political information increases the likelihood of balanced information processing. Taber and Lodge (2006) found that sophisticated individuals, who had both stronger prior attitudes and a biased information processing, showed strong polarization, compared with unsophisticated participants, who did not show polarization. More generally, the authors reported evidence that biased information processing led to strong polarization. Although the study was designed to explicitly promote balanced evaluation of different policy arguments, partisan bias was consistent "with a substantial attitude polarization as the result" (p. 767). Politically sophisticated discussants also show strong attitude belief effects, where attitudinally supportive arguments are perceived as more convincing than incongruent arguments. Taber and Lodge argue that holding on to a certain attitude is rational in the sense that people invested in forming the argument and are therefore unwilling to drop it easily. However, in the logic of Bayesian updating, it is necessary that new information is independent of any priors, in order to integrate the recent evidence and come to a decision. Here, it is irrational to confound new evidence with prior beliefs, because it undermines the ability to effectively respond to environmental challenges.

A cognitive basis for the interpretation of information can be found in the concept of political ideology. Ideology can be conceptualized in different ways, as Jost, Federico, and Napier (2009) pointed out. The most common concept follows a one-dimensional right-left classification, where right-wing is often associated with terms such as "fascism", "conservatism", "capitalism", "nationalism", and "individualism". Left-wing, in contrast, is associated with "progressive", "equality", "solidarity", "opposition", "socialism", as well as "communism". It is widely debated whether this unidimensional classification is appropriate to address a heterogeneous concept like ideology. Several studies suggest a two factor structure of ideology, addressing social

or cultural issues as well as economic issues as distinct dimensions (Duckitt et al., 2002; Layman & Carsey, 2002). Despite this limitation, I use the unidimensional concept in defining political orientation for my analyses in Chapters 3 and 4.

Media Use and Political Discussion

As an important source of political information, and therefore the basis for political discussion, news consumption in the context of social media should have an impact on individuals – especially since evidence supports the link between media use and support for democracy (Chang, 2017). Ceron and Memoli (2016) used Eurobarometer data to investigate whether news consumed from traditional outlets or social media affect satisfaction with democracy. They found that the mere usage of Internet and social media does not affect democratic support. "What makes the difference is the consumption of on-line news" (Ceron, & Memoli, 2016, p. 236). These results suggest that consuming news on social media can decrease satisfaction with democracy.

Traditional media consumption, on the other hand, appears to increase satisfaction. This phenomenon is explained by referring to the way information is presented in the respective environments. Typically, traditional news outlets follow a top-down approach, similar to traditional offline media, in which "political information is diffused by the political elite that can slant news to preserve own interests and support the established democratic system, allowing only limited room for alternative viewpoints" (Ceron & Memoli, 2016, p. 236). This argument is supported by Chang (2017), who states that traditional media seems more likely to favour messages driven by and supportive of the government or political elites. This association does not hold in the context of social media. Here, the content provided by users is not mediated or filtered by editorial boards, making the interpretation dependent on the individual. This "bottom-up stream information" provides the basis for "anti-system arguments", which decreases satisfaction with democracy (Ceron & Memoli, 2016, p. 237).

Using the Taiwan Social Change Survey 2010 data set, Chang (2017) found that media use fosters democratic socialization, thereby increasing people's engagement in political activities. Attitudes toward democracy have an influence on political participation both in the context of elections as well as non-electoral contexts. Furthermore, media consumption has a positive influence on attitudes toward democratic values. This includes time spent reading newspapers, watching news on TV, and online news reading.

Trust in national parliament is also positively associated with news media use (Strömbäck et al., 2016). However, this relationship differs between media types. While the relationship stays positive for morning newspapers and public service TV news, the relationship becomes nonsignificant for commercial TV news. Strömbäck et al. (2016) also investigate whether the relationship between trust in parliament and news media use changes over time, which appears to be not the case.

When discussing politics on social media, people might encounter situations in which they perceive themselves as surrounded by counter-attitudinal views, fostering disagreement, and thereby producing "flames", i.e., exchanges of hostile messages. Rather than highlighting the value of deliberation, flaming can discourage open debate and the emergence and expression of heterogeneous ideas, which then leads to increased scepticism of democratic practices and democracy itself (Ceron & Memoli, 2016; Lee et al., 2014). Ceron and Memoli provide evidence that encountering disagreement might be the necessary condition that explains the mechanism between social media news consumption and the decline in support for democracy. Accordingly, heterogeneity encountered on social media does not necessarily make people more open-minded (Lee et al., 2014). According to Wojcieszak and Mutz (2009), political conversation is essential for democracies to function effectively, especially if it exposes individuals to uncongenial viewpoints. They argue that citizens who engage in political discussions with other citizens will gain more sophisticated opinions because they become both more informed and more tolerant. Unlike Ceron and Memoli (2016), Wojcieszak and Mutz see disagreement as especially valuable, since it will make people take other opinions into account and re-evaluate their own.

2.3. Group-Level Variables

Besides social media's impact on individuals' behaviour and attitudes, investigating how social media shape group composition and intra-group processes is of great importance as well. Since a major aspect of social media is the interaction among users, group processes are likely to occur, especially since many networks, such as Facebook, are providing functions to set up private groups, which are often dedicated to discussing specific topics.

Group Polarization

The concept of group polarization describes the phenomenon that group members tend to hold a more extreme view compared to individuals, after having discussed an

issue within the group (Isenberg, 1986). In this context, attitude polarization is understood as "the strengthening of one's original position or attitude" (Stroud, 2010, p. 557). Sunstein (2018) highlights the relevance of group polarization in the context of discussions on social media because online communication eases the way people can surround themselves with like-minded others. In general, the internet can facilitate the matching of like-minded people and strengthen geographically distributed communities with a shared ideology (Van Alstyne & Brynjolfsson, 1997). Some online communities can turn into echo chambers in which group members avoid contrary ideas by surrounding themselves with others who share their attitudes, preferences, or opinions (Cacciatore et al., 2016). This has implications for discussions between communities: According to Van Alstyne and Brynjolfsson (1997), when people seek interactions only with others who share their own values, they "become less likely to trust important decisions to people whose values differ from their own" (p. 24). Sunstein adds: "In countless domains, human beings show 'homophily': a strong tendency to connect and bond with people who are like them" (Sunstein, 2018, p. 1). This, as he argues, is a necessary precondition for polarization.

As Weeks et al. (2017) found, when strong partisans encounter attitude-consistent news or information, they tend to share it on social media. Accordingly, if they spread the news within their group, discussion about the shared content increases the polarization of the affected attitudes. This is strengthened by the availability of partisan information, which makes it easy to find news and other content that fit one's own attitudes (Bennett & Iyengar, 2008).

Like individuals, groups also fall for confirmation bias, making them prefer supporting over conflicting information. This is especially prominent in homogeneous groups. In two experiments, Schulz-Hardt et al. (2000) gave high school and college students as well as managers of industrial companies and banks a case study in which they were asked to decide whether a German company should invest in an emerging market and partly relocate its production there. At first, participants made their judgements individually, before being assigned to a group. The groups were composed either homogeneously, according to the members' individual decisions, or including a minority of persons with a deviating opinion. After having made a preliminary group decision, the groups received additional information, consisting of ten statements written by economists about the case, with an equal number of statements in favour of or against the investment. The groups were asked then to decide which of the

statements they want to read. After having selected the articles they were interested in, the experiment ended.

The authors found that groups that included individuals with dissenting opinions were more balanced in their information search than completely homogeneous ones. Additionally, even in the experiment with experienced participants, i.e., bankers and managers from industrial companies, group homogeneity still led to confirmation bias in that they selected articles that supported their original decisions. These findings are consistent with conversion theory (Moscovici, 1980), which stresses the importance of minorities within groups arguing against majority group opinion, thereby balancing the discussion.

Network Heterogeneity

While the attitudes of like-minded people within groups are likely to become even more alike and more intense, a more heterogeneous network might prevent this increased attitude polarization. As Mutz and Martin (2001) argue, "political talk that centres on reinforcing a shared viewpoint does little to encourage deliberation on multiple perspectives or promote a public sphere" (p. 97). Evidence so far is mixed, however. Lee et al. (2014) did not find a direct association between network heterogeneity and measures of polarization across partisan ideological and issue-based measures. They argue that the relationship is indirect, moderated by political discussion. Interestingly, for individuals who engage in political discussions more frequently, higher heterogeneity is associated with more polarized opinions in the domains of party and ideology. This does not hold for less active political discussants.

A cause for this is seen in biased information processing (see pp. 16-17 under individual-level variables), introduced earlier as an aspect of motivated reasoning. Although diverse information is available due to a heterogeneous network, active discussants tend to use only a subset of this information. Even more, Lee and colleagues (2014) state that individuals who already hold more radical positions actively seek out information contrary to their own opinion, because they are sure of their ability to counter argue it (Lee et al., 2014). The same is true for politically more sophisticated people (Taber & Lodge, 2006). However, Lee et al. (2014) argue that this pattern might be different across certain types of social media, e.g., Facebook and Twitter. Although they are very hesitant to interpret their data in a causal way, they state that "network heterogeneity leads to partisan and ideological polarization" (p. 717).

Providing some support for this hypothesis, Bail et al. (2018) found that partisans who are exposed to counter-attitudinal messages on Twitter can become more polarized. Based on an experimental design, self-identified Democrats and Republicans were asked to follow a conservative or liberal Twitter bot, respectively. In the control condition, individuals were not systematically exposed to opposing political views. Follow-up measurements one month after the initial treatment identified a significant polarization amongst Republicans, who became more conservative. In contrast, no significant effect was found amongst Democrats. Therefore, a polarizing effect of exposure to counter-attitudinal messages appears to be dependent on partisanship, although the authors do not offer an explanation for their findings.

Kim (2011) furthermore reports evidence that the use of social network sites increases people's incidental exposure to different political views, regardless of their political orientation. Consistent with Lee et al. (2014), Kim's study found that political messaging, e.g., commenting on discussions in chat rooms or on bulletin boards, affects the user's exposure to political differences, and also mediates the relationship between use of social network sites and exposure to opposing perspectives. As a response to political messaging, exposure to political difference is more likely for non-partisans, but partisans are neither less nor more likely to engage with incongruent views.

The idea of incidental exposure is also discussed by Wojcieszak and Mutz (2009), who highlight the role of the social context as an important factor that contributes to polarization. The authors conducted research based on a sample of chat room and message board users. They found that highly partisan people are not more likely to select themselves into like-minded groups. However, those who are active in online political discussion groups are "likely to have their views reinforced by others" (pp. 50-51). They also report that even those with strong political preferences encounter opposing opinions in non-political online groups, where political discussion happens rather incidentally.

2.4. Systemic Factors

In addition to individual- and group-level variables, systemic factors, such as the media environment as well as changed understandings concerning the epistemic status of information, have to be considered as well. Systemic factors are subsequently understood as informational environments, which can influence social media.

High-Choice Media Environments

Social media is not a closed system. The content engaged with on Facebook, Twitter, and the like is in many cases brought in from other parts of the internet. Therefore, it is important to look at the supply people can choose from and eventually share on their social media channels. Because if they want, people can easily avoid news they do not like and consume news only from those websites that provide attitude-consistent information. After having read those websites, they can share the news items through social media and engage in political discussion. Therefore, analysing the media environment, and the information environment created by it, is crucial for the understanding of the dynamics occurring on social media.

Esser et al. (2012) define the political information environment as "the quantitative supply of news and public affairs content provided to a[n] audience by routinely available sources" (p. 250). The political environment is, accordingly, the structure that provides opportunities for viewers to inform themselves – a necessary precondition for citizens to make informed choices. According to Sunstein (2018), a system that supports free expression, a substantial foundation of citizens' involvement in democracy (Dahl & Shapiro, 2015), needs to fulfil two requirements: First, it must expose people to materials they would not necessarily have chosen in advance, and second, it must provide the context for people to acquire and share a wide range of common experiences. The first aspect refers to the concept of choice architecture, which enables people to encounter topics and perspectives that they did not particularly search for. These encounters are "central to democracy itself", as Sunstein argues (p. 6). Shared experiences, the second aspect, act as a form of social glue that eases understanding within society. A society that lacks these experiences, especially a heterogeneous one, will be less able to democratically address social problems. Sunstein also states that shared experiences make people perceive each other as more familiar.

Changes associated with the advent of the internet and social media have considerable impact on this environment. Although, according to Mitchell et al. (2016), the traditional mass media are still Americans' most relevant source of political information, an increasing number of people use social media at least partly to receive news and information. Outside the U.S., however, the number of individuals using social media for news is mostly stagnating or even declining, with few examples such

as the United Kingdom, which still sees an increase in news consumption on social media (Newman et al., 2017).

There are substantial changes in the supply of political information: The number of media channels has increased as well as the opportunities to receive niche or partisan information, especially on the internet (Stroud, 2011; Van Aelst et al., 2017). In this high-choice media environment, the audience is much more fragmented, "either because the supply matches a demand for niche or partisan media or because the supply creates a greater demand for media tailored to people's political beliefs" (Van Aelst et al., 2017, p. 12).

The concern here is, Van Aelst et al. argue, that this fragmentation also affects the public sphere and exacerbates societal conflicts due to, among others, increased polarization. Sunstein (2018) states, in this respect, that fragmentation leads to a decrease in the number of shared experiences people have. But as shown in the context of selective exposure discussed earlier in this chapter, it is not only the supply side that influences the information environment; the demand for more personalized and attitude-consistent information is also a major driver of fragmentation (Garrett, 2009b; Iyengar & Hahn, 2009; Stroud, 2011). Accordingly, Prior (2013) argues that the changing media landscape, from low to high choice, provides people with more opportunities to select attitude-consistent information, creating the necessary precondition, i.e., media exposure, for attitude polarization.

Using data from the 2004 National Annenberg Election Survey, Stroud (2010) finds that exposure to attitude-consistent media contributes to higher polarization. She argues that the polarizing effect of exposure to homogenous social networks can be extended to homogeneous media exposure. Asking whether polarization leads to partisan selective exposure or is caused by it, her results suggest that polarization can be seen as a result of partisan selective exposure. Prior (2013), however, states that the relationship is more complex than that because the impact of ideologically slanted media depends on the followers' pre-existing attitudes as well as their political sophistication.

Relativism and Misinformation

On January 22, 2017, the U.S. President's advisor, Kellyanne Conway, gave an interview on *Meet the Press*, an American news show that focuses on interviewing politicians. The host, Chuck Todd, asked Conway about a statement Sean Spicer, the

White House press secretary, made about the number of people attending President Donald Trump's inauguration. Spicer called it the “largest audience to ever witness an inauguration, period” (Stelter, 2017). However, as fact-checking websites estimated, a maximum of 600,000 people attended Trump’s inauguration, while around one million visitors came to see Barack Obama’s second inauguration four years earlier. Being asked about this discrepancy, Conway answered: “You’re saying it’s a falsehood, and they’re giving – our press secretary, Sean Spicer, gave alternative facts to that” (Blake, 2017).

This short interaction is exemplary for the public concern regarding the so-called “age of post-truth politics” (Davies, 2016), a term that was almost unknown less than a decade ago but received great attention since then (Lewandowsky et al., 2017). “At the core of the concern of ‘post-factual’ relativism is that the epistemic status of information and knowledge has increasingly become an issue of public debate up to the point where factual information is often downgraded to mere opinion” (Van Aelst et al., 2017, p. 14). Here, discussions are not based on evidence, but on whatever argument supports one’s own position.

Van Aelst et al. (2017) furthermore state that political actors appear to be less committed to the truth, which increases relativism even more. In the late 2010s, the U.S. proved to be the prime example of this. As the *Washington Post* reports, from his inauguration in January 2017 to May 2018, Trump made 3,001 “false or misleading claims” (Kessler et al., 2018), a trend that had already begun during his campaign. The independent fact-checking website PolitiFact rated 70% of Trump’s statements made during the 2016 presidential campaign as either false or mostly false (Lewandowsky et al., 2017). Other presidents, of course, have made false or half-true statements as well, including Trump’s predecessor Barack Obama, for whom PolitiFact counted 311 statements that were half-true or even less accurate (PolitiFact, n.d.). Still, in less than two years President Trump made around ten times more false statements than Obama did during his whole presidency.

As van Aelst et al. (2017) argue, the increasing relativism of facts provides a strong reason for concern, since it is unclear how this erosion of a shared basis of facts influences public debate. Furthermore, it raises questions about consensus building in environments that are polarized by ideology. Evidence by Schaffner and Luks (2018) shows the impact of political affiliation on individuals’ perception. During the two days after Trump’s inauguration, Schaffner and Luks ran an online survey showing 1,388

US adults photos taken from the Washington Monument, in Washington, D.C. Figure 3 shows the material used in the study. Participants did not receive any additional information, and the photos were labelled only as A and B.

Figure 3. Photos of inauguration crowds used by Schaffner and Luks (2018)

Participants were assigned two tasks. The first was to indicate the picture that shows more people; the second was to identify the photo taken during Trump's inauguration and the one taken during Obama's. Schaffner and Luks (2018) reported that 15% of Trump voters thought picture A showed a larger crowd than picture B did, while only 2% of Clinton voters and 3% of non-voters thought the same. As to which photo was taken of whose inauguration, 23% of Trump voters with higher education (at least a college degree) and 46% of his supporters without a college degree identified picture A as having been taken during Obama's inauguration (not Trump's as was the case).

The authors argue that these findings might not be genuine misperceptions, but at least partly caused by what Bullock et al. (2015) called expressive responding. This means that participants intentionally give misleading answers to support their political party's position. Providing respondents with small incentives for correct and "don't know" answers, Bullock et al. were able to reduce the difference between Democrats and Republicans when asked partisan questions. They conclude that partisan divergence seen in public opinion surveys is partly due to partisan cheerleading. As Gaines et al. (2007) state, people prefer those policy options that are in line with partisan goals. This is especially true for highly informed persons, who are more able to rationalize their beliefs and interpret facts in a way that is congruent with their political view.

Aside from a rationalization of beliefs, those rejecting the idea of an objective access to reality, and who consequently have little interest in the accuracy of information, contribute to the increasing relativism of the post-truth world. According to Frankfurt (2005), these individuals can be understood as antirealists. Instead of finding a shared basis of facts, these people try to provide a sincere representation of what they believe themselves and how they perceive the world. As a result, facts, as accurate representations of the true state of affairs, become less relevant for these individuals than how they feel about the world.

The consequences of this stance towards facts can be illustrated by a notable exchange between Newt Gingrich, former Speaker of the U.S. House of Representatives, and CNN journalist Alisyn Camerota during the 2016 Republican National Convention. In the interview, Camerota, citing FBI statistics, points out that violent crime in the U.S. has dropped in the last years. Gingrich, however, rejects that information, arguing that "[t]he average American, I will bet you this morning, does not think that crime is down, does not think that we are safer" and that "[a]s a political candidate I'll go with how people feel, and I'll let you go with the theoreticians" (Siegel, 2016). Accordingly, the feeling individuals have about an issue ultimately determines how policymakers can address an issue. In his critique of the antirealist doctrine of sincerity, Frankfurt (2005) states:

> "Facts about ourselves are not peculiarly solid and resistant to sceptical discussion. Our natures are, indeed, elusively insubstantial – notoriously less stable and less inherent than the natures of other things. And insofar as this is the case, sincerity itself is bullshit" (p. 66-67).

Besides issues related to factual relativism, there is also a substantial amount of plain misinformation, or more precisely disinformation (given its intentional character), circulating on social media. It is often used in a strategic way to achieve certain goals, such as undermining the scientific consensus concerning climate change (van der Linden et al., 2017), or as shown in the case of Lisa F., where false claims about a Russian-German girl falling victim to sexual assault led to a political dispute between senior German and Russian diplomats and demonstrations in several German cities, it can also be used to mobilize people against alleged government misconduct (Fulker, 2017). What increases misinformation's impact is its endurance. Research shows that it is very difficult to correct the false beliefs caused by the original misinformation

(Ecker et al., 2011; Lewandowsky et al., 2012). In some cases, trying to correct those misbeliefs can even backfire, thereby strengthening them (Nyhan & Reifler, 2010).

In summary, while those who are highly engaged in politics are less likely to be susceptible to misinformation, they are the most likely to interpret facts in a way that suits their partisan goals. Accordingly, misinformation tends to be especially effective when it targets those who are less politically sophisticated. This might be problematic in contexts where individuals lack the necessary understanding of political processes and customs to reach a conclusion about preferable policies (Bullock et al., 2015). Correcting false beliefs in these groups after they have been exposed to misinformation is, additionally, difficult to achieve.

2.5. Conclusion

Democracy thrives under certain conditions. According to de Tocqueville (1998), these conditions are the historical situation of a country[6], laws, as well as manners and customs of the people, the latter which he refers to as "moral and intellectual characteristics" (p. 124). Early on, de Tocqueville argued that many analysts underestimated the importance of these so-called customs that were supportive of democracy, and overemphasized the relevance of situation and law. According to de Tocqueville, citizens need an orientation towards political life. Following Gibson (1992), this orientation is based on political tolerance and interpersonal trust. Dahl and Shapiro (2015) support this notion by stating that strong support for democratic ideas, values, and practices by citizens and leaders improve the country's prospect for stable democracy. Levitsky and Ziblatt (2018) add that a fundamental aspect for the functioning of democracy is mutual tolerance: Although we might disagree with our rivals, see them as "foolish or wrong-headed", they are not seen as a threat or treated "as treasonous, subversive, or otherwise beyond the pale" (p. 102). With the rise of polarization and the spread of misinformation, this mutual tolerance might be undermined.

[6] In de Tocqueville's description, situation refers to "the peculiar and accidental situation in which Providence has placed the Americans" (de Tocqueville, 1998, p. 113). According to de Tocqueville, the main aspect that "favoured the establishment and the maintenance of a democratic republic in the United States is the nature of the territory that the Americans inhibit" (p. 115). In that sense, de Tocqueville refers to both the geographical situation as well as social conditions in the U.S., e.g., the absence of hostile neighbouring countries, a resource-rich environment, and a state of social equality, which paths the way for the establishment of democratic institutions and prevents the creation of an aristocracy.

Social media is said to threaten these norms of tolerance and constraint due to different processes on the individual and group level as well as systemic factors. At the individual level, people have the tendency to actively seek information that confirms pre-existing attitudes, as predicted by cognitive dissonance theory. While low-choice media environments confronted people with information they did not seek – creating shared experiences along the way – high-choice environments do not provide these experiences since people can always consume the kind of information they want to.

Additionally, social media creates opportunities for like-minded people to interact with each other. Due to group polarization, pre-existing attitudes are reinforced and potentially made more extreme. Such a scenario can be problematic if, for example, out-group members are demonized as a consequence of this polarization. The ease with which misinformation is spread and the vast amount of it circulated on social media further increases the chance that it might have an adverse effect on society: If the majority of a society comes to believe a factually wrong piece of information, this misinformation might become the reason for political decisions that do not serve society (Lewandowsky et al., 2012).

3. Is Social Media Affecting the Perceived Trustworthiness of Misinformation? Evidence from Experimental Comparisons

3.1. Introduction

Misinformation has emerged as a major challenge for societies around the globe – from false or misleading information surrounding elections and referenda (Lazer et al., 2018) to potentially harmful health claims (Swire-Thompson & Lazer, 2020) and falsehoods undermining scientific findings (Lewandowsky et al., 2013; Lewandowsky, Cook, et al., 2015). The proliferation of these claims – in many cases incorporated into a specific conspiratorial belief system – may therefore affect decision-making on an individual level.

Such claims are frequently spread using social network sites (SNSs), understood in the sense of boyd and Ellison (2007) as "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (p. 211). Although SNSs initially started as a straightforward means of staying in touch with friends, their appropriation as political communications tool now garners significant attention from scholars, policymakers, and the public.

SNSs differ in their functionality, user base, and intended use. They also differ in their involvement in the spread of misinformation. As a significant source of misinformation during the 2016 U.S. presidential elections (Guess et al., 2020), Facebook became known for its failure to proactively address misinformation within its platform. With the emergence of the COVID-19 pandemic, Facebook again showed itself to be a potent channel for all sorts of dis- and misinformation. False or misleading claims are widely shared in invite-only Facebook groups, encompassing, for example, claims regarding the mismanagement of public authorities in responding to the pandemic; stories which characterize refugees as "patient zeros" bringing the virus to Europe; or 5G networks as being the true cause of the symptoms caused by COVID-19 (Scott, 2020).

Facebook is hardly the only SNS struggling to control misinformation. By the end of March 2020, Twitter had become the platform with the highest number of false social posts according to a study conducted by Brennen and colleagues (2020). Nearly 60% of these posts involve information that is "spun, twisted, recontextualised, or

reworked" (p. 1), whereas another 38% were found to be entirely fabricated. In examining content shared via WhatsApp, Garimella and Eckles (2020) investigated images distributed on public WhatsApp groups in India. They found that 13% of these images can be considered misinformation, with images taken out of context, manipulated (e.g., with Photoshop), or being used as misleading memes (images with added text) that may alter the intended meaning of the original image.

With the rising popularity and an ever-increasing number of different SNSs, disinformation agents have a growing arsenal at their disposal to systematically spread misinformation. When SNSs struggle to contain the flow of misinformation, their last firewall is then the recipients of the misleading contents, who can avoid being hoodwinked by the falsehoods they encounter. That firewall, however, is full of holes as humans can fall victim to different cognitive biases and constraints that make them susceptible to misinformation. As explained in Chapter 2, individuals are more likely to believe information that is congruent with their own pre-existing attitudes (Taber & Lodge, 2006; Taber & Young, 2013) and will frequently fail to think analytically. This thereby increases individual susceptibility to misinformation (Pennycook & Rand, 2019), and people will have difficulty directing their attention to relevant aspects, such as source and plausibility, related to the bit of information they encounter.

Some authors also evaluate personality traits and psychological dispositions that make people more susceptible to adopting conspiracy beliefs – irrespective of whether these beliefs are related or not. Both trust in others and a belief in an external locus of control (i.e., that many events are beyond individual control) are negatively associated with believing in such intrigues (Abalakina-Paap et al., 1999; see Chapter 4 for more on trust). Imhoff and Bruder (2014) postulate a conspiracy mentality that leads people to be more sceptical about those in power, to blame these groups for negative events, and to engage in behaviour that is intended to challenge the status quo. Conspiracy beliefs are also rarely held singularly – belief in one conspiracy is associated with accepting further conspiracies (Swami et al., 2010). Furthermore, Meyer et al. (2021) provide evidence that the presence of traits which interfere with the acquisition, maintenance, and transmission of knowledge, e.g., prejudice and closed-mindedness, increases a person's susceptibility to misinformation. These traits, called "epistemic vices", are found to have a stronger association with misinformation susceptibility than "political identity, educational attainment, scores on the Cognitive Reflection Test, personality, dogmatism, and need for closure" (p. 1).

Even after exposure to misleading claims it may prove difficult to correct or debunk these, as people do not generally adjust their memory and include new information in their considerations (Johnson & Seifert, 1994; Lewandowsky et al., 2012). Misinformation is thus best addressed structurally at the SNS-level before users are exposed to it. Trying to understand whether and how contextual elements of different SNSs affect their ability to serve as misinformation vectors is therefore a worthwhile building block in current efforts to develop evidence-based policy responses. This is especially true because there appears to be a lack of coverage when it comes to comparative / comprehensive SNS research: more than two-thirds of studies on SNSs address only a single platform, with Facebook being that platform in roughly 80% of cases (Rains & Brunner, 2015).

This chapter contributes to this body of literature on the role of SNSs in misinformation by asking: *do different SNS channels vary in influence over the perceived trustworthiness of news and the users' interactions with news (such as sharing, interacting, forwarding, etc.)?*

I hypothesize that the more trustworthy an SNS is perceived to be, the more trustworthy individual news items that are posted to the SNS are deemed to be (that is, that platform and post trustworthiness are positively corelated). Given the reputational scandals affecting several global SNSs (e.g., Cambridge Analytica in relation to Facebook), I expect that those SNSs whose reputations are subject to public scrutiny experience a decline in trustworthiness of news items. Additionally, I expect that political knowledge and trust in traditional news media have a strong influence on trustworthiness perceptions. Knowledge has been identified as an important factor for trustworthiness judgements in social media environments (Sterrett et al., 2019), while the degree of trust in traditional media jointly with the frequency of media use serves as proxy for individuals' willingness to engage with media.

In the next section of this chapter, I outline the role of credibility cues for judging SNS credibility. Then I introduce the methodology for my experimental survey and the main variables of analysis. Subsequently, in the final section, I present and discuss the main result, before concluding with some of the implications of my findings.

3.2. Theory

Credibility cues are among the key properties of the digital environment. Credibility is essentially believability that is based on the perceived trustworthiness and expertise

of a source or message (Flanagin et al., 2020; Rieh & Danielson, 2007). A source is, according to Sundar and Nass (2001), everything in the chain of sender/presenter, medium/channel, as well as receiver/audience – and can therefore be assessed in terms of its credibility.

Much of the source credibility literature looks at visible sources because the psychological effect of who presents the content is considered more powerful than that of who publishes the content. Credibility concepts that are used to investigate the properties of SNSs, which serve as channels presenting the news, therefore offer a starting point to study SNS credibility effects. In their research on websites, Flanagin and Metzger (2007) identify three types of credibility: message credibility, site credibility, and sponsor credibility. While message credibility relies on characteristics of the message itself (i.e., accuracy, currency, information quality), site credibility depends on a site's visual design, the density of information presented, as well as the interactivity offered by the website. If a website is sponsored its credibility might be also influenced by public perceptions about the sponsor, such as a sponsor's reputation or personal experience.

Beyond these properties, Tseng and Fogg (1999) differentiate four types of credibility that include aspects of design and social recommendation: presumed, reputed, surface, and experienced credibility. General assumptions about the origin of the information, e.g., that politicians cannot be trusted in general, fall under the label of presumed credibility. In contrast, reputed credibility does not concern one's own assumptions about the source, but "what third parties have reported" (p. 42). Academic titles such as doctor or professor granted by prestigious institutions tend to increase the individual reputation and therefore credibility of its bearer. As Tseng and Fogg argue, reputed credibility is especially pervasive online as different SNSs and websites cross-reference each other, which can be interpreted as a third-party endorsement. Surface credibility refers to the perceived credibility of a person or object based on inspection. As Tseng and Fogg describe it, "people are judging a book by its cover" (p. 42). Experience credibility is based on past interactions with a person or object and thereby empirically informed. It is the most complex type among the four, as it is built over time in an iterative process.

The manner in which individuals process information depends on the cognitive resources they are investing, e.g., whether they process information attentively or inattentively. This issue has been discussed under the umbrella of dual processing

models, such as the Elaboration Likelihood Model (Petty & Cacioppo, 1986), the Controlled versus Automatic Processing Models (Shiffrin & Schneider, 1977), Heuristic-Systematic Model (Chaiken, 1980) and the Two Systems Model (Kahnemann, 2011). These models share the idea that information is handled by a receiver/audience in two different ways: an attentive, slow, and resource-demanding process, and a fast, efficient process that demands less cognitive effort. Information processing is therefore a function of both the cognitive ability and the motivation of the receiver (Metzger, 2007). In situations where less motivation to engage with the presented information is involved and cognitive ability is low, judgements about a message or source are more likely to be made based on heuristics or cues. Reputation, for example, can serve as a heuristic to judge credibility (Metzger et al., 2010). Superficial properties of source or message such as aesthetic features can also be important in the decision-making process. In relation to Tseng and Fogg's (1999) conceptualization, reputed and surface credibility might be especially salient heuristics.

Several findings show that this superficial processing of information can be enabled by the design of SNSs and the resulting communicative affordance, understood as "an interaction between subjective perceptions of utility and objective qualities of the technology that alter communicative practices or habits" (Schrock, 2015, p. 1232). Such affordances shape the type of content and the way it is presented on a platform, as well as the users' cognitive state when interacting with an SNS (Sundar, 2008). Pearson (2020) provides evidence that blending both news and entertainment content, as is common on many SNSs, makes it more likely that all content is processed inattentively. He argues that, because the blending of both content types creates an additional cognitive burden and thereby makes inattentive information processing more likely, this environment may also increase the likelihood that users belief in misinformation. Source layering furthermore complicates information processing (Sundar & Nass, 2001), captured by Kang et al. (2011) through the idea of psychological distance to a source. Given that many news outlets, e.g., *The New York Times*, the *Washington Post*, *Wall Street Journal*, and the like, share their content on several SNSs, these outlets can be seen as "distal", or more remote, sources – and one layer in the source hierarchy. The SNSs on which the news is shared constitute another, more proximate layer to the reader – and more proximate source cues can have a greater influence on the message's credibility than distal sources. Kang et al. (2011) propose that differences in influence

result from news consumers' belief that the proximate source (the SNS) might be the actual source (the news outlet) in cases where consumers do not invest the cognitive resources needed to distinguish proximate and distal sources. This is supported by earlier evidence showing that four identical news stories were perceived differently, depending on the source the news was attributed to (proximate or distal) (Sundar & Nass, 2001).

If differences in SNS properties impact the user's perception of the platform, SNSs might also differ in their ability to be used as misinformation vectors. A few studies which assessed these differences indeed provide some evidence for this hypothesis. Research by Vraga and Bode (2018), who tested the effectiveness of social correction, meaning that other SNS users intervene and try to refute a claim, on misinformation about the Zika virus, offers a picture of complex interactions between social media platform and correcting interventions: When a source is added to a Facebook comment, user evaluation of that comment on Facebook is increased (i.e., it is judged as being more credible, trustworthy, accurate, etc.). This effect is not observed for Twitter. Beyond that, these judgements do not translate into reduced misperceptions of the causes of the Zika virus on Facebook, while higher evaluations of Twitter replies are associated with reduced misperceptions.

Beyond these structural elements, behavioural differences are also observed: respondents in a Brazilian survey reported that they experience, witness, and engage in social interactions more on WhatsApp than on Twitter, underlining behavioural differences when engaging among platforms (Rossini et al., 2021). These findings illustrate the complex pattern of structural and behavioural interacting factors that impact the effect of misinformation.

3.3. Method

The survey was conducted in August and September 2020 with participants living in the U.S. Starting with the research design, the following section describes the methodology applied for the research reported on in this chapter. Stimulus material, dependent variables, and covariates, as well as recruitment approach and sample size are summarized. Lastly, the procedure is illustrated.

Research Design

The study follows a between-subjects design, comparing seven different SNSs (Discord, Facebook, Instagram, LinkedIn, Twitter, Telegram, WhatsApp) as well as the Associated Press website as control. Participants were randomly assigned to an SNS.

Participants were told the following: "Below is a screenshot taken from [Discord, Facebook, Instagram, etc.]. Please rate its trustworthiness, and indicate whether you would like, share, and forward it."

Stimulus Material

Mock SNS designs were created to imitate the seven SNSs and the AP website. The items had the appearance of a screenshot taken from the platform, immediately after it was posted, to avoid time effects. All relevant popularity indicators, such as the number of likes or shares, are set to zero. Fourteen items were pre-tested out of which seven were included in the study, all of which contained misleading information. Figure 4 gives examples of the stimulus material (all seven items can be found in Appendix I). AP, which is shown on every item, was chosen to provide a credible and comparatively neutral mainstream news source.

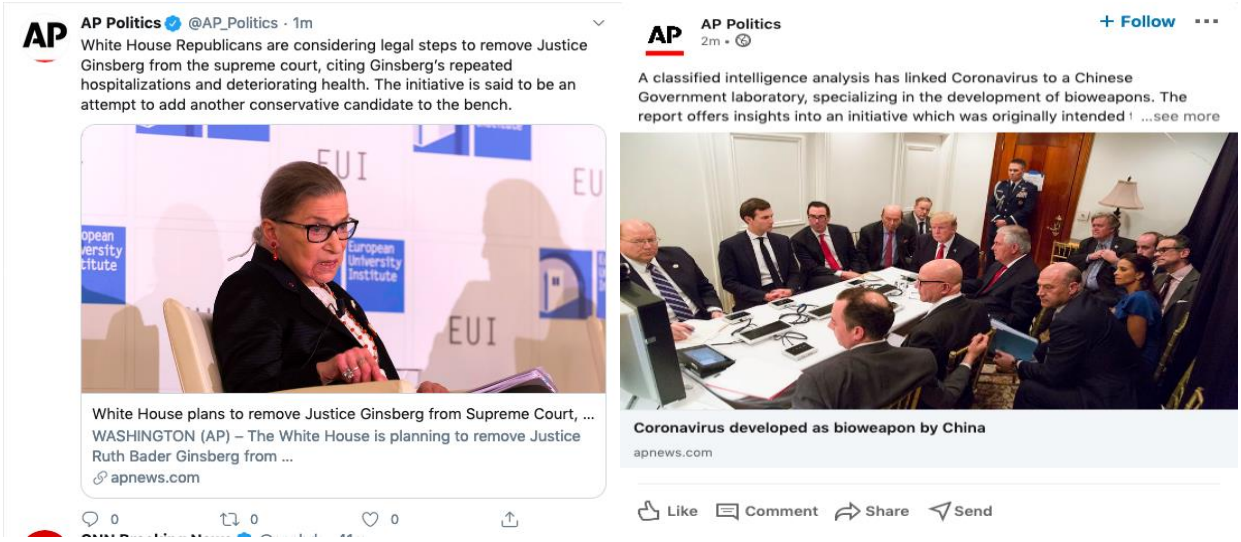

Figure 4. Examples of stimulus material – Twitter (left) and LinkedIn (right)

Behavioural Responses and Covariates

Dependent variables were the perceived trustworthiness of the respective news items and the willingness to share the item, interact with it, and forward it to a friend or family member, measured on a 7-point Likert scale, ranging from 1 = "Very

untrustworthy" / "Very unlikely" to 7 = "Very trustworthy" / "Very likely". All four behavioural responses were measured with seven stimulus items each.

Additionally, political knowledge in the survey year (2020) was measured using four questions about the U.S. political system as of 2020: 1.) Which political office does Mike Pence currently hold? 2.) Whose responsibility is it to determine if a law is constitutional or not … is it the president, the Congress, or the Supreme Court? 3.) How much of a majority is required for the U.S. Senate and House of Representatives to override a presidential veto? 4.) Which party is more conservative (Democratic Party vs. Republican Party)? Correct answers were coded as 1, wrong answers as 0, and an overall score was computed.

Political Orientation, News Consumption, Misinformation

Participants were furthermore asked to assess their political orientation on a 7-point Likert scale from 1 = "Very left" to 7 = "Very right" and to report how frequently they consume news, in print, online, or on TV, ranging from "Never" to "Several times a day". Additionally, participants were asked about their preferred sources of news (television, online newspapers / magazines, print newspapers, social media, radio). Participants also provided information on whether they had shared misinformation in the past (1 = "Very unlikely", 7 = "Very likely") and about the degree to which misinformation is a problem on the SNS in their condition (1 = "Very unproblematic", 7 = "Very problematic").

Attention Checks

Two attention checks were administered. After answering questions on the seven mock news items, every participant was asked from which social media platform the screenshots were taken. Correct answers were coded 1, wrong ones 0. At the end of the survey, participants were asked to briefly summarize what they think is the main purpose of this survey. All answers that provided some idea about the study's purposes were coded 1. Answers that showed that the question was not read properly, e.g., by providing feedback about the study such as "good", "nice survey", etc. were coded as 0. Both variables were added to an overall attention score.

Recruitment and Predetermined Sample Size

Participants living in the U.S. were recruited on Amazon Mechanical Turk (MTurk) between August 31 and September 1, 2020 and received $1.80 for their participation. Sample size was estimated using G*Power (Faul et al., 2007). Assuming a small effect

size of f = 0.2, and a power = 0.99 (numerator df = 7, number of groups = 8, covariates = 2), the resulting minimum sample size to identify an interaction effect is N = 739.

Procedure

At the beginning of the survey, participants were asked about their consent to participate in the survey and informed about the length of the survey, data anonymization, and intended use of the data.

After participants consented to the experiment, they were randomly assigned to one of the platform conditions (the SNS). Afterwards, they were randomly presented with seven news items and asked to assess the trustworthiness of the item and their willingness to share it, interact with it, and forward it to a friend or family member. After finishing these assessments an attention check was administered, asking participants about the platform from which the news items were taken. Participants were then asked to indicate the frequency with which they use the respective social media platform, the degree to which they consider misinformation is a problem on the platform, and how likely they think it is they shared misinformation via the platform.

After these condition-specific questions were answered, participants were asked to indicate whether they perceived social media to be more trustworthy than traditional media, such as TV and newspapers. Following this, questions on political orientation and political knowledge were administered before demographic characteristics were assessed. Lastly, as an attention check, participants were asked to briefly describe what they thought the purpose of the survey was. The survey ended with a debriefing, also offering contact information.

3.4. Results

The following section describes the descriptive results and inferential analyses that were conducted.

Demographics

Overall, 855 participants finished the survey, with age ranging from 18 to 72 (M = 33.45, SD = 10.79). Most participants were male (58.8%, n = 440). Participants were highly educated, with 65.5% (n = 560) having graduated from a university. Further 14.4% of participants (n = 123) had at least attended a university, but without receiving a degree.

Comparing Behavioural Responses Across Platforms

Table 1 shows the number of participants in each treatment group, as well as the means and standard deviations for all four assessed behavioural responses. Concerning trust, mean trust is highest for Twitter (M = 4.10, SD = 1.39) and lowest for WhatsApp (M = 3.93, SD = 1.30).

For sharing, people report the highest willingness to share news from LinkedIn (M = 3.47, SD = 1.50) and the lowest for Discord (M = 3.02, SD = 1.71). Concerning the interaction with the stimulus material, respondents were most likely to interact with news items from Facebook (M = 3.35, SD = 1.77) and least likely with material from Discord (M = 2.90, SD = 1.70). Forwarding news items was most likely when they were framed as coming from LinkedIn (M = 3.74, SD = 1.49) and least likely from Discord (M = 3.33, SD = 1.77).

Table 1. Behavioural responses to news items by platform

Platform		**Trust**	**Sharing**	**Interacting**	**Forwarding**
	N	***M* (*SD*)**	***M* (*SD*)**	***M* (*SD*)**	***M* (*SD*)**
Discord	101	3.99 (1.27)	3.02 (1.71)	2.90 (1.70)	3.33 (1.77)
Facebook	108	4.09 (1.25)	3.37 (1.75)	3.35 (1.77)	3.52 (1.79)
Instagram	107	3.94 (1.40)	3.27 (1.68)	3.14 (1.71)	3.39 (1.79)
LinkedIn	100	4.04 (1.21)	3.47 (1.50)	3.28 (1.58)	3.74 (1.49)
Telegram	110	4.05 (1.15)	3.29 (1.60)	3.11 (1.64)	3.52 (1.59)
Twitter	108	4.10 (1.18)	3.36 (1.65)	3.30 (1.66)	3.71 (1.54)
WhatsApp	112	3.93 (1.30)	3.10 (1.61)	3.08 (1.68)	3.34 (1.69)
Associated Press	109	4.01 (1.14)	3.21 (1.64)	3.15 (1.57)	3.47 (1.59)
Total	855	4.02 (1.24)	3.26 (1.64)	3.16 (1.66)	3.50 (1.65)

Note. All variables assessed on a 7-point Likert scale, with 1 = “Very untrustworthy” / “Very unlikely” to 7 = “Very trustworthy” / “Very likely”.

Figure 5 provides a visual overview of the four dependent variables for every platform (ordered as in Table 2). The upper left quadrant shows boxplots for the perceived trustworthiness of news items, and the upper right quadrant the willingness to share the items. The lower left quadrant depicts the willingness to interact with news items and the lower right quadrant the willingness to forward news items.

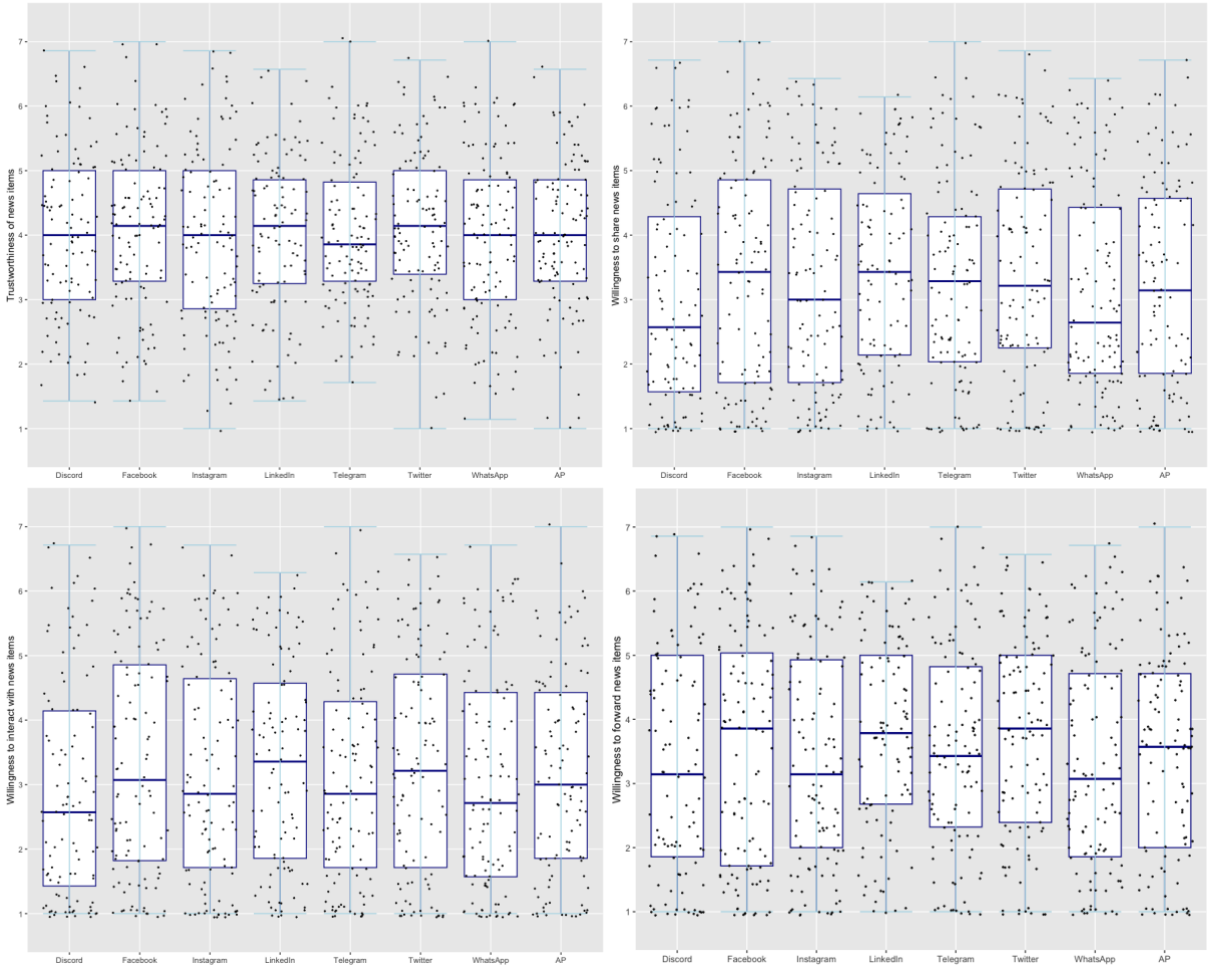

Figure 5. Boxplots of dependent variables

An analysis of covariances (ANCOVA) was conducted to identify the effects of platform on perceived trustworthiness of the news items and behavioural responses to them, using political knowledge as covariate. The effect of platform on trustworthiness [$F(7, 837) = .474$, $p = .854$, partial $\eta^2 = .004$], willingness to share [$F(7, 837) = .947$, $p = .470$, partial $\eta^2 = .008$], willingness to interact with the news items [$F(7, 837) = .789$, $p = .597$, partial $\eta^2 = .007$], and the willingness to forward the items [$F(7, 837) = 1.066$, $p = .383$, partial $\eta^2 = .009$] all failed to reach statistical significance. In other words, the results do not provide evidence for SNS-specific effects on trustworthiness perceptions and behavioural responses.

Exploratory analysis

Factors other than superficial characteristics of SNSs seem to matter for trustworthiness and individual behaviour in relation to news. It may be that people who do not find their views reflected in traditional media perceive social media as an alternative territory, vest it with more credibility, and care little about channels and their reputation, in particular if they perceive controversy to be the price for espousing alternative views marginalized in traditional media. To further understand which factors drive the perceived trustworthiness of news items and seem to act equally across SNS channels, I conducted an additional exploratory analysis.

The effects of misinformation being perceived as a problem on the platforms, whether participants have shared misinformation before, their political orientation (left vs. right leaning), frequency of use, news consumption, perceived credibility of social media (SM) vs. traditional media (TM), preferred news source (television, newspapers online and print vs. social media), political knowledge, as well as demographic variables (gender, education, age) were of great interest and therefore separately analysed. Participants' score in the attention check was also included in the model. Figure 6 provides an overview of the correlations between these variables. Highly correlated variables are placed close to each other, using the Average Overlap Estimation algorithm (AOE). The correlations' strength and directions are indicated by the temperature scale on the right. Values indicate the pairwise correlation coefficient *r*, only statistically significant correlations are displayed.

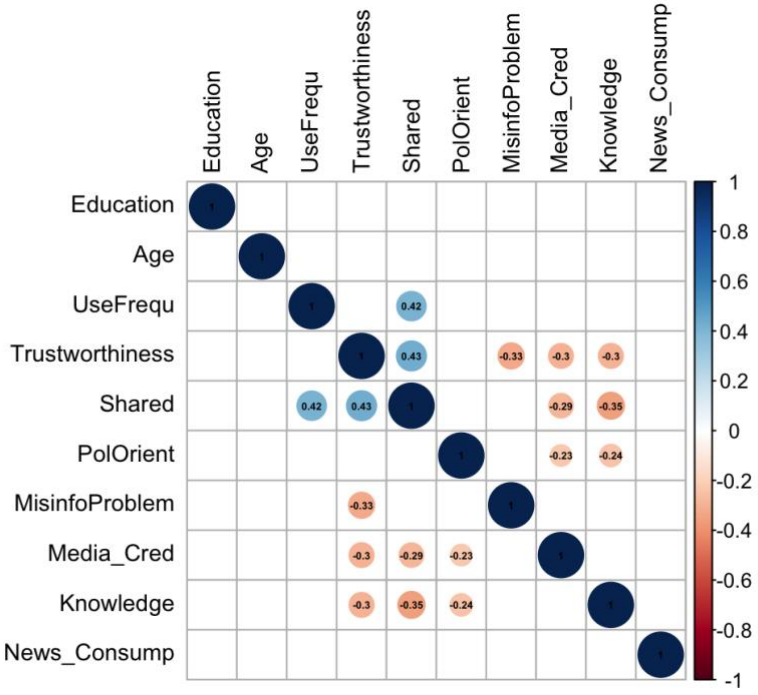

Figure 6. Correlation matrix for exploratory analysis

The perceived trustworthiness of news items is significantly positively correlated with prior incidents of having shared misinformation ($p < .01$) as well as significantly negatively correlate with the perception of misinformation being a problem on the respective social media platform ($p < .05$), higher credibility judgements of traditional media ($p < .05$), and political knowledge ($p < .05$). The results of the regression analysis are depicted in Table 2.

Table 2. Regression for variables predicting perceived trustworthiness

Variable	**Model 1**			**Model2**			**Model 3**		
	B	*SE B*	β	*B*	*SE B*	β	*B*	*SE B*	β
Misinformation	-.18**	.03	-.22	-.14**	.03	-.17	-.13**	.03	-.16
Misinformation shared	.21**	.02	.34	.15**	.02	.24	.15**	.02	.25
Credibility SM vs. TM	-.17**	.03	-.16	-.11**	.04	-.10	-.12**	.04	-.10
Political orientation				.06*	.02	.08	.07**	.03	.09
Political knowledge				-.09**	.03	-.09	-.09**	.03	-.10
Frequency of use				.08*	.04	.07	.08	.04	.06
News source				.08	.08	.03	.08	.08	.03
Attention check				-.35**	.09	-.13	-.35**	.09	-.13
News consumption				.06*	.02	.07	.05	.02	.06
Gender							-.07	.07	-.03
Education							.06*	.02	.08
Age							-.00	.00	-.01
R^2		.27			.31			.31	
F for change in R^2		99.11**			7.37**			2.46	

Note. $N = 820$. *$p < .05$ **$p < .01$.

The exploratory analyses revealed several substantial effects. Participants who more strongly see misinformation as problematic, the lower their trustworthiness judgements. If participants have knowingly shared misinformation before, they are more likely to judge the news as trustworthy. Additionally, those who find social media more credible than traditional media also assess the online news more favourably. These associations remain statistically significant across all models.

Political orientation shows a positive association with the respondents' trustworthiness judgements, while political knowledge is negatively associated with the response variable. Participants' score in the attention check indicates a negative association with the perceived news trustworthiness. Whether participants prefer

social media over traditional media as sources of their news does not impact their trustworthiness perceptions. Demographic variables do not offer any explanatory value, except for education.

3.5. Discussion

This chapter sought to determine whether SNSs have any impact on a set of individual behavioural responses relevant to the spread of misinformation on social media. Several different SNSs, as well as the AP website, a wide range of different social media platforms – from messenger services like Telegram and WhatsApp, to gaming community site Discord and business network LinkedIn – were included in this investigation.

Contrary to my initial hypothesis, there does not seem to be a genuine platform effect – none of the variables of interest differs significantly across the SNSs. These results are somewhat counterintuitive. It could be expected that news coming from the AP website would be perceived to be more trustworthy and therefore be more likely to elicit interaction than news from a rather unknown network such as Discord. Beyond that, a business and career network such as LinkedIn, which has so far not been at the centre of any large-scale misinformation scandal, should be substantially more trustworthy. Yet, it does not seem to be more likely to make users spread its content than other networks.

Even platforms like Telegram and WhatsApp, which have a scandal-ridden track record, do not seem to affect participants' trustworthiness assessments or their behavioural responses. Given that Telegram is among the preferred platforms of both QAnon conspiracists – as evidenced by its use among QAnon conspiracists in the storming of the US Capitol Building during the January 6, 2020 insurrection (Rogers, 2020) – and the terrorist group ISIS – with ISIS especially recommending the platform to its members due to the service's reputation for offering high encryption standards (Weimann, 2016), these findings are somewhat surprising. Even the high salience of the ongoing "Infodemic" (World Health Organization, 2020), during which WhatsApp has become a preferred tool for misinformation agents in their attempt to spread false and misleading claims about the COVID-19 pandemic, does not elicit more cautious behaviour when confronted with questionable or suspicious news.

Therefore, in contrast to existing evidence of SNS-specific effects (Bode & Vraga, 2018; Stockmann et al., 2020), the findings as presented do not support these notions.

However, subsequent exploratory analysis did reveal some intriguing findings. Participants who had previously shared misinformation tended to perceive the news as more credible. This result is counterintuitive since one might expect that those who had shared misleading claims in the past would exert more caution when asked to assess the trustworthiness of news items. Based on the negative correlation between having shared misinformation and political knowledge, it might be the case that these people struggle to correctly assess the trustworthiness of news more generally, which could explain why they are more likely to share misinformation.

The results furthermore indicate that political orientation has a positive association with higher trustworthiness judgements. This finding is unsurprising as a partisan bias is well documented in the literature (Bullock et al., 2015; Taber & Lodge, 2006; Van Bavel & Pereira, 2018), since all stimuli presented in this survey rather buy into right-wing conspiracy theories. Beyond that, more political knowledge is associated with lower trustworthiness ratings, also largely aligned with existing literature. Especially assumptions made by the dual-process models introduced earlier in this chapter suggest that shallow information processing is dominant where little motivation or resources exist to thoroughly assess information (Kahnemann, 2011; Shiffrin & Schneider, 1977). More political knowledge makes credibility assessments easier, which protects users from falling for false or misleading information that appears credible based on its presentation.

Future Research

In the face of these findings, it becomes clear that further research is needed to address this apparent mismatch of public scandals and trust in as well as the willingness to engage with news presented on these platforms. Additionally, further research should investigate ways to make SNS misinformation problems more salient to users as an approach to mitigate misinformation, especially measures directly implemented on the SNS interface.

Warning labels, as used by Facebook, Twitter, and YouTube, could be adapted to make users aware of misinformation by showing how frequently an SNS has been involved in disseminating misinformation over a certain period, thereby increasing users' awareness of the severity of the problem. This could serve as a simple prevention strategy that simultaneously strengthens public accountability of SNSs as their inability or unwillingness to constrain the spread of falsehoods, and therefore mitigate their negative effects on society, is on display (Stockmann, 2023).

Research has provided evidence for the effectiveness of labels to mitigate the effects of misinformation. Arnold et al. (2021) found that source-related alerts, which inform users about the source of pseudonymous content posted on social media, e.g., by Russian government affiliates, reduce belief in the content's message and the users' likelihood to further spread the content. However, they also found that the effects are influenced by partisanship, social media type, and the alert's specificity ("foreign government" was less effective than, say, "Russian government"). The practice of highlighting media outlets' state affiliation through warning labels could prevent careless take-up of false information (Nassetta & Gross, 2020). Several SNS have started to use this approach. YouTube implemented labels already in 2018 (Samek, 2018), although inconsistently (Kofman, 2019). Facebook and Instagram similarly began to highlight a site's state affiliation (Rosen et al., 2019) and extended its policy to include misleading information about COVID-19 (Rosen, 2020), which is also frequently updated. Twitter has had a similar policy for identifying information distributed via tweets (Twitter, 2020).

Furthermore, research in this field should pay more attention to the various forces individuals are exposed to when using the internet or SNSs. As described in the analytical model (Figure 1), individuals are not only affected by intra-person factors and their immediate physical environment, but also by situational factors that affect and are affected by their use of digital technology, stress, anxiety, and other emotional states. It is therefore crucial to further dissect these differing layers of interconnected factors to gain a comprehensive picture of how misinformation is influencing individuals and what can be done to increase not only individual but also societal resilience.

Limitations

Assessing the willingness to interact with screenshots of course offers a different experience than engaging with the actual social media platform. Social media is designed to gain and keep the attention of its users in a way that is difficult (if at all possible) to replicate in a research environment. It is therefore reasonable to assume that directly assessing behaviour while people browse on social media would be a more natural approach. Furthermore, the screenshots presented in this chapter showed the web applications of the respective platforms. There is, however, a substantial number of users interacting with social media through the platforms' mobile apps. Mobile apps might have a different effect on behavioural outcomes than their web-based

counterparts. Future research should address this issue and identify potential differences in web and mobile applications.

Cultural aspects of the SNS are also not addressed in this study. It is possible that certain norms for how an SNS is used emerge over time, making a network more or less likely to host misinformation. It is imaginable, for example, that the business context in which LinkedIn is used normatively restrains the willingness of users to discuss seemingly conspiratorial claims, such as Pizzagate[7] or former U.S. President Obama's falsely claimed "missing" birth certificate. In contrast, Telegram's attraction to right-wing extremist groups, such as QAnon conspiracists, might create the impression that this type of content is welcome on the platform and community. Aside from the structural differences discussed in this study, it is therefore possible that behavioural norms emerge on different SNSs over time, depending on the kind of users the platforms manage to attract. That might be especially the case for some SNSs that are initially selected by users for very particular reasons – Telegram, for example, was initially chosen by many for its high encryption standards.

Lastly, the significant number of participants which failed one attention check could also bias the results. As roughly one third (31.3%) of respondents answered only one out of two checks correctly, it is not clear whether an increased cognitive effort could lead to different results. However, the highly significant negative association of the attention check score with the perceived trustworthiness of the news items could be interpreted as support for biased results.

[7] Pizzagate refers to a conspiracy theory that was circulated during the 2016 U.S. presidential election, claiming that the Clinton campaign's manager, along with other high-ranking Democratic officials, is involved in a human trafficking and child sex ring, operating out of a pizza restaurant in Washington, D.C. As a result, a man armed with an assault rifle entered the restaurant in December 2016, attempting to free the children. The CT is said to originating from the message forum 4chan (Tuters et al., 2018).

4. Providing Context to Conspiracy Theories: A Country-Level Comparative Investigation

4.1. Introduction

Since the early 2010s, conspiracy theories (CTs) have attracted significant attention from scholars in various fields such as philosophy (e.g., Dentith, 2018b, 2018a; Levy, 2007), sociology (e.g., Pereira et al., 2020), political science (e.g., Enders & Smallpage, 2019; Miller et al., 2016), cultural studies (e.g., Butter & Knight, 2015), and psychology (e.g, Douglas & Sutton, 2023; Leman & Cinnirella, 2007; Lewandowsky, 2018). Research on CTs has enhanced our understanding of the phenomenon by addressing wide-ranging questions, such as the underlying mechanisms that make individuals more likely to engage in conspiratorial thinking (Douglas & Sutton, 2023) and how CTs undermine public health measures (Bierwiaczonek et al., 2022), fuel extremism and violence (Jolley & Paterson, 2020; Rottweiler & Gill, 2022), and damage intergroup relations (Jolley et al., 2020). Holding conspiracy beliefs about a certain event is positively associated with holding additional conspiracy beliefs (Swami et al., 2010) – even when these theories are mutually contradictory (Wood et al., 2012).

Although there does not seem to be a historic increase of conspiracism globally (Uscinski et al., 2022), since the emergence of COVID-19 in particular, CTs have drawn the attention of the general public as well. Once news about the outbreak of COVID-19 made headlines, stories about secretive plots behind it immediately followed (Van Bavel et al., 2020). As noted earlier, the WHO even saw it necessary to declare CTs surrounding COVID-19 to be an “Infodemic”. Belief in COVID-19-related CTs has had significant consequences for effective public health management: unsurprisingly, those who accept such theories are less likely to engage in prevention-related behaviour (e.g., mask wearing) or have the intention to get vaccinated in the future (Romer & Jamieson, 2020).

Research on conspiracy theories has largely addressed individual-level aspects such as attitudes, beliefs, and personality traits. However, Schlipphak et al. (2021) argue that the COVID-19 pandemic has shown the volatility of conspiracy beliefs in respect to country-context and specifics of the respective CT, indicating the need to take the broader context in which CTs circulate into account when addressing the issue. CTs are in many cases embedded in intergroup contexts and are influenced by the prevalent “sociopolitical, economic, and cultural factors” (Hornsey et al., 2022). As a result, a

country's resilience in the face of misinformation and CTs may vary (Humprecht et al., 2020), and so do the effects of widespread CTs on its citizenry. Given that COVID-19 is a global phenomenon, a comparative approach seems necessary to understand what influences the prevalence of COVID-19-related CTs and add to our knowledge about why individuals fall for the misinformation CTs spread.

In this chapter, I analyse the prevalence of CTs at the country level, using the *Values in Crisis* (VIC) dataset (Aschauer et al., n.d.). First, I review the literature on conspiracy theories and country-level factors that can explain their emergence. Afterwards, I lay out my methodological approach and describe the data collection process by the VIC team, before reporting on the results of a country-level comparison. I compare two culturally distinct countries – Germany and Poland – and identify how differences on the country level trickle down to the individual, i.e., how values differ in their impact on conspiracy beliefs based on the country's macro-level cultural orientation.

Values in Crisis (VIC) Survey

Data collection took place within the framework of the Values in Crisis (VIC) project, a special edition of the World Values Survey (WVS). The goal of the project was to foster comparative research by collecting data on values and attitudes in times of global crisis. The full data set and corresponding documents are available on the Austrian Social Science Data Archive (https://doi.org/10.11587/LIHK1L).

The initial questionnaire for the online panel was developed by a core team based in Germany and the U.K., who invited additional researchers from various countries. Data collection started in May 2020 and was concluded by May 2021. The questionnaire took approximately 20 minutes to complete. The final data collection effort was distributed across 19 teams covering 18 countries (two teams collected data on South Korea): seven European countries (Austria, Germany, Greece, Italy, Poland, Sweden, United Kingdom), three Latin American countries (Brazil, Chile, Colombia), five Asian countries (China, Hong Kong, Japan, the Maldives, South Korea), as well as three former Soviet Union countries (Georgia, Kazakhstan, Russia). The author was part of the team responsible for the data collection in Italy.

Survey Description

The VIC questionnaire employs various instruments such as the Schwartz values (Schwartz, 1992), the Inglehart Index (Inglehart, 1979), and a 10-item version of the Big Five Personality Inventory (BFI-10, Rammstedt & John, 2007).

Demographic variables include age, gender, marital status, living area, number of household members, education, and household income. Education is based on the International Standard Classification of Education (ISCED) by the UNESCO, to harmonize the operationalization of education. The ISCED entails nine levels ranging from early childhood education (Level 1) to doctoral or equivalent (Level 8). In the data set, a shortened three-level ISCED variable was computed to account for variation in national education measurements, resulting in a low education group (ISCED levels 0-2), medium education (ISCED levels 3-4), and high education (ISCED levels 5-8). Household income is reported in quartiles.

Crisis-related experiences and perceptions were measured as well. Participants were asked to report whether they have been tested positive or negative for COVID-19 as well as whether they themselves or friends / family members have experienced mild or severe symptoms. Due to a low number of cases with answers regarding test results, these items were excluded from the final data set.

To identify the degree to which participants believe in conspiracy theories about COVID-19, the following question was asked: "*The social media are full of stories telling that the Corona pandemic is a hoax and that all the lockdown measures are a hysteric overreaction. Do you believe in these stories?*"

Additions to the Data Set

To address this chapter's research question, i.e., how contextual factors differ in their impact on individuals' susceptibility to false information, further data about the country was added to the dataset. To account for the effects of liberal democracy, data on V-Dem's Liberal Democracy Index (LDI) was added, taken from the 2022 democracy report (Boerse et al., 2022). LDI is based on the Electoral Democracy Index (EDI) and the Liberal Component Index (LCI), which jointly encompass 71 indicators that address liberal as well as electoral aspects of democracy. The EDI covers features such as whether elections are free and fair, freedom of expression, access to information sources from uncensored and free media, as well as male and female suffrage, among others. Additionally, the LCI captures equality before the law, whether politicians respect the constitution and comply with decisions from an independent high court, and the existence of an opposition that constraints the executive through oversight and investigation powers. LDI scores range from 0 to 1, with higher scores indicating a more democratic country. Furthermore, because of my interest in online information-sharing, internet penetration (in percent) was added, based on World

Bank data (https://data.worldbank.org/indicator/IT.NET.USER.ZS). The number of COVID-19 deaths per 100k citizens was taken from Johns Hopkins Coronavirus Resource Center (https://coronavirus.jhu.edu/data/mortality). To account for biased reporting of COVID-19 deaths by some countries in the data set, the number of excess deaths (for 100k citizens) was added as well (Our World in Data, 2022). To control for a country's level of development, GDP in billion USD was furthermore included, based on World Bank data.

4.2. Country-Level Factors

Conspiracy Theories

Most definitions of CT include variations of the notion that a small but powerful group secretly steers society's course in pursuit of their own benefit and without concern for the harm done to others or even the explicit goal to cause harm (Barkun, 2013; Dentith & Orr, 2018; Sunstein & Vermeule, 2008). Frequently, these insidious, typically elite groups are responsible for events of great significance, e.g., 9/11, the faking of the moon landing, or the outbreak of the COVID-19 pandemic. Early on, Zonis and Joseph (1996) understood a CT as "a number of actors joining together in a secret agreement to achieve a hidden goal which is perceived to be unlawful or malevolent" (p. 448). In a similar vein, Keeley (1999) highlights the role of the group causing the event in question, defining CT as "a proposed explanation of some historical event (or events) in terms of the significant causal agency of a relatively small group of persons – the conspirators – acting in secret" (p. 116). Aaronovitch (2010) states that CTs are "the attribution of deliberate agency to something that is more likely to be accidental or unintended" (p. 6), adding that the secret actions of the persons identified by the conspiracy theory as perpetrators are more reasonably explained by those that had overtly acted.

A comprehensive definition comes from van Prooijen and van Vugt (2018) who argue that conspiracy theories include five elements that distinguish them from other phenomena such as supernatural beliefs. CTs make claims about interconnections between different actors and events that can be hypothesized about in the sense of patterns. Beyond that, CTs imply agency, as the alleged conspiracy is intentionally executed by its agents. Hence, plots at the centre of CTs involve a coalition, i.e., actions by a lone wolf cannot be understood as a conspiracy. Furthermore, CTs involve a threat, implying that the events or actions of concern are conducted with a harmful intent.

Finally, secrecy is an important characteristic of many CTs, as usually conspirators' plotting and their actions are conducted in secret. Van Prooijen and Douglas (2017) also point out that the focus on a powerful and evil-minded group is at the core of most CTs, distinguishing conspiracy beliefs from other types of belief, e.g., religion and superstition. This becomes especially clear when CTs are contrasted with supernatural phenomena. Although pattern perception might identify an unusual formation of trees, mountains, or stars, incite "mystical experiences, spirituality, religious revelations" (p. 771) and lead to people engaging in obscure rituals, these patterns lack the human agency aspect as well as the involvement of a malicious group of people acting in secret (van Prooijen & van Vugt, 2018).

Yet, there is a notable difference between plots that are the subject of CTs and actual conspiracies, as the latter can be supported by factual evidence. For example, clear documentary and other evidence establish that, from 1953 until the late 1970s, the U.S. Central Intelligence Agency (CIA) tried to identify pharmacological interventions that could function as "mind control", known as project MKULTRA (Sunstein & Vermeule, 2008). During the 1980s, investigations proved that the CIA jointly with high-level U.S. government officials were involved in the Iran-Contra affair, in which proceeds from the sale of weapons to the Islamic Republic of Iran were used to fund a right-wing rebel group in Nicaragua, the Contras (Butter, 2021; van Prooijen, 2018). The conspiracy lay in that these deals were arranged despite an embargo on arms sales to Iran and in violation of the Boland Amendment, passed by the U.S. House of Representatives in 1981, which prohibited any U.S. assistance for the Contras aimed at overthrowing the Nicaraguan government.

Depending on the disciplinary approach there is dissent about whether CTs are tied to cultural and historical conditions or whether they are omnipresent in human societies, i.e., whether it is an anthropological constant (Walter & Drochon, 2022). From a cultural perspective, Butter (2021) argues against such a constant, stating that CTs are tied to historical and geographical conditions. He puts forth three arguments in support of this understanding. First, conspiracy theories make claims about, for example, human agency and therefore refer to a certain understanding of the historical development of CTs that frequently entail actions in the past, current happenings, and future developments. Second, CTs need a public sphere in which they can be circulated, in whatever form. Consequently and third, the prevalence of certain media conditions is needed to access this public sphere (Butter, 2021).

Yet, others argue that belief in CTs is present in various types of society (West & Sanders, 2003). Based on the evolutionary psychological differentiation of adaptation and incidental by-production (Buss et al., 1998), van Prooijen and van Vugt (2018) make the case for two hypotheses that argue in favour of CT as being an anthropological constant. First, according to the by-product hypothesis, CTs can be a by-product of cognitive mechanisms, e.g., pattern recognition, that had no immediate connection to conspiratorial beliefs. The second hypothesis, the adaptive-conspiracism hypothesis, speculates that the cognitive system that is crucial to secure human survival adapted to identify early threats of hostile actors collaborating against the person and to develop countermeasures to defend against such emerging threats.

In any case, CTs are legion and can be found in numerous societies – from the U.S. (Uscinski & Parent, 2014), to Nigeria (Bastian, 2003), Indonesia (Schrauwers, 2003), and Poland (Soral et al., 2018), to name a few. In their reference frame, CTs can either be country-specific, e.g., Pizzagate in the U.S. (Tuters et al., 2018), or generic in a sense that these CTs promote narratives found in various countries around the globe, such as the Protocols of the Elders of Zion[8] (Aaronovitch, 2010). Frequently, these conspiracy theories share some characteristics, such as conspirators, goals, and target groups. Based on their respective scope, Barkun (2013) distinguishes three types of conspiracy theories. Event conspiracies, exemplified by the 1963 assassination of John F. Kennedy, refer only to a distinct set of events, with conspirators having a specific objective. Systemic conspiracies, in contrast, are not limited to singular instances, but address large-scale endeavours with which conspirators aim to gain control over larger geographic regions or the entire world, such as the so-called Great Reset[9]. Yet, as Barkun points out, the "conspiratorial machinery is generally simple: a single, evil organization implements a plan to infiltrate and subvert existing institutions" (p. 6). Finally, superconspiracies connect several conspiracies hierarchically, e.g., event conspiracies nested in systemic conspiracies, creating a web of conspiracy theories that are frequently held together by an invisible secretive group as the master conspirator.

[8] Refers to an antisemitic CT based on a fabricated Russian document, supposedly describing a Jewish plan to take over control of the world (for a comprehensive summary, see Aaronovitch (2010)).

[9] The Great Reset is a CT in which global elites intend to establish a (socialist) world government and deprive citizens of freedom and wealth, and in some variations, implement mandatory vaccination regimes. Originally, the Great Reset referred to an initiative by the World Economic Forum (WEF), consisting of various publications such as articles, podcasts, and a book by Klaus Schwab (the WEF's founder), trying to rethink capitalism in the aftermath of the COVID-19 pandemic. For an overview, see BBC News (2021).

Conspiracy Theories in Comparative Research

So far, very few studies have addressed country-level differences as explanatory factors for the proliferation of conspiracy theories. In general, references to specific country contexts are rare. Among the few countries explicitly made reference to are Italy (Mancosu et al., 2017), Poland (Soral et al., 2018), as well as post-Soviet Russia (Yablokov, 2018). Beyond that, studies that employ a comparative approach are very limited as well. Additionally, even if a comparative approach is taken, many studies are based on mostly WEIRD (western, educated, industrialized, rich, and democratic) examples, highlighting the need for the study of behaviour in a non-Western context (Cheon et al., 2020). Beyond these individual characteristics, historical regional analyses of the development of conspiracy theories in areas outside of Europe and the U.S., e.g., Asia and the Arab world, is also largely lacking (Butter, 2021). As Imhoff (2022) points out, only a handful of studies have systematically investigated conspiracy beliefs from a cross-cultural perspective. Table 3 provides a brief overview of current comparative studies.

Table 3. Overview of comparative studies investigating CTs across countries

Study	Countries addressed	Theoretical approach
Adam-Troian et al. (2021)	Argentina, Australia, Brazil, Canada, Chile, France, Germany, Hong Kong, India, Indonesia, Ireland, Japan, Mexico, New Zealand, Philippines, Poland, Portugal, Singapore, South Africa, South Korea, Spain, Sweden, United Kingdom, United States	Impact of Hofstede's six-values model on conspiracy beliefs.
De Coninck et al., (2021)	Belgium, Canada, England, Philippines, Hong Kong, New Zealand, United States, Switzerland	Effect of exposure to different communication channels / information sources (federal government, WHO, health authorities, media, friends, among others) and trust in these sources as well as anxiety and depression on beliefs in CTs and misinformation.
Hornsey & Pearson (2022)	Australia, Belgium, Brazil, Canada, Chile, China, Colombia, Costa Rica, Estonia, France, Germany, Hong Kong,	Relationship between economic performance at country level

	Italy, Japan, Latvia, Macedonia, Malaysia, Netherlands, New Zealand, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, Senegal, Singapore, Slovakia, South Africa, Korea, Spain, Turkey, Uganda, United Kingdom, Ukraine, United States	and propensity to believe in conspiracy theories.
Hornsey et al. (2021)	Australia, France, Germany, Italy, the Netherlands, Spain, United Kingdom, United States	Prosocial orientations of people prone to believe in conspiracy theories.
Imhoff et al. (2022)	Austria, Belgium, Bosnia and Herzegovina, Brazil, Croatia, Czech Republic, Denmark, France, Germany, Greece, Hungary, Iceland, Israel, Italy, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Spain, Sweden, Switzerland, Turkey, United Kingdom	Relationship between political orientation, especially on the left and right extremes, and conspiracy mentality.
Stojanov & Douglas (2022)	Britain, North Macedonia	Prevalence of conspiracy beliefs in a society in transition vs. democracy, also identifying whether predictors are consistent and comparable in both contexts.
van Prooijen & Song (2021)	China, United States	Comparing the effects of power distance and collectivism (Hofstede, 1984) on intergroup CTs.

Based on Hofstede's six-values (power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, indulgence)[10] model of culture[11] (Hofstede, 1984), Adam-Troian et al. (2021) collected data in 25 countries. They found that both masculinity and collectivism predict conspiracy beliefs across the sample, while individualism shows a negative association with belief in CTs. Power distance, uncertainty avoidance, and long-term orientation showed mixed results across three studies conducted by the authors. Adam-Troian et al. (2021) conclude that cultural contexts are indeed associated with individuals holding conspiracy beliefs. Comparing China and the United States, van Prooijen and Song (2021) found that adherence to intergroup conspiracy theories was higher in Chinese than in U.S. samples. This relationship was mediated by values related to power distance and vertical collectivism.

De Coninck et al. (2021) explore how varying communication channels and recipients' trust in these channels affect belief in CTs and misinformation in eight countries. The authors found that exposure to traditional media sources (e.g., newspapers, radio, television) tends to decrease the degree of CT and misinformation belief in only Belgium and Switzerland. In contrast, greater exposure to and trust in digital media sources were associated with stronger conspiracy beliefs across all the countries they investigated. Additionally, exposure to information communicated by political actors was found to be associated with an increase of belief in CTs and misinformation in Hong Kong, the U.S., and the Philippines. Anxiety, however, was not associated anywhere with an increase in CT and misinformation beliefs.

[10] Societies high in power distance are characterized by an unquestioned and unequal distribution of power, while societies with low degrees of power distance try to avoid power hierarchies and reject unjustified power inequalities. The individualism versus collectivism dimension reflects the degree to which individuals in a certain society base their self-image on the needs of themselves and their families (referring to a self-image defined as "I") compared to a more inclusive self-image, also putting emphasis on the well-being of their in-group ("We"). The third dimension, femininity versus masculinity, describes whether a society tends to value cooperation (feminine society) over competition (masculine society). Additionally, societies with a high degree of femininity have a more traditional understanding of gender roles. Uncertainty avoidance refers to a society's perception of change, e.g., whether change is perceived as a threat. To avoid the unknown, societies high in uncertainty avoidance implement rules and regulations. The short term vs. long term orientation dimension reflects whether a society values long term over short term success and whether it puts an emphasis on either the presence or the future. Somewhat similar, restraint versus indulgence describes a society in which individuals tend to control their desires (restraint) or follow their impulses and desires (indulgence). For a comprehensive discussion, see Hofstede (2011).

[11] Hofstede et al. (2010) understand culture as a form of "mental programming" (p. 4) that is an individual's acquired pattern of "thinking, feeling, and potential acting" (p. 4), influenced by its social environment. It is therefore not an individual but social phenomenon that distinguishes one group from another.

A large comparative study by Imhoff et al. (2022) provides evidence for a robust association between political orientation and conspiracy beliefs. The more extreme people's political orientation, covering both sides of the political spectrum, the stronger their beliefs in conspiracy theories. Additionally, those individuals supporting a party that is not governing also showed strong conspiracy beliefs.

Hornsey et al. (2021) found that individuals high in conspiracist ideation are more concerned about their own well-being and are more likely to engage in behaviour that benefits themselves, while being relatively less concerned about the well-being of others and also less willing to engage in protective behaviour of other people.

Another study (Hornsey & Pearson, 2022) shows that the propensity to believe in conspiracy theories is negatively related to perceptions of both current and future economic performance at the country level, meaning that those who perceive their national economies to be in bad shape now and in the future are more likely to think that conspiracies are afoot. Addressing different regime types (democracy vs. society in transition), conspiracy beliefs were more prevalent in North Macedonia compared to the U.K. In both countries, a positive relationship between support for democratic principles and conspiracy beliefs was found, indicating that more pro-democratic individuals also tend to believe more strongly in CTs, while trust in media and institutions showed a negative association (Stojanov & Douglas, 2022). The negative association between trust in institutions and conspiracy beliefs was also stronger in the U.K. sample.

Inglehart's Materialist-Postmaterialist Concept

At the heart of Inglehart's concept of materialist and postmaterialist values lies what he termed *The Silent Revolution* (Inglehart, 1977), which traces value changes at the societal level. Until the 1970s, most individuals in Western societies were concerned with economic and physical security. Accordingly, they prioritized values that relate to economic growth and order. These value priorities reflect the experience of these generations that survival could not be taken for granted. Later generations, born after World War II, did not experience such states of economic deprivation and physical threats in their formative years due to unprecedented levels of prosperity and a welfare state that secured an individual's survival. In the light of this material and physical security, an intergenerational change began, away from an emphasis on material values towards postmaterialist values that stress self-expression and reject authority. This process of modernization, linked to industrialization, is a "syndrome of

social changes" (p. 34), transforming both social life and political institutions (Inglehart & Welzel, 2009). Therefore, the prevalence of postmaterialist values also reflects a society's degree of development; a rising sense of human autonomy is enabled through a decline in existential constraints (Inglehart, 2006).

Based on these observations, Inglehart identifies two dimensions that he contends are especially important in explaining cross-cultural variations in values: a traditional/secular-rational dimension reflecting more traditional and religion-based values as well those that can be understood to be more "secular, bureaucratic and rational" (Inglehart, 2007, p. 116); and a survival/self-expression dimension underlining a shift from a focus on economic and physical security to an emphasis on needs related to self-expression, subjective well-being, and quality of life (Inglehart, 2006; Inglehart & Abramson, 1999). Postmaterialist theory shows considerable Maslovian heritage, as only the fulfilment of basic needs allows for the development of needs for self-expression, belonging, and the like (Scarbrough, 2004).

Inglehart (2007) furthermore argues that the shift from materialist to postmaterialist values is intergenerational, as younger birth cohorts replace older ones, thereby changing a society's prevailing values towards a more postmaterialist orientation – reorienting people's attitudes and views towards authority, religion, gender roles, sexual norms, tolerance of foreigners, as well as science and technology. Recent evidence also highlights the role of socialization for the formation of postmaterialist values, as active participation in pro-democracy movements – understood as an active expression of postmaterialist values – can serve as a moderation effect between postmaterialist orientation and the perception of elections in authoritarian states (Tang & Cheng, 2021).

Country-Level Results

The overall VIC sample size is N = 40,530, with South Korea covering the highest number of participants (n = 4000) and the Maldives the smallest (n = 1026). Most participants are female (51.8%), with the highest share being between 40-44 years old (11.3%). Around a third (32.3%) of participants live in a big city, with nearly another third (29.3%) coming from a town or small city.

Less than 10% of participants reported mild or severe COVID-19 symptoms (n = 3738), with the highest number of cases coming from Sweden (n = 985), Chile (n = 408), Brazil (n = 376), United Kingdom (n = 242), and Germany (n = 235). All other countries report fewer than 200 infections.

On average, 20.18% of participants think that the COVID-19 pandemic is a hoax. These beliefs are especially pronounced in Chile (60.51%), Russia (38%), Kazakhstan (35.07%), Poland (31.62%) and Georgia (36.33%). In Sweden (1.92%), South Korea (6.88%), United Kingdom (8.81%), and Japan (9.37%), less than 10% of participants agree with the conspiracy claim. Figure 7 reports the share of participants by country agreeing with the conspiracy item. The red line shows the average across countries.

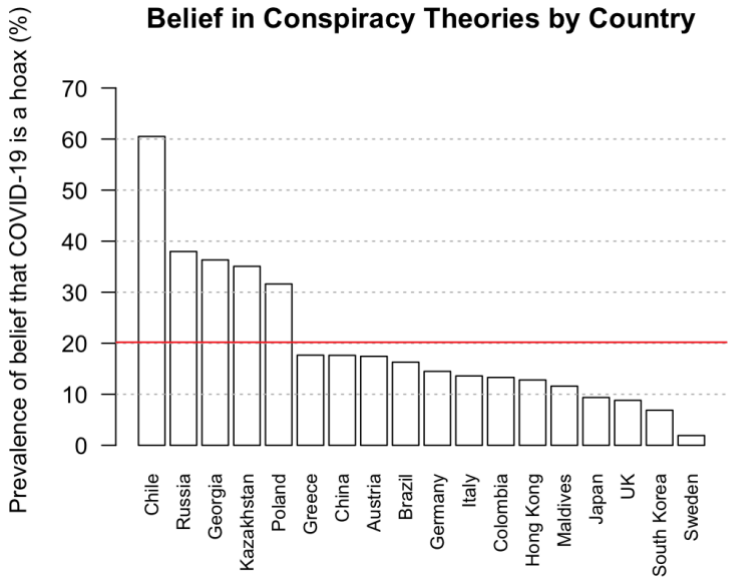

Figure 7. Belief in conspiracy theories by country

An overview of the descriptive statistics by country is provided in Table 6 (p. 61). For all variables of interest, there is substantial variation in the data set. For example, a comparison between COVID-19 deaths per 100,000 citizens and excess deaths per 100,000 citizens stresses the existence of a reporting bias. Only a few countries have fewer excess deaths than officially reported COVID-19 casualties (Austria, Germany, Sweden, United Kingdom, and Chile), all liberal or electoral democracies according to Lührmann et al.'s (2018) V-Dem regime classification. The other countries covered by the survey have reported fewer official COVID-19 deaths than the excess death rate suggests. Among them are China (reporting 1.5% of the excess count), Poland (63.3%), Kazakhstan (23.17%), and Russia (29.4%).

Most countries in the dataset can be classified as either liberal or electoral democracies, according to the *Regimes of the World* measure (Lührmann et al., 2018). The former category of democracies benefit from strong horizontal institutions and the rule of law that act as constraining factors for the executive's conduct, accompanied by de facto free and fair multiparty elections; the latter lack these strong institutions and rule of law but retain electoral mechanisms characteristic of a democracy (Lührmann

et al., 2018). At the lower end of the spectrum, China is the only case that is a closed autocracy and also the country with the highest discrepancy between officially reported COVID-19 deaths and excess deaths, as mentioned above. Kazakhstan and Russia belong in the group of electoral autocracies that hold de jure elections.

Average internet penetration for the dataset (83%) is considerably higher than the global average (60%).[12] South Korea is the country with the highest internet penetration (97%) and the Maldives with the lowest (63%). In several countries, at least nine out of 10 people have access to the internet: Germany, Japan, South Korea, Sweden, the United Kingdom, as well as Hong Kong.

On average, 17.14% of respondents see social media in a more favourable light than the traditional media. The share of people preferring social media over traditional media is particularly high in Kazakhstan (31.3%), Russia (29.9%), Chile (28.5%), Greece (26.4%), and Hong Kong (26.1%). In contrast, in Sweden (4.9%), the United Kingdom (6.6%), Germany (7.5%), and China (8.2%) fewer than one in 10 respondents perceive social media as more favourable.

The Inglehart Index assigns countries to either postmaterialist, materialist, or mixed types (Inglehart & Welzel, 2010). Based on a ranking of a four-item battery, countries are either classified as postmaterialist (1), rather post-materialist (2), rather materialist (3), and materialist (4). Almost all countries can be seen as rather postmaterialist, with only the Maldives and Colombia falling into the rather materialist category.

Figure 8 provides a correlational analysis of the key independent and dependent variables for the country-level analysis. Variables are ordered using the Average Overlap Estimation algorithm (AOE), clustering highly correlated variables. The temperature scale on the right indicates direction and strength of the pairwise correlation. Values in icons show correlation coefficient *r*. Only statistically significant correlations are presented ($p < .05$).

[12] For further information, see: https://data.worldbank.org/indicator/IT.NET.USER.ZS.

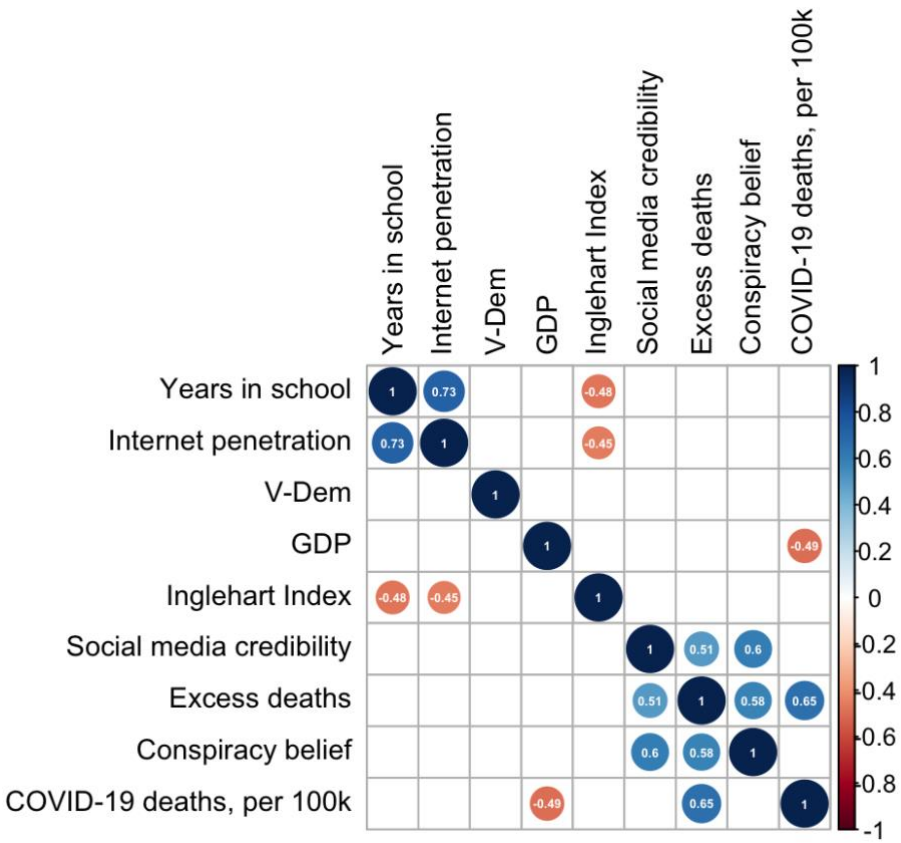

Figure 8. Pairwise correlations of key variables on country-level

Preference for social media and excess deaths show significant positive correlations, both with regards to belief in conspiracy theories and with each other. Additionally, the analysis reveals three more statistically significant correlations: First, internet penetration and years of formal education are positively correlated; second, the Inglehart Index (lower values indicate stronger postmaterialistic orientation) is negatively correlated with years in school as well as internet penetration; and third, excess deaths and officially reported COVID-19 deaths are also positively correlated. Additionally, there is a moderate but insignificant correlation between V-Dem and excess COVID-19 deaths (p = .07), supporting previous findings that more autocratic states underreport numbers of COVID-19 cases and deaths (Annaka, 2021).

Table 6. Averages of key variables by countries

Country	**Share of individuals that believe in CTs** (in %)	**COVID-19 Deaths** (per 100k)	**Excess Deaths** (per 100k)	**V-Dem**	**Internet Penetration** (in %)	**SM more favourable** (in %)	**Inglehart Index**	**Years in School**	**GDP in billion $** (2021)
M (*SD*)	20.18 (14.55)	203.38 (119.87)	297.11 (214.39)	0.54 (0.27)	83 (10.18)	17.14 (8.94)	2.64 (0.31)	11.26 (2.09)	2254.08 (4,132.30)
Austria	17.44	222.84	220	0.75	88	8.18	2.34	12.50	477.08
Brazil	16.29	316.35	374	0.51	81	21	2.92	8	1608.98
Chile	60.51*	306.71	267	0.77	88	28.5	2.92	10.6	317.06
China	17.63	1.04	66	0.04	70	8.2	NA	8.1	17,734.06
Greece	17.66	291.17	328	0.67	78	26.4	2.27	10.6	216.24
Colombia	13.3	275.28	352	0.47	70	20.9	3.01	8.5	314.32
Georgia	36.33*	422.24	641	0.49	73	10.5	2.91	13.1	18.7
Germany	14.49	170.09	155	0.82	90	7.5	2.37	14.2	4223.12
Hong Kong	12.81	125.70	131	0.20	92	26.1	2.43	12.3	368.14
Italy	13.6	279.02	358	0.77	70	15.6	NA	10.4	2099.88
Japan	9.37	24.79	48	0.74	90	12.4	2.64	12.9	4937.42
Kazakhstan	35.07*	101.29	437	0.13	86	31.3	2.26	11.9	190.81

Country	**Share of individuals that believe in CTs** (in %)	**COVID-19 Deaths** (per 100k)	**Excess Deaths** (per 100k)	**V-Dem**	**Internet Penetration** (in %)	**SM more favourable** (in %)	**Inglehart Index**	**Years in School**	**GDP in billion $** (2021)
Maldives	11.6	56.61	175	0.45	63	11.8	3.4	7	4.89
Poland	31.62*	307.66	486	0.41	83	24.3	2.61	12.5	674.05
Russia	37.97*	256.03	871	0.10	85	29.9	2.34	12.2	1775.8
South Korea	6.88	47.95	82	0.79	97	14.4	2.74	12.2	1798.53
Sweden	1.92	189.36	126	0.88	95	4.9	2.8	12.5	627.44
United Kingdom	8.81	266.76	231	0.78	95	6.6	2.42	13.2	3186.86

Note. * Value above average. China and Italy did not provide data on the Inglehart Index.

4.3. Individual-Level Factors

In this section, I present the results of an individual-level analysis that seeks to identify how personal values and trust impact individuals' propensity to believe in CTs. I start by explaining the rationale for the country selection, before discussing individual antecedents of conspiracy beliefs, values, and trust. Afterwards, I describe the methodological approach, before reporting results and discussing their implications.

Country Selection

Country selection is based on the Inglehart-Welzel World Cultural Map (see Figure 9), which is informed by Inglehart and Welzel's two-dimensional approach to culture (Inglehart, 2006; Inglehart & Welzel, 2010). Countries are categorized along the lines of traditional vs. secular-rational values and survival vs. self-expression values. According to Inglehart and Welzel (2001), traditional societies emphasize the importance of religion, family, and authority. These societies are furthermore characterized by a strong notion of nationalism and show a strong preference for social conformity over individualistic behaviour. In societies more on the secular-rational side of this dimension, religion is less important, and matters such as abortion and divorce tend to be more acceptable, compared to societies committed to traditional values. Beyond that, countries scoring high on the survival vs. self-expression dimension are characterized by high levels of existential security and a preference for individual autonomy. These countries value tolerance, trust, and individual well-being. If, however, existential security is not achieved in a society, people "tend to emphasize economic and physical security above all" (Inglehart & Welzel, 2010, p. 52). As Inglehart and Welzel argue, societies at the survival pole of this dimension are more likely to adopt an authoritarian outlook and to show intolerance towards those perceived to be an out-group, e.g., foreigners.

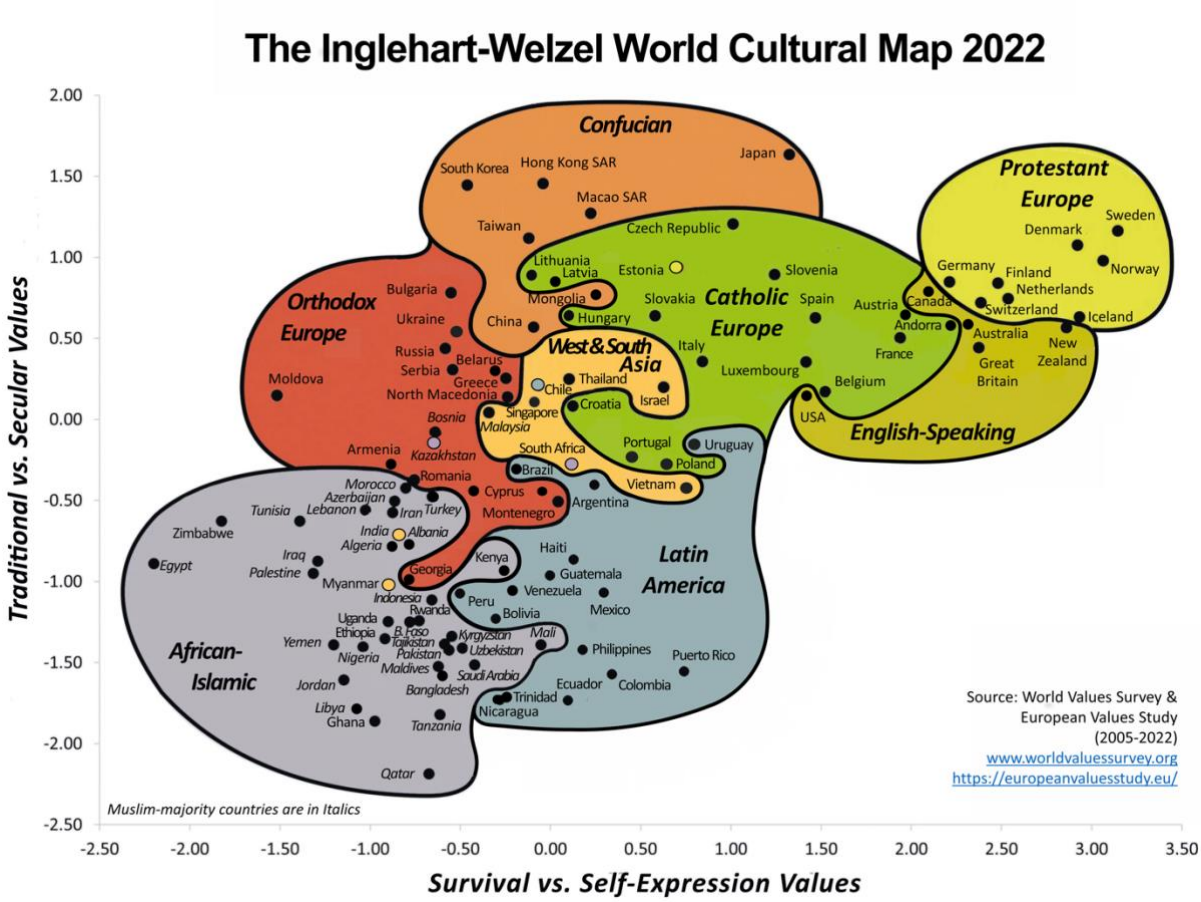

Figure 9. The Inglehart-Welzel World Cultural Map

Using this taxonomy, Germany and Poland are selected for further analysis. Germany is classified as belonging to the cultural group of Protestant Europe, along with countries such as Switzerland, the Scandinavian countries, as well as the Netherlands. Poland, in contrast, belongs to Catholic Europe, jointly with France, Austria, Spain, and Slovenia, among others. More specifically, Germany shows a higher orientation towards self-expression and secular values, although the difference between both countries is not as pronounced on the traditional vs. secular values dimension as it is on the survival vs. self-expression dimension.

Based on the country-level analysis in Section 4.2 above, both countries deserve further attention due to their considerable difference in the share of individuals believing COVID-19-related CTs. In Germany, only 14.49% reportedly believe in this particular CT, while more than twice as large a percentage (31.62%) of Polish respondents do. Both countries furthermore have experienced COVID-19 differently. In Germany, 170.09 per 100,000 people have died from COVID-19, compared to 307.66 per 100,000 in Poland. Excess deaths indicate an even larger gap between the two countries. The excess death rate is 486 per 100,000 people in Poland and 155 per

100,000 people in Germany – fewer than half the casualties of Poland. Hence, these countries can offer a valuable case study to investigate individual-level differences in respect to values and trust and their effects on CT beliefs.

Conspiratorial Thinking on the Individual-Level

Conspiratorial thinking is influenced by a myriad of factors. Douglas et al. (2017) show that conspiracy theories are adopted in situations in which existential needs are threatened, serving as a coping mechanism to deal with the threat. Supporting this notion, several studies provide evidence that the adoption of conspiracy beliefs is associated with feelings of powerlessness (Abalakina-Paap et al., 1999; Pratt, 2003). Uscinski and Parent (2014) argue that conspiracy theories are frequently used by vulnerable individuals to manage perceived threats. Accordingly, they are employed in response to relative shifts in power, enabling the supposedly weaker community to generate collective action.

Aside from threats, individuals turn to conspiracy theories when they feel alienated from the political system and experience a feeling of personal unrest and a lack of understanding of the social world (Abalakina-Paap et al., 1999; Goertzel, 1994). In these cases, believing in a secret plot can buffer individuals from the threats and psychological distress they experience (Jolley et al., 2018).

Political ideology is also associated with conspiracy thinking. As noted earlier, conspiracy beliefs are most prevalent at the political extremes (van Prooijen et al., 2015). Studying the Netherlands and the U.S., van Prooijen et al. identified a U-shaped function, showing that conspiracy beliefs are strongest at the far-right and the far-left, although the far-right tends to be more prone to taking up CTs. These findings can be explained by the predispositions of right-wing ideologies, such as a stronger need to avoid or manage uncertainty, that make the adoption of conspiracy theories more likely (Douglas et al., 2019). However, other research shows that conspiracy thinking is also pronounced in those identifying as independents or with third parties (Uscinski et al., 2016; Uscinski & Parent, 2014).

Conspiracy Theories in Germany and Poland

In Germany, numerous CTs circulate in the public – and have done so in the past. Notoriously, Adolf Hitler adopted the so-called *Dolchstosslegende* (Stab-in-the-back Myth), initially invoked by then field marshal Paul von Hindenburg in 1919, stating that Germany's military was not defeated in combat in World War I, but rather

undermined by left-wing politicians, strike movements, and politicians pushing for peace (Bundesarchiv, 2022). Since then, various conspiracy theories have circulated in the country, many of them related to internationally widespread theories including QAnon, the Truther movement,[13] the Great Reset, and others.

In the context of the COVID-19 pandemic, CTs were frequently associated with the *Querdenken* (Think Differently) movement, both directly related to COVID-19 as well as to more general conspiracy narratives. Accordingly, around 70% of movement adherents (*Querdenker*) see it as reasonable that influential economic actors intend to use force to vaccinate citizens and 75% consider it possible that scientists would deceive the public (Koos, 2021). The composition of this movement is colourful: 57% of respondents support anti-vaccine movements; 32% are neutral about and 2% even support the so-called *Reichsbürger* (Citizens of the Reich), who deny the existence of the Federal Republic since 1949 and instead believe that the German Reich continued to exist after 1937; and 51% have a neutral stance toward the QAnon movement. Individual affectedness does not seem to be a driving reason for their participation, but the societal impact of the pandemic as well as corresponding political measures do. Around 20% report that the pandemic has affected their financial situation or employment security, some 40% state that the measures negatively impact their family life, and 80% see their basic rights infringed upon (Koos, 2021).

The *Reichsbürger* are a particularly interesting case, given recent events in Germany that led to the arrest of 25 individuals who conspired in an attempt to eliminate the existing order in Germany (Falk, 2022). The conspirators intended to overthrow the federal government by attacking politicians, storming the Reichstag (Parliament building which houses the Bundestag), and dissolving the judiciary and those parts of the military not committed to their cause. Although the literature has discussed the more violent aspects of this group, mostly in respect to acts of resistance against law enforcement, most *Reichsbürger* have so far been primarily engaged in "paper terrorism", intended to flood authorities with paper work, thereby inflating processes and paralyzing the administration (Keil, 2017, 2021). Although there have been violent incidents in the past, both against law enforcement as well as political institutions, such as the actual attempted storming of the Reichstag in August 2020

[13] The so-called Truther Movement, also known as the 9/11 truth movement, refers to (a group of) individuals who believe that the terrorist attacks on the World Trade Center on 11 September 2001 have been orchestrated by the U.S. Government.

(Keil, 2021), the activities leading to the arrests in December 2022 seem a new and concerning development of the group.

Turning to Poland, Soral et al. (2018) identify three different groups of conspiracy theories that are particularly prevalent: the plane crash of Smolensk, Jewish conspiracy theories, and gender conspiracy. Especially the antisemitic and gender conspiracy connect to Inglehart and Welzel's (2010) characterization of Poland as a society emphasizing traditional and survival values, especially in respect to a perceived out-group and the importance of religion.

On April 10, 2010, a plane carrying Poland's highest civilian and military leaders including its president Lech Kaczyński, were on their way from Warsaw to Smolensk, to commemorate the Katyn massacre. While approaching Smolensk airport, the plane crashed, killing all 96 passengers. The crash came to be surrounded by various conspiracy theories, attributing the crash to artificial fog used by Russia or the use of explosives to bring down the plane (Soral et al., 2018). A significant share of Poles (25%) saw the cause of the crash as a conspiracy by the Polish and Russian governments, and 50% think that the true cause is buried by both governments. Independent investigations concluded that the crash was caused by Lech Kaczyński demanding that the pilot land in dense fog. Yet, the former president's brother and co-founder and leader of the Law and Justice (PiS) party, Jaroslaw Kaczyński, exploited the situation and attributed the crash to a conspiracy of the Russian government and PiS's political opponents (Radnitz, 2022).

Antisemitic conspiracy theories are deeply rooted in widespread anti-Jewish sentiments in Polish society (Bilewicz et al., 2012). For instance, a 2017 survey found that 55% of respondents agreed that "Jews achieve their collective goals by secret agreements" (Soral et al., 2018). As a consequence, the belief in these conspiracy theories was found to be the most prevalent predictor of anti-Jewish behaviour and attitudes across various domains, including support for discriminatory laws against Jews, intentions to vote for a Jewish candidate, as well as the rejection of Jews as neighbours or co-workers (Bilewicz et al., 2013). The authors argue that the strong impact of anti-Jewish conspiracy beliefs is based on the identification of a common enemy that is the cause of one's own group's misfortunes as well as its capacity to motivate collective action against the enemy.

The gender conspiracy refers to the adoption of gender studies. The theory claims that gender studies and related fields are secretly attempting to destroy the Catholic Church and take control over "all aspects of human life" (Soral et al., 2018, p. 380), in

particular family life and sex education. It is promoted especially by Catholic media and right-wing groups. Soral et al. (2018) argue that the underlying narrative of both the gender and Jewish conspiracy is that these malevolent forces are entirely driven by the wish to harm the in-group, "whether it is through destroying traditional Catholic values or controlling the world's economy" (p. 380). The authors furthermore argue that this urge to blame an out-group is caused by a threatened national identity and also might serve as a collective defence mechanism.

Aside from diverging topics of CTs in Germany and Poland, the sources of the theories differ as well. While CTs in contemporary Germany frequently originate from either extremist political groups (e.g., Alternative for Germany, AfD) or members of the general public (e.g., former cookbook-author-turned-conspiracy-theorist Attila Hildmann) (Bilewicz & Imhoff, 2022), high-ranking politicians rarely propagate CTs. In contrast, political elites in Poland tend to be more comfortable with sharing CTs. As noted above, PiS party leader Jaroslaw Kaczyński has repeatedly questioned official reports about the cause of the 2010 plane crash that killed his brother, perpetuating the idea of a murderous plot. For example, during a parliamentary debate in 2017, Kaczyński accused the head of Poland's ruling party of murdering his brother (Bilewicz et al., 2019). Over time, these claims became crucial beliefs for the party's most committed supporters (Przybylski, 2018). The Smolensk plane crash and CT that emerged subsequently are seen as a "breaking point" and a "collective trauma" that affected Polish society, partially by raising levels of distrust and anxiety (Soral et al., 2018). Hence, by repeating CTs surrounding the crash, Kaczyński invokes Polish in-group victimhood, which further increases public support for the CT and threatens social cohesion, as those believing the myths related to the crash tend to distance themselves from sceptics (Bilewicz et al., 2019; Soral et al., 2018).

Trust

Trust can be understood as "the willingness of an entity (i.e., the trustor) to become vulnerable to another entity (i.e., the trustee). In taking this risk, the trustor presumes that the trustee will act in a way that is conducive to the trustor's welfare despite the trustee's actions being outside the trustor's control" (Schilke et al., 2021, p. 240-241). More concisely, the OECD defines trust as "a person's belief that another person or institution will act consistently with their expectations of positive behaviour" (OECD, 2017, p. 42). Yet trust goes beyond behavioural aspects, as it includes cognitive and normative elements, as trust is influenced by both expectations about the

trustworthiness of a person (cognitive) and whether this person can be expected to share the same values (normative), even in the absence of a former relationship to this person (Hardin, 2002).

Trust encompasses both interpersonal trust and the more abstract institutional trust. Beyond that, scholars differentiate between types of persons and institutions (Delhey et al., 2011). Although trust in institutions entails a variety of different entities (e.g., the government, the military, the financial system, the judicial system), empirical evidence shows that people's responses can be clustered into three categories: political institutions, law and order institutions, and non-governmental institutions (Murtin et al., 2018; Schneider, 2017). Interpersonal trust can be categorized in generalized trust as well as limited trust, with the first referring to trust between strangers while the latter refers to trust between people with a pre-existing relationship (Delhey et al., 2011).

Referring to the famous TV series *The X-Files*, Barkun (2013) argues that the show's claim "Trust no one" encapsulates conspiracists' high degree of suspicion. Empirically, conspiratorial thinking is also associated with a lack of trust in other people (Goertzel, 1994). Yet, conspiracy beliefs can also emerge because of diminishing trust in government (Moore, 2018). Nyhan et al. (2016) showed that exposing individuals to redacted government documents (in which parts are concealed, e.g., with black bars over selected passages) and the prominent discussion of conspiracies in the news can strengthen the belief in conspiracy theories. Hence, it is expected that higher levels of interpersonal trust (H1) and of institutional trust (H2) decrease individuals' likelihood to believe in CTs.

Trust in media is also a crucial aspect in respect to CT. Individuals who mistrust mainstream media tend to seek alternative information and news sources (Miller & Krosnick, 2000). In earlier times, even sceptics who mistrusted media but enjoyed reasoning and deliberating remained largely loyal to mainstream media, partially due to the lack of alternatives (Tsfati & Cappella, 2005). However, as pointed out in Section 2.4, these constraints are no longer relevant today, since the high-choice media environment offers ample opportunity to find the media niche that suits one's preferences (Van Aelst et al., 2017). Unsurprisingly, social media is also frequently used as a news source, which has been flooded by various types misinformation (e.g., about treatments or the effects of vaccines) and CTs during the COVID-19 pandemic (Donovan, 2020); its use as an information source is associated with a higher level of

CT beliefs (De Coninck et al., 2021). Trust in media, or more precisely the type of media individuals trust, is therefore an important determinant of whether an individual buys into conspiracy stories. Hence, those who perceive social media (H3) as more credible than traditional media are hypothesized to show a greater tendency to assume a COVID-19-related conspiracy.

Values

Values are an important aspect of individuals' identities and self-concept (Rokeach, 1973). They can be understood as constraining attitudes, i.e., providing a direction for values, therefore being hypothesized to be less proximate to behaviour than attitudes (van Deth & Scarbrough, 1995). Although values have been conceptualized in various ways, with the materialist-postmaterialist model frequently used in country-level comparisons (Inglehart & Welzel, 2010), research on the individual level, e.g., in sociology and social psychology, has largely focused on Schwartz's (1992) findings on universal characteristics and structure of values. In this work, Schwartz identified six main features of values: they are beliefs, address desirable goals, are action and situation agnostic, guide actions and evaluations, have a hierarchy of importance (within each individual), and steer actions based on trade-offs between multiple values (Schwartz, 2012). Unlike Maslow (1943), Schwartz did not set values in a hierarchy, as they are not predetermined by existential considerations and can therefore differ between individuals.

Building on Rokeach's (1973) value model, which entailed 36 items, Schwartz reduced the dimensions in a first iteration to ten universal basic values – universal in the sense that they are based on at least one of three requirements of human existence (biological needs, communication needs, and cooperation needs) and inform appropriate coping strategies to fulfil these needs. In a revised version, 19 values were identified to more accurately express the central assumptions of the theory, the underlying motivational continuum (Schwartz et al., 2012). The prioritization of these values is shaped, according to Schwartz (2006), by shared experiences in the immediate personal environment as well as by an individual's needs or inherent temperaments (Rokeach, 1973), which limit the degree to which a society can influence a person's values. Newer research points to a combination of genetic predispositions and exposure to various social environments that affect value formation (Sagiv et al., 2017).

These values are arranged in a circular pattern, representing a motivational continuum (Schwartz, 1992, 2012). As Schwartz points out, the closer the values are, the more similar their underlying motivations. Values that are more distant from each other indicate potentially conflicting motivational goals, e. g., self-centred success in business and welfare for others in need might tend to be incongruent with each other. Through this circular arrangement, two bipolar dimensions can be distinguished: one contrasting openness to change (hedonism, stimulation, self-direction) and conservation (security, conformity, tradition), the other self-enhancement (achievement, power) and self-transcendence (universalism, benevolence). In the revised theory (Cieciuch et al., 2014), self-transcendence and conservation can furthermore be clustered in a social focus orientation, while openness to change and self-enhancement are more related to a personal focus orientation. Empirical evidence from ten countries supports the circular pattern of the motivational continuum (Cieciuch et al., 2013).

In this analysis, I focus on values related to conservation and self-transcendence as well as self-direction as a contrast to conservation, since these are theoretically relevant for individuals' propensity to believe in CT. With regard to conservation, security entails both individual-level aspects of safety and harmony as well as a preference for social order and security at the national level (for example: "It is important to her/him that the government ensures her/his safety against all threats. She/he wants the state to be strong so it can defend its citizens."). Conformity (e.g., "She/he believes that people should do what they're told. She/he thinks people should follow rules at all times, even when no-one.") and tradition (e.g., "Tradition is important to her/him. She/he tries to follow the customs handed down by her/his religion or her/his family.") refer to respecting social norms, with conformity more concerned with the control of impulses that could violate social norms and tradition centred around commitment to and respect for historically developed customs and religious practices (Schwartz, 2016). Schwartz further clarifies that tradition and conformity are closely related in their motivational basis, as they "share the goal of subordinating the self in favour of socially imposed expectations" (p. 66) but differ in the entity to which an individual subordinates itself. Subordination motivated by conformity occurs towards people with whom one interacts frequently, e.g., parents or teachers, while tradition motivates subordination towards more abstract concepts, such as religious norms and cultural customs.

Benevolence (e.g., “It's very important to her/him to help the people around her/him. She/he wants to care for their well-being.”) and universalism (e.g., “She/he thinks it is important that every person in the world should be treated equally. She/he believes everyone should have equal opportunities in life.”) both belong to the higher-order value of self-transcendence. Benevolence, however, is directed primarily toward the protection and enhancement of the in-group’s welfare. Universalism is more inclusive, as it is motivated by the need to protect the welfare of all people. Schwartz also makes explicit reference to the protection of nature in his description of universalism, as nature is a prerequisite for all life. Finally, self-direction (e.g., “Thinking up new ideas and being creative is important to her/him. She/he likes to do things in her/his own original way.”) captures the need for independent thought and action, based on the fundamental need for autonomy, control, and mastery (Schwartz, 2016).

Based on Schwartz’s theoretical conceptions, those values that have motivations related to needs for safety, for preserving historically developed customs and ideas, and for protection and enhancement of the in-group’s welfare are hypothesized to be associated with a higher propensity to hold CT beliefs. Accordingly, higher levels of the three values belonging to conservation, i.e., security (H4), conformity (H5), and tradition (H6), and the value benevolence (H7), given its focus on the in-group, should be associated with a greater tendency to hold conspiratorial beliefs. In contrast, individuals scoring high on values addressing self-transcendence as well as openness to change are expected to be less likely to believe in conspiracy theories. Hence, universalism (H8) and self-direction (H9) are both hypothesized to show statistically significant relationships, but negative ones.

4.4. Method

Participants

Individual-level analysis is again based on the VIC dataset (Aschauer et al., n.d.), collected according to the method described in Section 4.1. The focus here is on Germany and Poland. The German sample consists of 2009 participants, half male (50.1%), half female; 57.2% of respondents were younger than 50 years of age. Four participants had to be excluded due to missing data, reducing the sample size to 2005 for the final analysis. In the Polish sample, 47.9% of participants were female and just over half of respondents were younger than 50. Out of 1000 participants, due to

missing data, only 815 could be included in the full logistic regression model. Figure 10 shows the age distribution.

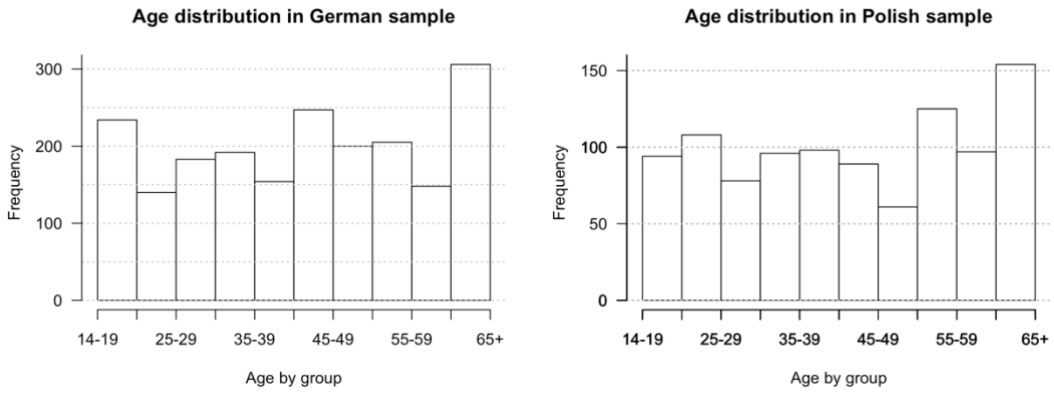

Figure 10. Age distribution for German and Polish samples

In the German sample, only 19.3% of respondents report a low level of education, while 55.4% have attained a medium and 25.3% a high educational level. Most Polish respondents have attained least a medium level (31.5%) or a high level of education (26.2%).

Measures

Trust. Trust is operationalized by asking participants how much they trust people they meet for the first time, frequently referred to as interpersonal trust. The item used a 4-point Likert scale, from (1) "Do not trust at all" to (4) "Trust completely". Institutional trust was operationalized through a single item ("Could you tell us how much confidence you have in our country's government") on a 4-point scale (1 = "None at all", 4 = "A great deal"). Additionally, trust in different kinds of media was measured using a 5-point scale, ranging from "Traditional media are most credible" to "Social media are most credible" with a middle category labelled "Both the same".

Values. Value orientations were measured using the shortened version of the Portrait Value Questionnaire (PVQ) using 21 items instead of 40 (Schwartz et al., 2001), which is also used in the European Social Survey. The PVQ uses verbal descriptions of individuals, indicating various goals and expectations, thereby implicitly addressing the importance of their values. Participants are asked to judge how similar they feel to the depicted person, using a 6-point Likert scale (ranging from 1 = "Not like me at all" to 6 = "Very much like me"). Every value orientation is measured

with two items, except universalism, which is based on three items. As recommended by Schwartz, centred values were used in the analysis.[14]

Covariates. To account for the impact of COVID-19 on participants' threat perceptions, anxiety was included as a covariate, measured by the following question: "How afraid are you that you or your loved ones get sick and suffer severely from the Corona virus?" (5-points, 1= "Not at all afraid", 5 = "Very afraid"). Political orientation was measured with a 10-point Likert scale, ranging from left (1) to right (10). Participants' satisfaction with their personal health and life as a whole were furthermore included, measured on a 10-point Likert scale (1 = "Completely dissatisfied", 10 = "Completely satisfied"). Due to high correlation between both measures, a principal component was extracted, termed personal status.

4.5. Results

A logistic regression was conducted to assess the effects of trust and values on individuals' beliefs in COVID-19-related CTs. An overview of the pairwise correlations for the full model can be found in Annex II. Table 4 shows the results for the first model using only demographics. For the German sample, age (*OR* = 0.93, 95% *CI* [0.89, 0.98], *p* = .002), education (*OR* = 0.69, 95% *CI* [0.56, 0.85], *p* < .001), anxiety (*OR* = 0.50, 95% *CI* [0.44, 0.57], *p* < .001) as well as personal status (*OR* = 0.78, 95% *CI* [0.68, .90], *p* < .001) all showed statistically significant relationships. Thus, higher age, more education, higher anxiety, and a more satisfactory personal status were associated with a lower propensity to believe in CTs.

In Poland, however, only age (*OR* = 0.94, 95% *CI* [0.89, 0.99], *p* = .011) and anxiety (*OR* = 0.55, 95% *CI* [0.48, 0.63], *p* < .001) were found to show significant results. As in Germany, more advanced age and higher anxiety were associated with a lower tendency to hold conspiracy beliefs. Hence, the older and the more afraid individuals were in both countries, the less likely they were to believe in CTs about COVID-19.

Table 4. Demographics model

	Germany				**Poland**			
	B (*SE*)	Exp(*B*)	95% *CI* Lower	Upper	*B* (*SE*)	Exp(*B*)	95% *CI* Lower	Upper
Demographics								
Gender	-.19 (.13)	.83	.64	1.08	.05 (.16)	1.05	.77	1.44

[14] Schwartz, S. (n.d.). Computing Scores for the 10 human values. *European Social Survey*. Retrieved from https://www.europeansocialsurvey.org/docs/methodology/ESS_computing_human_values_scale.pdf

Age	-.07 (.22)**	.93	.89	.98	-.07 (.03)*	.94	.89	.99
Education	-.37 (.11)***	.69	.56	.85	-.11 (.10)	.90	.74	1.09
Income	-.12 (.06)	.89	.78	1.01	-.11 (.08)	.90	.77	1.04
Anxiety	-.69 (.07)***	.50	.44	.57	-.61 (.07)***	.55	.48	.63
Personal status	-.25 (.07)***	.78	.68	.90	-.04 (.08)	.96	.82	1.12
Model summary								
Correct classifications	85.4%				71.7%			
Nagelkerke R^2	.13				.16			

Note. Germany (N = 2005), Poland (N = 865). Gender was recoded with male = 1. Anxiety = "How afraid are you that you or your loved ones get sick and suffer severely from the Corona virus?" (5-points, 1= "Not at all afraid", 5 = "Very afraid"). Personal status is a principal component variable, computed from individual satisfaction with health and individual satisfaction with life in general. Nagelkerke R^2 indicates variance explained through model. $p < .001$ = ***, $p < .01$ = **, $p < .05$ = *.

Table 5 presents the results for demographic variables and political orientation. Political orientation (OR = 1.25, 95% CI [1.16, 1.35], $p < .001$) only showed a significant relation in Germany. The more right-leaning individuals were, the more likely they were to hold conspiracy beliefs.

Table 5. Demographics and political orientation

	Germany				**Poland**			
	B (SE)	Exp(B)	95% CI Lower	Upper	B (SE)	Exp(B)	95% CI Lower	Upper
Demographics								
Gender	-.27 (.14)*	.77	.59	1.00	.05 (.16)	1.05	.76	1.45
Age	-.07 (.02)**	.93	.89	.97	-.06 (.03)*	.94	.90	.99
Education	-.32 (.11)**	.73	.59	.90	-.12 (.10)	.89	.72	1.09
Income	-.14 (.06)*	.87	.76	.98	-.11 (.08)	.90	.76	1.05
Anxiety	-.69 (.07)***	.50	.44	.57	-.60 (.07)***	.55	.48	.63
Personal status	-.23 (.07)***	.79	.69	.91	-.04 (.08)	.96	.82	1.13
Ideology								
Political orientation	.22 (.04)***	1.25	1.16	1.35	.03 (.03)	1.03	.96	1.10
Model summary								
Correct classifications	85.4%				71.6%			
Nagelkerke R^2	.15				.16			

Note. Germany (N = 2005), Poland (N = 831). Political orientation = "In political matters, people talk of 'the left' and 'the right.' How would you place your views on this scale, generally speaking? (1 = "Left", 10 = "Right").

Table 6 presents the results for a model consisting of demographics and different measurements of trust. Among the German respondents, both higher education (OR = 0.72, 95% CI [0.57, 0.91], p = .005) and higher anxiety (OR = 0.56, 95% CI [0.50, 0.66],

$p < .001$) were associated with a decreased propensity to hold conspiracy beliefs. Anxiety (*OR* = 0.56, 95% *CI* [0.48, 0.64], $p < .001$) was the only statistically significant demographic variable in the Polish sample.

All trust variables in the German sample showed significant effects. However, while higher interpersonal trust (*OR* = 1.56, 95% *CI* [1.25, 1.95], $p < .001$) and trust in social over traditional media (*OR* = 2.07, 95% *CI* [1.79, 2.41], $p < .001$) made it more likely to hold COVID-19-related conspiracy beliefs, higher levels of institutional trust (*OR* = 0.43, 95% *CI* [0.36, 0.53], $p < .001$) reduced the likelihood of a German individual to believe in CTs.

In Poland, however, only trust in social media showed a statically significant effect, increasing the likelihood to believe in CT (*OR* = 1.53, 95% *CI* [1.32, 1.77], $p < .001$).

Table 6. Demographics and trust

	Germany				**Poland**			
	B (*SE*)	Exp(*B*)	95% *CI* Lower	Upper	*B* (*SE*)	Exp(*B*)	95% *CI* Lower	Upper
Demographics								
Gender	-.26 (.15)	.77	.58	1.03	-.07 (.17)	.93	.67	1.29
Age	-.05 (.03)	.95	.91	1.00	-.04 (.03)	.96	.91	1.01
Education	-.33 (.12)**	.72	.57	.91	-.13 (.11)	.88	.71	1.08
Income	-.01 (.07)	.99	.87	1.14	-.08 (.08)	.93	.79	1.09
Anxiety	-.56 (.07)***	.57	.50	.66	-.59 (.07)***	.56	.48	.64
Personal status	-.14 (.08)	.87	.75	1.01	-.01 (.08)	.99	.84	1.17
Trust								
Interpersonal	.45 (.11)***	1.56	1.25	1.95	-.07 (.13)	.93	.72	1.21
Institutional	-.84 (.09)***	.43	.36	.53	-.10 (.10)	.91	.75	1.10
Trust in SM	.73 (.08)***	2.07	1.79	2.41	.42 (.07)***	1.53	1.32	1.77
Model summary								
Correct classifications	87.6%				74.6%			
Nagelkerke R^2	.32				.22			

Note. Germany (*N* = 2005), Poland (*N* = 849). Institutional trust = Confidence in government (4-points, 1 = "None at all", 4 = "A great deal"). Interpersonal trust = Trust people you meet for the first time (4-points, 1 = "Do not trust at all", 4 = "Trust completely"). Trust in media = "How credible do you think are the social media, like Twitter and Facebook, compared to the traditional media, like TV and newspapers?" (5-points, 1 = "Traditional media are most credible", 5 = "Social media are most credible"). $p < .001$ = ***, $p < .01$ = **, $p < .05$ = *.

Models in Table 7 include demographics as well as values. For Germany, being male (*OR* = 0.69, 95% *CI* [0.52, 0.91], $p = .008$), highly educated (*OR* = 0.71, 95% *CI* [0.57, 0.88], $p = .002$), more personally satisfied (*OR* = .76, 95% *CI* [.66, .87], $p < .001$), and more anxious (*OR* = 0.56, 95% *CI* [0.48, 0.64], $p < .001$) significantly reduces the

propensity to hold conspiracy beliefs. In Poland, however, only anxiety (*OR* = 0.56, 95% *CI* [0.48, 0.64], $p < .001$) shows a statistically significant relationship.

Concerning values, four of the six variables show a significant effect in Germany. Security (*OR* = 0.80, 95% *CI* [0.68, 0.94], $p = .008$), conformity (*OR* = 0.63, 95% *CI* [0.53, 0.74], $p < .001$), and universalism (*OR* = 0.55, 95% *CI* [0.45, 0.66], $p < .001$) were associated with a lower chance to believe in CT the more individuals are motivated by these values. Tradition (*OR* = 1.35, 95% *CI* [1.16, 1.58], $p < .001$), however, had an inverse effect, with those that valued tradition more were more likely to hold conspiratorial beliefs.

Poland showed a different pattern, as only two variables indicated statistically significant effects. Conformity (*OR* = 0.82, 95% *CI* [0.68, 0.99], $p = .038$) and universalism (*OR* = 0.67, 95% *CI* [0.52, 0.86], $p = .002$) affected individuals' tendency to buy into CTs. In both cases, higher importance of these values was associated with a lower chance to hold conspiracy beliefs.

Table 7. Demographics and values

	Germany				**Poland**			
	B (*SE*)	Exp(*B*)	95% *CI* Lower	Upper	B (*SE*)	Exp(*B*)	95% *CI* Lower	Upper
Demographics								
Gender	-.38 (.14)**	.69	.52	.91	.30 (.17)	1.35	.96	1.89
Age	-.03 (.03)	.97	.92	1.02	-.03 (.03)	.97	.92	1.02
Education	-.35 (.10)**	.71	.57	.88	-.09 (.10)	.92	.75	1.13
Income	-.11 (.07)	.90	.79	1.02	-.12 (.08)	.89	.76	1.04
Anxiety	-.59 (.07)***	.56	.48	.64	-.59 (.07)***	.56	.48	.64
Personal status	-.28 (.07)***	.76	.66	.87	-.03 (.08)	.97	.82	1.14
Values								
Security	-.22 (.08)**	.80	.68	.94	-.17 (.10)	.85	.69	1.04
Conformity	-.47 (.09)***	.63	.53	.74	-.20 (.09)*	.82	.68	.99
Tradition	.30 (.08)***	1.35	1.16	1.58	.06 (.09)	1.06	.88	1.27
Benevolence	-.06 (.09)	.94	.78	1.13	-1.3 (.12)	.88	.69	1.12
Universalism	-.60 (.10)***	.55	.45	.66	-.40 (.13)**	.67	.52	.86
Self-direction	.05 (.10)	1.06	.87	1.29	.16 (.11)	1.17	.95	1.45
Model summary								
Correct classifications	85.6%				72.2%			
Nagelkerke R^2	.20				.20			

Note. Germany (*N* = 2005), Poland (*N* = 859). All values are mean centred, with initial 6-point scale (1 = "Not at all like me", 6 = "Very much like me"). $p < .001$ = ***, $p < .01$ = **, $p < .05$ = *.

The full model, including demographics, political orientation, trust, and values, is presented in Table 8. Again, the two samples differed in respect to the pattern of statistically significant demographic and status variables. In Germany, gender (*OR* = 0.63, 95% *CI* [0.47, 0.86], *p* = .003), education (*OR* = 0.74, 95% *CI* [0.58, 0.93], *p* = .012), anxiety (*OR* = 0.60, 95% *CI* [0.52, 0.70], *p* <. 001) and personal status (*OR* = 0.84, 95% *CI* [0.72, 0.99], *p* = .032) reached statistical significance. Males tended to show a lower propensity to believe in conspiracy theories, as did those with higher education, higher levels of anxiety, and higher satisfaction with their personal status. Out of the demographic variables in the Polish sample, only anxiety (*OR* = 0.57, 95% *CI* [0.49, 0.68], *p* < .001) showed a relevant effect, with higher anxiety being associated with a lower propensity to believe in CTs.

Political orientation (*OR* = 1.12, 95% *CI* [1.03, 1.23], *p* = .012) was statistically significant only in the German sample, with those leaning more to the right being more likely to believe in CTs.

All three trust variables furthermore showed a significant effect on conspiracy beliefs among respondents in Germany. Higher levels of interpersonal trust (*OR* = 1.74, 95% *CI* [1.38, 2.19], *p* < .001) and trust in social media (*OR* = 1.98, 95% *CI* [1.70, 2.31], *p* < .001) were associated with an increase in the propensity to hold conspiratorial beliefs. While institutional trust (*OR* = 0.46, 95% *CI* [0.37, 0.56], *p* < .001) showed a negative effect on people's likelihood to believe in CTs. Hence, the higher people's trust in institutions, the lower their chance to accept COVID-19 CTs as true. In the Polish sample, however, only trust in social media (*OR* = 1.50, 95% *CI* [1.29, 1.74], *p* < .001) was statistically significant, and, as in Germany, the association is positive and thus higher trust indicates a higher chance of believing CTs.

In respect to values, the full model showed a mostly similar pattern to the simple value model reported in Table 7. For German respondents, security (*OR* = 0.83, 95% *CI* [0.70, 0.99], *p* = .04), conformity (*OR* = 0.73, 95% *CI* [0.61, 0.89], *p* = .001), tradition (*OR* = 1.41, 95% *CI* [1.17, 1.68], *p* < .001), and universalism (*OR* = 0.63, 95% *CI* [0.50, 0.78], *p* < .001) all showed statistically significant effects on conspiracy beliefs. While higher identification with the values of security, conformity, and universalism made it less likely that individuals believe in CTs, the relationship was the opposite for tradition, where higher importance is associated with an increasing propensity to hold conspiracy beliefs.

In the Polish sample, only universalism (*OR* = 0.65, 95% *CI* [0.50, 0.85], *p* = .002) reached statistical significance, indicating a similar effect as in the German sample.

Table 8. Full model (demographics, political orientation, trust, values)

	Germany				**Poland**			
	B (*SE*)	Exp(*B*)	95% *CI* Lower	Upper	B (*SE*)	Exp(*B*)	95% *CI* Lower	Upper
Demographics								
Gender	-.46 (.16)**	.63	.47	.86	.20 (.19)	1.22	.84	1.74
Age	-.03 (.03)	.97	.91	1.02	-.02 (.03)	.98	.93	1.04
Education	-.31 (.12)*	.74	.58	.93	-.13 (.11)	.88	.71	1.10
Income	-.01 (.07)	.97	.84	1.12	-.09 (.09)	.91	.77	1.08
Anxiety	-.51 (.07)***	.60	.52	.70	-.56 (.08)***	.57	.49	.68
Personal status	-.17 (.08)*	.84	.72	.99	-.01 (.09)	.99	.83	1.18
Ideology								
Political orientation	.11 (.05)*	1.12	1.03	1.23	.07 (.04)	1.07	.99	1.16
Trust								
Interpersonal	.55 (.12)***	1.74	1.38	2.19	-.03 (.14)	.97	.74	1.28
Institutional	-.78 (.10)***	.46	.37	.56	-.22 (.11)	.80	.64	1.00
Trust in Media	.68 (.08)***	1.98	1.70	2.31	.40 (.08)***	1.50	1.29	1.74
Values								
Security	-.19 (.09)*	.83	.70	.99	-.15 (.11)	.86	.69	1.07
Conformity	-.31 (.10)**	.73	.61	.89	-.15 (.10)	.86	.70	1.05
Tradition	.34 (.09)***	1.41	1.17	1.68	.13 (.10)	1.14	.93	1.40
Benevolence	.01 (.10)	1.01	.83	1.23	-.10 (.13)	.90	.70	1.17
Universalism	-.47 (.11)***	.63	.50	.78	-.43 (.14)**	.65	.50	.85
Self-direction	.05 (.11)	1.06	.85	1.32	.18 (.12)	1.20	.96	1.51
Model summary								
Correct classifications	88.6%				74.8%			
Nagelkerke R^2	.36				.26			

Note. Germany (N = 2005), Poland (N = 815). $p < .001$ = ***, $p < .01$ = **, $p < .05$ = *.

4.6. Discussion

The purpose of this study was to investigate the effects of values and trust on individuals' propensity to hold COVID-19-related conspiracy beliefs and how these effects differ between countries. Overall, the results indicate a considerable variation in relevant values and types of trust across both countries of interest. I hypothesized that higher levels of interpersonal (H1) and higher levels of institutional trust (H2) are associated with a lower chance for individuals to hold conspiracy beliefs. For Germany, this relation can be confirmed for institutional trust (H2). Yet, for interpersonal trust, higher levels of trust make it more likely for individuals to believe in CTs. In Poland, both hypotheses have to be rejected, as neither interpersonal nor institutional trust reached the threshold for statistical significance. The trust in media variable, however, showed the assumed effect in both countries, confirming that those who perceive social

media as more credible than traditional media show a greater tendency to assume a conspiracy behind COVID-19 (H3).

Concerning values, I hypothesized that those values related to conservation of the status quo, protection of customs and norms, as well as the need for safety would be associated with a higher propensity to believe in CTs. For the German sample, a significant effect was found for security (H4), conformity (H5), and tradition (H6). Yet, security and conformity showed an effect opposite to the hypothesized one – the more importance individuals assign to these values, the less likely they are to hold conspiracy beliefs. For tradition, however, it was the opposite, as individuals with higher scores are increasingly likely to believe in CTs, as hypothesized. Benevolence (H7), hypothesized to show an effect similar to that of security, conformity, and tradition, did not reach statistical significance in Germany (or in Poland for that matter). In contrast to these values related to conservation and protection, strong commitments to values such as universalism and self-direction, which reflect a greater openness to change and self-transcendence, were hypothesized to reduce an individuals' likelihood to believe in CT. This effect was found for universalism, as higher importance of universalism is associated with a lower chance to hold conspiracy beliefs, in line with H8. Self-direction (H9) did not show a substantial effect on beliefs in CTs. For Poland, the results provide support for a significant effect only for universalism. All other values remained insignificant.

Although one would expect to find significant effects of values that reflect the Inglehart-Welzel classification (Inglehart & Welzel, 2010) on the country-level, individual-level value patterns, along the lines of the Schwarz model (Schwartz et al., 2001), seem to partially deviate. Given Poland's more pronounced emphasis on survival and traditional values, which is also captured by currently prevalent CTs (Soral et al., 2018), it seems counterintuitive that most of the values addressing this notion do not appear to be influential. In contrast, universalism, which is concerned with the welfare of all people, showed a significant effect. This further supports an apparent gap between the country-level classification and individual value orientations.

The case is different in Germany, where a significant relationship was found for most variables, but in surprising directions. The more individuals value security and conformity, the less likely they are to believe in CTs. This could be interpreted in a way that those more interested in a stable society are less inclined to believe that governments are overreacting or willingly expose citizens to harsh restrictions of public life beyond the necessary. This tendency is captured by both security and conformity.

Yet, tradition was also found to be statistically significant, but in the opposite direction of conformity. According to Schwartz (2012), however, conformity and tradition are closely related, both indicating a willingness to obey to social expectations, although differing in the type of expectation. While conformity refers to concrete authorities, such as parents or supervisors at work, tradition entails obedience to more abstract concepts, such as religious and cultural customs. Schwartz furthermore suggests that conformity can be understood as a responsiveness to changing expectations, e.g., compliance with non-pharmaceutical measures, while tradition demands "responsiveness to immutable expectations from the past" (Schwartz, 2012, p. 7). Government interventions may conflict with past expectations when dealing with a pandemic and could be perceived as overreactions that infringe on long-established customs, such as not interfering with how people spend their leisure time, celebrating holidays, or limiting the number of people to gather in the same room.

The association between trust in social media and higher acceptance of CTs (De Coninck et al., 2021; Mari et al., 2022) and the effects of interpersonal trust (Abalakina-Paap et al., 1999) and institutional trust are supported by the literature. However, while neither interpersonal nor institutional trust showed a significant effect for Poland in my study, institutional trust was found to be influential in a separate study including Polish participants (Mari et al., 2022). These divergent findings might be at least partially attributable to the operationalization of conspiracy beliefs, for which Mari et al. tried to capture a "general conspiratorial vision of the world" (p. 283), including an explicit reference to government actors.

Intriguingly, the German sample showed a positive correlation between higher levels of interpersonal trust and a greater propensity to believe in CTs. This contrasts with prior research on interpersonal trust, which found a negative relationship between trust levels and conspiracy beliefs (Abalakina-Paap et al., 1999; Goertzel, 1994; Wood & Douglas, 2018). These studies capture the notion of "trust no one" (Barkun, 2013), whereas my findings suggest a relationship better described as "trust everyone", including those who claim that COVID-19 is a hoax.

One possible post hoc interpretation for this discrepancy is the situation in Germany around the time of the data collection. While public awareness of COVID-19 increased in early months of 2020, with nationwide contact restrictions being implemented in March, the Federal Government began to relax restrictions by May 6th, 2020. By that time, infection rates had started to decline, with 207 confirmed

COVID-19 cases per 100,000 citizens in mid-May (RKI, 2020). Thus, the severity of the situation and corresponding public health measures might have conflicted with individual perceptions.

Two reasons may explain this phenomenon. First, individuals with high levels of interpersonal trust tend to have more frequent interactions with others (Delhey & Newton, 2003; Glanville & Andersson, 2013), and thus may perceive contact restrictions as particularly severe, leading them to be more criticial of these measures. Second, the belief that public health measures are a government overreaction might not be directly influenced by interpersonal trust, but mediated by the absence of confirmed COVID-19 cases within individuals' networks. If people have many interactions but encounter few cases, they may develop the impression that the severity of COVID-19 is exaggerated and that the government is responding too harshly – a typical example of the prevention paradox (Spinney, 2020).

The results on political orientation also partially support recent findings by Imhoff et al. (2022), who report a positive relationship between right-leaning political orientation and CTs in both Germany and Poland. However, the results presented in this chapter confirmed this association only in the case of Germany.

Limitations

There are least two limitations for the interpretation of this study. A first limitation concerns the operationalization of conspiracy beliefs. It has been noted that inconsistencies in the findings of research on conspiracy beliefs can be largely attributed to the way these beliefs are measured, e.g., whether participants are asked about their agreement with various CTs, the way specific events are addressed, such as the Kennedy assassination, or how measurement is based on a general notion of CT, for instance, beliefs that governments in general tend to conspire (Douglas & Sutton, 2023). Given the VIC survey's focus on the impact of a pandemic on values, the measure used to capture CTs is limited to the case of COVID-19. Therefore, the measure is conceptualized in a way that makes it difficult to generalize beyond the context of COVID-19-related CTs. Although CTs involving COVID-19 touch upon various other conspiracies, e.g., in government and business, antisemitic conspiracies, as well as the so-called Great Reset, the single-item measure employed here should not be overinterpreted.

The second limitation concerns the timing of the data collection. In both countries, data collection began in May 2020 and finished the same month (Germany) or mid-

June (Poland). This a crucial period for both countries, given the early phase of the pandemic and the uncertainty around this new virus, its transmissibility, treatment, and general public health responses. Non-pharmaceutical measures were implemented in Poland starting mid-March 2020 and were subsequently strengthened on 25 March and then again on 31 March 2020. Around that time, Germany also implemented various measures, with six states imposing curfews on 22 March 2020. Hence, it can be assumed that the gravity of the situation influenced risk perceptions, as the impact of the pandemic was especially salient during times of curfews and other restrictions. The proximity of data collection to these measures and the public debate at the beginning of the pandemic might have therefore biased respondents to express themselves in a certain way, e.g., to show higher levels of institutional trust or to be less cautious about information sources, which is not comparable to times outside of societal crisis situations.

Future Research

Further research should systematically compare various types of conspiracy theories (event conspiracies, systemic conspiracies, and superconspiracies; Barkun, 2013) to identify those that are particularly prevalent in a certain country and identify how country-specific conspiracies are related to higher-level conspiracies (i.e., superconspiracies).

Given the surprising relationship between interpersonal trust and propensity to believe in CTs, that conflicts with existing literature, further research should assess the robustness of this association. In particular whether this relationship holds when different measurement approaches are used, e.g., not covering COVID-19.

Further research is also needed in respect to the differing value patterns between countries and their association with country-level classifications, such as the Inglehart Index. The absence of significant effects of values that capture notions of order, security, and stability in Poland also demand further investigation.

Additionally, research needs to investigate the interaction between political elites promoting CTs and the respective cultural context. As seen in the case of Poland, political leadership can adopt conspiratorial narratives and incorporate them into speeches and party doctrine. Cultural contexts in which respecting authorities is valued and encouraged, CTs might also be more widely believed and influential, in respect to political behaviour, if politicians hold and communicate CTs.

Given that specific conspiracy beliefs are highly correlated with believing in other conspiracy theories (Goertzel, 1994), countermeasures should address the emergence of conspiracy beliefs in their respective contexts. Future research needs to identify those measures that seem effective in various contexts, e.g., critical ignoring (Kozyreva et al., 2023), inoculation (e.g., Lewandowsky & van der Linden, 2021; Roozenbeek et al., 2022; van der Linden, 2022) and lateral reading (Brodsky et al., 2021; McGrew, 2020), and develop ways to implement those measures at scale. The taxonomy developed by Kozyreva et al. (2020), suggesting that policy should target areas such as law and ethics, technology, psychological and social sciences, as well as education, offers a framework for countermeasures at the pre-CT adoption stage. To address individuals that already hold CTs, it seems particularly important to increase trust in government, institutions, and (traditional) media, given that the current study highlights its cross-cultural significance. For context-specific countermeasures, research must find approaches to utilize a country's cultural context to create best-in-context measures that benefit from the established fit.

Conclusion

This study contributes to the growing literature on CTs and misinformation by connecting notions of values and trust to individuals' susceptibility to adopt conspiracy beliefs. By applying a comparative approach, the study highlights the need for researchers to be attentive to the contextual embeddedness of their findings and the role of country-level differences in determining individual-level outcomes. Beyond that, the study underlines the importance of interdisciplinary approaches to the study of CTs, as the subject touches upon matters of political science, psychology, public policy as well as sociology. Although the generality of these results must be supported by further research, they can be seen as a call for increased awareness of the context when studying conspiracy beliefs.

5. Conclusion

At the end of le Carré's novel, George Smiley successfully catches the mole (the Tailor) and re-establishes trust among the upper echelons of MI6. Although Smiley was an experienced intelligence operative, distinguishing friend from foe, identifying what is true and what is not, posed a serious challenge to him – the entire MI6 even, given that the mole had been recruited decades ago. What makes this story even more intriguing, is its historical template. The Cambridge Five, a group of Cambridge graduates working for British intelligence and the Foreign Office, provided the Soviet Union with secret information from the 1930s to the early 1950s (Gioe & Hatfield, 2021). Apparently, even highly trained intelligence officials can be tricked into believing lies disguised as truths.

Individuals in today's information ecosystem encounter a similar opponent – misinformation that disguises as facts. Yet not all individuals are misled, many manage to navigate the increasingly challenging informational environment. Others, however, fall for misinformation. The goal of this dissertation was to identify some of the reasons for the latter. For this purpose, two broader categories of factors were identified that make people more likely to fall for and subsequently believe in false information, those within a person and those in its environment. Hence, my research question: *What makes individuals susceptible to false information?*

To approach this question, I started my research with a review of the literature on the main vector of the proliferation of misinformation, social media, and its impact (positive and negative) on democracy. Through a mixed-methods approach, I conducted two empirical studies, each of them comparatively addressing the research question. In chapter three, I used an experimental research design to compare seven SNSs and investigate how superficial credibility cues affect users' credibility judgements and therefore whether such cues might influence susceptibility to misinformation. In the fourth chapter, I built on a multinational research project to compare the effects of trust and values on individuals' likelihood to believe in CT, and by association misinformation, in Germany and Poland.

Jointly, these studies offer an attempt to illustrate the importance of comparative research in this field. Individually, they show that it is warranted to combine individual-level and contextual research, which provides a better understanding of and integrates the various forces individuals are exposed to as information consumers. In

this section, I summarize the results of my research and discuss limitations and avenues for future research.

5.1. The Decisive Role of Social Media in Enabling Misinformation

This chapter provided the theoretical and intellectual basis for my dissertation. From the existing literature, I derived an analytical framework, consisting of three levels (individual, group, system), which provides an integrative approach to the study of misinformation. In subsequent chapters, I built on the findings that misinformation research lacks a comparative approach in several areas, ranging from a lack of research concerning different SNSs as well as in respect to cultural diversity. At the time I began, the especially scarce research on SNSs beyond popular platforms such as Facebook was noticeable, and therefore directly influenced the development of the third chapter.

On a theoretical level, my analysis of the literature linked individual-level processes, such as selective exposure and motivated reasoning, and group processes, such as group polarization, to changes in the general information environment, particularly a surge of misinformation on various SNSs and the emergence of a high-choice media environment. It became clear that a comprehensive assessment of the information ecosystem on SNSs and its impact on misinformation is needed but simultaneously demands a multi-disciplinary approach building on legal, political, psychological, and other scholarship that goes beyond the scope of this dissertation.

Nevertheless, in the light of these demands, the chapter provided the basis for research projects that accompanied my dissertation, resulting in a conference paper that discusses the role of social media in the emergence of conspiracy communities (Abels, 2022) and a book chapter that briefly touches upon the problems with founder-CEOs in technology companies, e.g., Facebook (Anheier & Abels, 2020).[15]

5.2. Do Platforms Matter?

The goal of the research reported on in the third chapter was to identify whether differences in superficial credibility cues on SNSs affect a person's trustworthiness judgements of news items presented to them and their willingness to share these items with friends and family as well as strangers. The evidence from this study does not support this hypothesis unequivocally. Although it seems counterintuitive that news

[15] These corporate executives are to a degree immune against external control mechanisms, due to an accumulation of voting power through a dual-class stock structure, making it difficult for shareholders to step in and replace the CEO.

items, manufactured in a way to look like screenshots, presented on Facebook are perceived to be as trustworthy as content on LinkedIn or the AP website, no significant differences were found. This is a novel finding, as other research reports SNS-specific effects (Stockmann et al., 2020; Vraga & Bode, 2018).

However, an exploratory analysis revealed that individuals who had previously shared misinformation judged the presented news items to be more trustworthy, although these were fake. This can be explained by varying degrees of political knowledge: those with higher levels of knowledge judged these news items less favourably and were also less likely to have shared misinformation in the past. Furthermore, individuals who perceived a social media site to be prone to misinformation demonstrated a tendency to judge news items less favourably, indicating a reputational effect of the SNS. This perception did not, however, translate into differences in credibility judgements of news items across platforms, which might point to problems with the experimental manipulation; either the stimulus material used in the experiment did not provide a sufficient framing to make the features of the respective SNS salient or the news items were not convincing enough to the respondents.

Respondents who judged traditional media to be more credible furthermore assessed the news items to be less trustworthy. Political orientation was also positively associated with higher trustworthiness judgements, as suggested by the literature (Bullock et al., 2015; Van Bavel & Pereira, 2018): right-leaning individuals view news items on social media sites more favourably. This is unsurprising, as most of the stimuli tend to relate to right-wing misinformation narratives. In contrast, individuals with a higher level of political knowledge tend to perceive the news items as less trustworthy. Given that a better understanding of politics makes credibility judgements cognitively less demanding, this finding aligns with the assumptions derived from dual-process models (Kahnemann, 2011).

At least two limitations apply to this part of the study. The first concerns the external validity of the experiment. There is certainly a gap in the synthetic exposure to misinformation in an online survey environment compared to exposing people more organically to misinformation and capturing their behaviour while browsing social media on a smartphone. Second, a substantial number of participants (31.3%) failed one out of two attention checks. A significant negative correlation between attention check score and credibility judgements was found, indicating some bias in the results.

Hence, it remains unclear whether increased cognitive effort could reveal a SNS-specific effect.

5.3. Values and Cross-Country Comparisons

In Chapter 4, I intended to identify differences in the relationships between trust and values and belief in CTs across Germany and Poland. I hypothesized that higher levels of interpersonal and institutional trust and trust in traditional media make individuals less prone to hold conspiracy beliefs. The evidence offers a mixed picture. In Germany, high institutional trust reduces the chance to believe in CTs, while high levels of interpersonal trust increase the propensity. Neither interpersonal nor institutional trust showed a significant impact in Poland. Only trust in media had a significant effect in both countries, with higher levels of trust in traditional media reducing the likelihood of adopting conspiracy beliefs. This finding corresponds with the literature (De Coninck et al., 2021).

Six values were included in the logistic regression model (security, conformity, tradition, benevolence, universalism, self-direction), of which only universalism showed a significant negative effect in both countries, as hypothesized. Individuals in Germany with a stronger orientation towards tradition are more likely to hold conspiracy beliefs, as per my hypotheses. While security and conformity also showed a significant effect, its direction was opposite to the theorized direction, with those with a higher identification with both values showing a lower likelihood to believe in CTs. As hypothesized, higher identification with universalism was furthermore associated with reduced chances than an individual would hold conspiracy beliefs. Neither benevolence nor self-direction reached statistical significance. In summary, in the case of Germany, those values highlighting conservation and protection largely contradict the hypothesized effects, with only tradition showing the assumed association. However, of the two values related to self-transcendence and openness, only universalism was found to be significant. In Poland, only universalism seems to have a substantial effect at all.

On reflection, there are two limitations that affect the interpretation of the results. First, regarding the operationalization of beliefs derived from CT, the item used to assess whether individuals believe in CTs is limited to the context of COVID-19 and explicitly addresses CT-related hoaxes on social media. Although various CTs were circulating around COVID-19, which are also related to common and more specific CTs, the results should be interpreted with the appropriate caution. Second, the timing

of the data collection could be of concern. Data collection in both countries occurred at a critical point in the pandemic where drastic non-pharmaceutical policy measures were implemented in both Germany and Poland. The gravity of this situation may have influenced the risk perception of participants and consequently introduced a bias to the data, given the proximity of data collection to these events.

5.4. Future Research

The heterogeneous character of the findings in this dissertation project opens various new avenues for further research. Here I outline several potential questions in the intra-individual and extra-individual domains. Additionally, although the susceptibility to false information was the main focus of my research, the other side of the coin, resilience and interventions against misinformation, also deserves attention. Hence, I also discuss research questions that address this area as well.

Intra-Individual

Given that some of the findings outlined in Chapter 4 diverge from my hypotheses, additional research is needed to investigate these deviations. Beyond that, it deserves further inquiry whether the effects found in my study are robust to different operationalizations of conspiracy beliefs. As the study at hand used a CT-related question addressing COVID-19, a different pattern of effects might emerge when using country-specific or event-related CTs.

As there have been substantial technological advancements in the area of artificial intelligence in recent years, further analysis exploring whether the modality of misinformation, in particular image and video-based disinformation (i.e., deepfakes), shows similar associations with various intra-individual factors, such as cognitive ability, personality traits, trust, and values. Evidence indicates that individuals seem to struggle to discerning authentic images from manufactured ones, but perform better the less physically plausible the changes in the pictures are (Nightingale et al., 2017). Credibility cues and social heuristics do not seem to improve performance; only prior knowledge and experience with digital imaging, photography, and online media increased individuals' ability to identify manufactured images (Shen et al., 2019). However, as Lewandowsky (2017) has implied, if viewers' expectations align with the content of a picture, such careful discrimination becomes more difficult. Accordingly, a trend towards a post-truth society might enhance the impact of deepfakes as misinformation closes the gap between expectations and deepfakes, and can therefore

be seen as an epistemic threat (Fallis, 2021). These considerations warrant further research.

Extra-Individual

The absence of any notable difference between SNSs discussed in Chapter 3 gives reason for additional inquiry. As the literature reports SNS-specific effects, further research should use more ideologically diverse stimulus material and design the experiment in a way that randomly alternates between manufactured and authentic news pieces. This might force participants to pay more attention to their credibility judgements by avoiding the impression of all information pieces being misinformation. Although the assessment of political knowledge was worthwhile for this dissertation, its operationalization should be improved in future studies, e.g., by creating a set of questions with varying degrees of difficulty that measure in-depth knowledge of political systems and awareness of everyday public affairs.

As the results from the Chapter 4 suggest, the effects of intra-individual factors such as values and trust on conspiracy beliefs differ depending on the cultural context. Hence, further research with additional cultural contexts is warranted. As this dissertation has focused on a comparison between Catholic Europe and Protestant Europe, future studies should address the remaining cultural regions (African-Islamic, Confucian, English-Speaking, Latin America, Orthodox Europe, West & South Asia) from Inglehart and Welzel's typology. Evidence from these analyses would enrich our understanding of the relation between values and conspiracy beliefs.

Beyond a mere comparison, future research should investigate whether, and if so how, political leaders' endorsement of CTs affects public support for these ideas. If political leaders create a context in which certain events or developments are attributed to an out-group, thereby referring to intergroup CTs, perceptions of threats to the in-group might become salient and raise the level of conspiracy beliefs among the public. This mechanism is theorized to be especially pronounced in contexts with a strong intergroup salience (e.g., strong group identification or a collective history of victimization) as well as influential macro-level factors, such as high levels of corruption (Hornsey et al., 2022). Given that several populist leaders in Europe and beyond (e.g., political elites in Poland, Hungary, and the U.S.) have used CTs as a tool for political communication, it seems appropriate to assess how such behaviour influences citizens' understanding of facts and truth, and whether elite endorsement of

CTs creates epistemic structures in a society that make citizens more prone to adopt conspiracy beliefs.

Finally, research should investigate whether SNSs provide a structure for the emergence of anti-social capital,[16] meaning that the affordances of platforms such as Facebook and Telegram create cohesive communities that show characteristics of political organization, channelled into anti-institutional actions. Anti-government protests in Germany during the height of the COVID-19 containment measures were often coordinated through SNSs. Virtual communities around various conspiracy narratives flourish on Telegram, 4chan, and other sites (Tuters et al., 2018). Analysing how these communities translate their beliefs into tangible political organization therefore seems to be a valuable endeavour.

Interventions Against Misinformation

As discussed, comparative research on misinformation and CTs remains scarce. The same is true for research on misinformation interventions. Given that a significant volume of research is based on WEIRD samples (Cheon et al., 2020), additional evidence is needed to assess the effectiveness of various interventions in non-WEIRD samples. As suggested by a 2022 review on misinformation interventions (Kozyreva et al., 2022), further research should inquire whether the accumulated evidence on the effectiveness of these interventions holds in different cultural contexts. Although it seems reasonable to assume that many interventions are culturally insensitive, such as inoculation (e.g., Roozenbeek et al. 2022), this notion must be supported by further evidence.

[16] In this context, anti-social capital builds on Putnam's (2000) idea of social capital, but is used to spread false information and foster anti-institution and anti-government sentiments. While it follows mechanisms similar to social capital, anti-social capital is motivated by a wish to question, and in some cases disrupt, social norms and other communities.

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7. Annexes

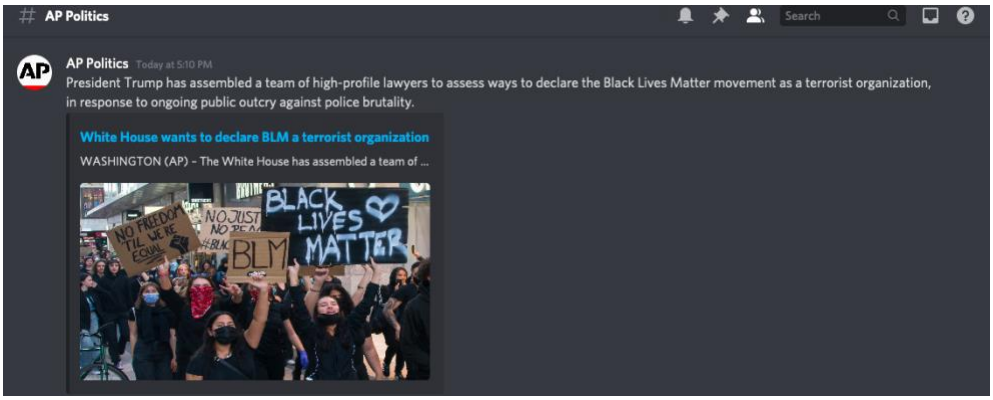
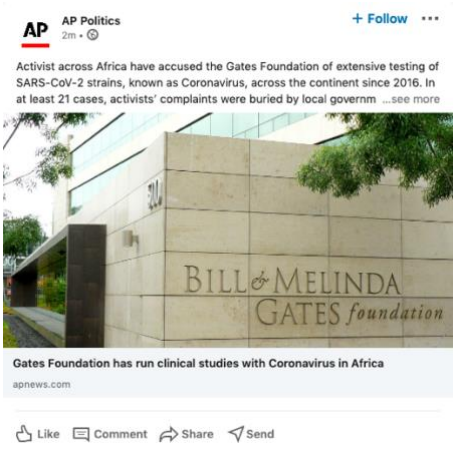
7.1. Annex I: Supplemental Material, Chapter Three

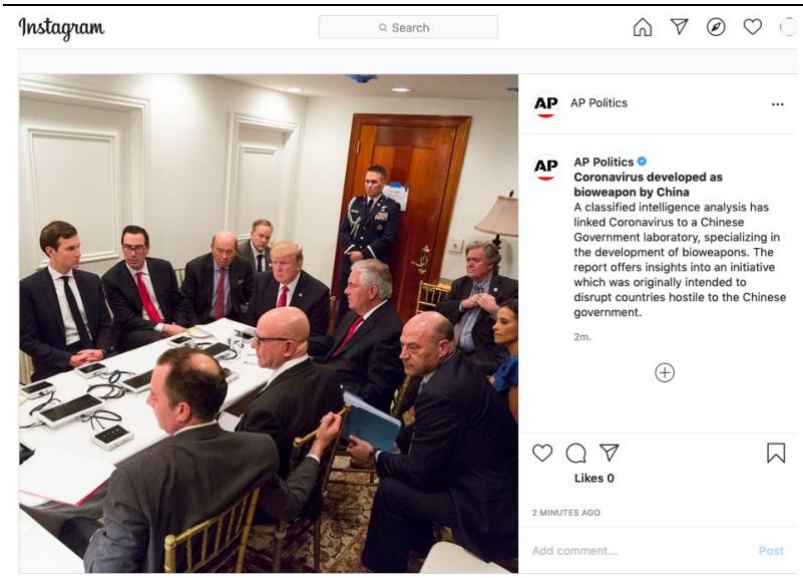
Study Material

Table 9. Overview of news stories

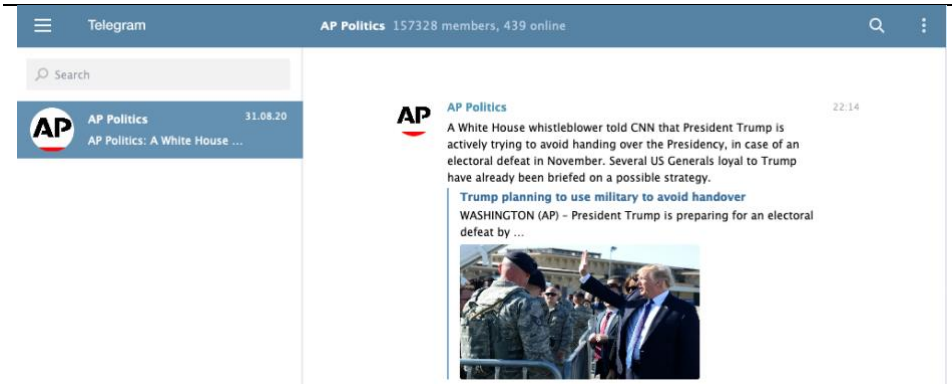
No.	Label	Title	Teaser
1	BLM	White House wants to declare BLM a terrorist organization	President Trump assembled a team of high-profile lawyers to assess ways to declare the Black Lives Matter movement to be a terrorist organization, in face of recent clashes with security forces.
2	RBG	White House plans to remove Justice Ginsberg from Supreme Court, pushing for new conservative Justice before election	White House Republicans prepare legal steps to remove Justice Ruth Bader Ginsberg from the supreme court, citing Ginsberg's repeated hospitalizations and deteriorating health. The initiative is said to be an attempt to add another conservative candidate to the bench.
3	BW	China developed Coronavirus as bioweapon	A classified intelligence analysis has linked the Coronavirus to a Chinese lab, specialized in bioweapon development. The report offers insights in what was originally intended to disrupt countries hostile to the Chinese government.
4	Gates	Gates Foundation has run clinical studies with Coronavirus in Africa	Activist across Africa have accused the Gates Foundation of extensive testing of Coronavirus strains across the continent since 2016. In at least 21 cases, activists' complaints were buried by local governments.
5	HO	Trump planning to use military to avoid handover	A White House whistleblower told CNN that the President is actively trying to avoid handing over the presidency, in case of an electoral defeat. Several loyal generals have been contacted and briefed on the matter.
6	USPS	Russian government intends to disrupt mail voting, intelligence officials report	In a recently compiled classified report, CIA and NSA officials state that the Russian government plans to meddle with mail voting, in an attempt to support the President. Attacks are aimed at servers of the US Postal Service, among others.

7	Biden	Biden flew two dozen times with Epstein's "Lolita express"	The Democratic presidential candidate Joe Biden has traveled aboard Jeffrey Epstein's so called "Lolita express", which was used to fly many of his victims to his private island, new documents show. Biden flew at least 26 times.

Material	**Platform**
	Discord
	Facebook
	LinkedIn

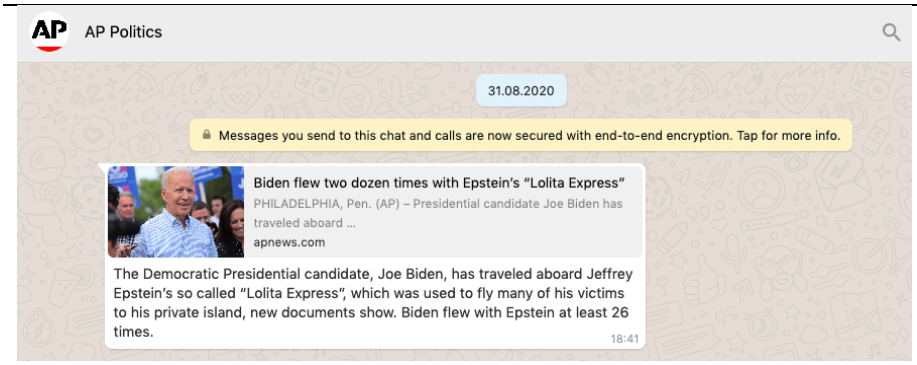


Instagram



Telegram

Twitter



WhatsApp

Figure 11. Stimulus material

Annex

Questionnaire and Procedure

The following description of the study procedure reported in Chapter 3 includes variables that have not been used in the final analysis after careful consideration.

1. Introduction

[Page 1]

Welcome!

The aim of this survey is to assess the trustworthiness of screenshots illustrating headline news stories.

You will subsequently see seven screenshots, each of which depicts a different news story. You will be asked to assess the credibility of each of these news pieces. Please indicate how trustworthy you think the respective items are, ranging from 'The news is very untrustworthy (1)' to 'This news is very trustworthy (7)'. You will also be asked whether you would "like" (or otherwise respond positively to) the news, share it from one of your own social media accounts, or forward the news to a friend or family member.

This research is conducted by **Christoph Abels**, a doctoral researcher at the **Hertie School** in Berlin.

If you have questions about the survey, please do not hesitate to contact me: **c.abels@phd.hertie-school.org**.

[Page 2]

Please read the following information carefully before commencing the survey:

Duration: The study takes approximately **15 minutes**.

Data protection: Once the data has been collected and your HIT approved, your personal data will be completely anonymized. Your worker ID will not be used to derive your identity, made public, or shared with a third party.

Use of anonymized data: The results and raw data of this study may be utilised as a scientific publication. This will be done anonymously, and the data will not be attributable to a specific person. The anonymized data of this study may also be published as "open data" in an internet-based database (Open Science Framework).

Voluntary participation: Your participation in this study is voluntary. If you do not want to participate, you may terminate the questionnaire at any time. You also are not under any obligation to answer questions which may make you uncomfortable.

Annex

Informed consent

I hereby declare that I have read the information completely and carefully, and I agree to the stated conditions of participation. I would like to take part in the study and understand,

- that my participation is voluntary,
- that I can cancel at any time without any impediment,
- and that my data will be processed anonymously.

I confirm that I am 18 years old.

1 I agree. [Survey starts]
2 I do not agree. [Redirected to ending page]

2. Experimental section

[Randomized allocation to social media platform]

"Below is a screenshot taken from [Facebook / Twitter / etc.]. Please rate its trustworthiness, and indicate whether you would like, share, and forward it."

Block 1

You are subsequently seeing news posted on [Discord / Facebook / Instagram ...].

[Randomized: order of news]

Q1: Please assess how trustworthy the content of this screenshot is.

This news is ...

1	2	3	4	5	6	7
Very untrustworthy	Untrustworthy	Somewhat untrustworthy	Neutral	Somewhat trustworthy	Trustworthy	Very trustworthy

Q2: How likely it is that you would share this news on one of your social media accounts?

1	2	3	4	5	6	7
Very unlikely	Unlikely	Somewhat unlikely	Neutral	Somewhat likely	Likely	Very likely

Q3: How likely it is that you would like or positively react to this news on one of your social media accounts?

1	2	3	4	5	6	7
Very unlikely	Unlikely	Somewhat unlikely	Neutral	Somewhat likely	Likely	Very likely

Q4: How likely it is that you would forward this news to a friend or family member?

1	2	3	4	5	6	7
Very unlikely	Unlikely	Somewhat unlikely	Neutral	Somewhat likely	Likely	Very likely

[Repeated six more times]

Q29a: You just saw several news posted on a social media platform. What platform was that?

1. Discord
2. Facebook
3. Instagram
4. LinkedIn
5. Telegram
6. Twitter
7. WhatsApp
8. None of the above

Q29b: You just saw several news posted on a website. Which website was this?

1. cnn.com
2. apnews.com [Correct answer]
3. foxnews.com
4 None of the above

3. Evaluation of social media platforms / use of platforms

Q30: Please indicate how trustworthy you think the following social media platforms are:

	1 Very untrustworthy	2 Untrustworthy	3 Neither	4 Trustworthy	5 Very trustworthy
Discord					
Facebook					
Instagram					
LinkedIn					
Telegram					
Twitter					
WhatsApp					

Q31: How credible do you think are social media platforms, such as Twitter and Facebook, compared to the traditional media, such as TV and newspapers, using this scale:

1	2	3	4	5
Social media are most credible	Social media are slightly more credible	Both the same	Traditional media are slightly more credible	Traditional media are most credible

Q32: Please indicate how frequently you use the following social media platforms:

	1 Never	2 Rarely	3 Often	4 Always
Discord				
Facebook				
Instagram				
LinkedIn				
Telegram				
Twitter				
WhatsApp				

4. Political orientation and sophistication, news consumption, misinformation, and trust

Q33: In political matters, people talk of "the left" and "the right." How would you place your views on this scale, generally speaking?

1	2	3	4	5	6	7
Very left	left	Somewhat left	Neutral	Somewhat right	Right	Very right

We would like you to answer a few questions about the US Federal Government. Many people do not know the answers to these questions, so if there are some you don't know you may select "I do not know" as an option.

Q34: Which political office does Mike Pence currently hold?

1 Mike Pence is / holds the political office of _____
2 I don't know

Q35: Whose responsibility is it to determine if a law is constitutional or not . . . is it the president, the Congress, or the Supreme Court?

1 President
2 Congress
3 Supreme Court
4 I do not know

Q36: How much of a majority is required for the U.S. Senate and House of Representatives to override a presidential veto?

1 The required majority is _____
2 I do not know.

Q37: Do you happen to know which party has the most members in the House of Representatives in Washington?

1 The party with the most members in the House of Representatives is _____
2 I do not know.

Q38: Which party is more conservative?

1 Democratic Party
2 Republican Party
3 I do not know.

Q39: How frequently do you consume news, either in print, online, or on TV?

1 Never	2 Every few months	3 About once a month	4 Several times a month	5 About once a week	6 Several times a week	7 About once a day	8 Several times a day

Q40: What is your preferred source of news reports?

1. Television
2. Online Newspapers / News Magazines
3. Print Newspapers / News Magazines
4. Social Media
5. Radio
6. Other – Please identify:

Q41: Please indicate the degree to which misinformation (factually false claims) is a problem on the following social media platforms:

	1 Very problematic	2 Problematic	3 Somewhat problematic	4 Neutral	5 Somewhat unproblematic	6 Unproblematic	7 Very unproblematic	99 Don't know
Discord								
Facebook								
Instagram								
LinkedIn								
Telegram								
Twitter								
WhatsApp								

Q42: How likely is it that you have shared misinformation on the following social media platforms before?

	1 Very unlikely	2 Unlikely	3 Somewhat unlikely	4 Neutral	5 Somewhat likely	6 Likely	7 Very likely	99 Don't know
Discord								
Facebook								

Instagram
LinkedIn
Telegram
Twitter
WhatsApp

5. Socio-demographic information

Q43: What is your gender?

1 Male
2 Female
3 Other

Q44: What is your year of birth?

_____ (Year)

Q45: What is the highest educational level that you have attained? (If you are a student, please indicate the highest level you expect to complete)

1 No formal education
2 Incomplete primary school
3 Complete primary school
4 Incomplete secondary school: technical/vocational type
5 Complete secondary school: technical/vocational type
6 Incomplete secondary: university-preparatory type
7 Complete secondary: university-preparatory type
8 Some university-level education, without degree
9 University-level education, with degree

Q46: Which phrase describes the area where you live?

1 A major city
2 The suburbs or outskirts of a major city
3 A town or a small city
4 A country village
5 A farm or home in the countryside

Q47: Please briefly (1-2 sentences) describe what you think is the main purpose of this survey.

[Free text entry]

6. Final page & debriefing

You have reached the end of this survey. Thank you for taking part in it. As you were told in the beginning of this survey, your main task was to assess the trustworthiness of the news you are presented, and state whether you would like, share, and forward the news.

Please note: All the news you received were manufactured by the author of this study and are not factually true. The Associated Press would not deliberately engage in deceptive behaviour!

The main purpose of this research project is to better understand how misinformation is perceived on different social media platforms (Facebook, Twitter, Instagram, etc.). Our research tries to answer the question, whether it matters for the trustworthiness of misinformation, and they likelihood of it being shared and forwarded, on which social media platform it is presented, for instance: Is misinformation on Facebook more trustworthy than misinformation on Twitter or WhatsApp? This question has implications for measures to reduce the spread and impact of misinformation on social media. For this purpose, you were randomly assigned to one of eight different groups, in which all news were framed as coming from one social media platform (Discord, Facebook, Instagram, LinkedIn, Telegram, Twitter, and WhatsApp), or the website of the Associated Press.

If you have any questions on the survey, or want to learn more about this research project, please contact c.abels@phd.hertie-school.org. We are happy to receive your feedback and ideas on how to improve our research and answer any question you might have.

Your completion code is:

To receive payment, please click „Accept HIT“ in the Mechanical Turk window, enter the completion code above, then click “Submit”.

Supplemental Analysis and Data

Political knowledge and platform usage were intended to serve as covariates in the model. To fulfil the criterion of independence from treatment, both covariates were analysed to using an ANOVA approach. Table 10 shows the descriptive statistics for both covariates. The ANOVA revealed a significant platform difference for frequency of use $F(7, 839) = 19.37$, $p = .92$. Frequency of use could therefore not be included in the ANCOVA. No differences are found for political knowledge $F(7,845) = 1.74$, $p = .09$ and is hence included in the ANCOVA.

Table 10. Descriptive statistics for covariates

Platform		**Political Knowledge**	**Frequency of use**
	N	*M* (*SD*)	*M* (*SD*)
Discord	101	2.49 (1.22)	2.03 (1.01)
Facebook	108	2.28 (1.30)	3.04 (0.90)
Instagram	107	2.23 (1.34)	2.88 (0.09)
LinkedIn	100	2.22 (1.32)	2.45 (0.87)
Telegram	110	2.50 (1.19)	1.93 (0.98)
Twitter	107	2.32 (1.38)	2.60 (0.89)
WhatsApp	112	2.40 (1.31)	2.70 (1.16)
AP	109	1.99 (1.30)	2.10 (0.92)
Total	854	2.30 (1.30)	2.47 (1.03)

Table 11 shows the item-level statistics for all dependent variables, averaged across platforms.

Table 11. Item-level descriptive statistics

Item	*N*	*M*	*SD*	**Skewness**
Trust				
BLM	855	4.27	1.84	-0.36
RBG	855	4.28	1.64	-0.38
BW	855	3.74	1.85	0.04
Gates	855	3.93	1.82	-0.15
HO	855	3.93	1.86	-0.15
USPS	855	4.00	1.78	-0.15
Sharing				
BLM	855	3.41	2.01	0.19
RBG	855	3.35	1.93	0.23
BW	855	3.17	2.05	0.37

Gates	855	3.25	1.99	0.31
HO	855	3.23	2.04	0.31
USPS	855	3.24	1.99	0.30
Biden	855	3.17	2.01	0.37
Interacting				
BLM	855	3.15	2.02	0.39
RBG	855	3.28	1.91	0.28
BW	855	3.11	2.00	0.41
Gates	855	3.22	2.04	0.36
HO	855	3.09	2.00	0.43
USPS	855	3.21	2.01	0.37
Biden	855	3.09	2.02	0.45
Forwarding				
BLM	855	3.70	2.07	0.00
RBG	855	3.49	1.99	0.13
BW	855	3.45	2.12	0.19
Gates	855	3.49	2.09	0.16
HO	855	3.52	2.09	0.12
USPS	855	3.50	2.05	0.13
Biden	855	3.37	2.09	0.25

Figure 12 reports the correlations of all four dependent variables. Although all variables are highly correlated, no correlation reached statistical significance ($p < .05$).

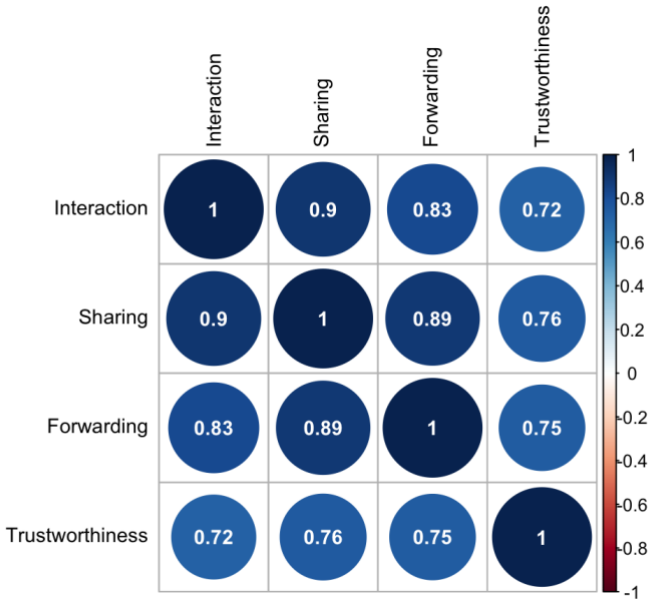


Figure 12. Correlations of dependent variables

Table 12. Descriptive statistics for variables used in exploratory regression

Variable	*N*	*M* (*SD*)	Skewness	Kurtosis	Min-Max
MisinfoProblem	855	4.91 (1.52)	-0.50	-0.38	1-7
MisinfoShared	855	2.98 (1.98)	0.49	-1.18	1-7
Media_Cred	852	3.26 (1.13)	-0.32	-0.56	1-5
PolOrient	855	3.86 (1.62)	-0.02	-0.79	1-7
Knowledge	854	2.30 (1.30)	-0.31	-0.99	0-4
UseFrequ	855	2.47 (1.03	-0.01	-1.15	1-4
News_Consump	855	6.42 (1.60)	-1.14	0.88	1-8

To further investigate the relationship between political knowledge and having shared misinformation in the past, a visual inspection of the responses was conducted. As Figure 13 descriptively illustrates, the more knowledgeable individuals are about politics, the less likely they have unwillingly shared misinformation in the past.

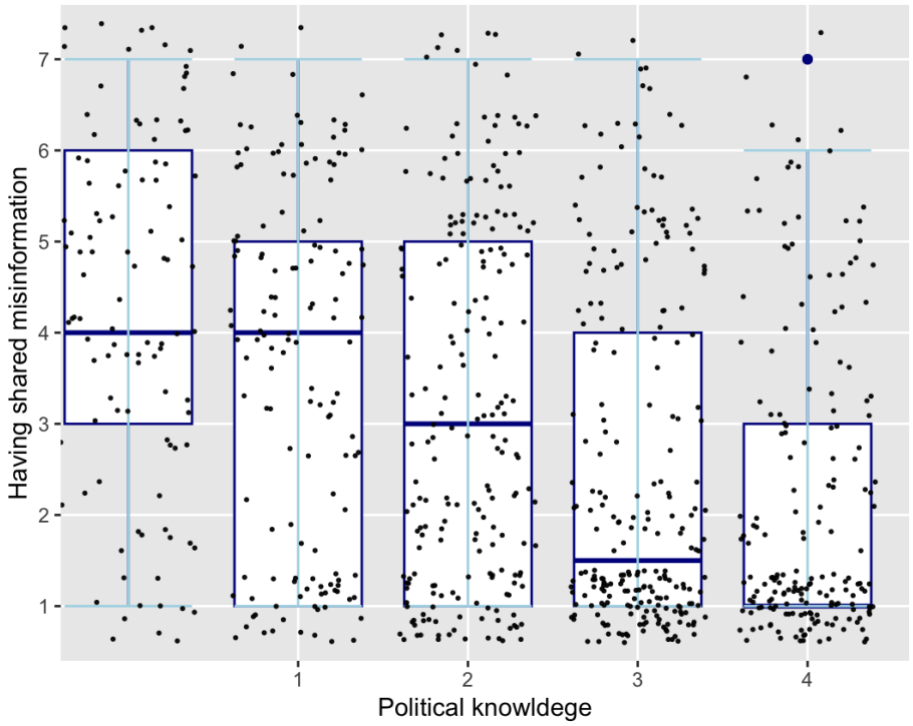


Figure 13. Having shared misinformation differs across levels of political knowledge

7.2. Annex II: Supplemental Material, Chapter Four

Measurement and Procedure

Table 13 describes all variables used in the analysis reported in Chapter 4. The full questionnaire, as well as the full data set and supplementary material, can be found in the Austrian Social Science Data Archive (AUSDA):

https://data.aussda.at/dataset.xhtml?persistentId=doi:10.11587/LIHK1L

Table 13. List of variables, phrasing, and scales used in the questionnaire

Variable	Phrasing	Scale
Conspiracy belief	"The social media are full of stories telling that the Corona pandemic is a hoax and that all the lockdown measures are a hysteric overreaction. Do you believe in these stories?"	0 = "No, I don't believe in these stories." 1 = "Yes, I do believe in these stories."
Demographics		
Gender	"What is your gender?"	1 = "Male" 2 = "Female" 3 = "Other"
Age	"In which year have you been born?"	Free text entry.
Education	"What is the highest educational level that you have attained? (If you are a student, please indicate the highest level you expect to complete)"	1 = "No formal education" 2 = "Incomplete primary school" 3 = "Complete primary school" 4 = "Incomplete secondary school: technical/vocational type" 5 = "Complete secondary school: technical/vocational type" 6 = "Incomplete secondary: university-preparatory type" 7 = "Complete secondary: university-preparatory type" 8 = "Some university-level education, without degree" 9 = "University-level education, with degree"
Trust		
Interpersonal trust	"We'd like to ask you how much you trust people with whom you are familiar in contrast to those whom you do not know: People you meet for the first time."	1 = "Do not trust at all." 2 = "Do not trust very much." 3 = "Trust somewhat." 4 = "Trust completely."

Institutional trust	"Could you tell us how much confidence you have in our country's government?"	1 = "None at all" 2 = "Not very much" 3 = "Quite a lot" 4 = "A great deal"
Trust in media	"How credible do you think are the social media, like Twitter and Facebook, compared to the traditional media, like TV and newspapers, using this scale:"	1 = "Traditional media are most credible." 3 = "Both the same." 5 = "Social media are most credible."
Schwartz Values, based on the 21-item version of the Portrait Value Questionnaire (PVQ)		
Security	"It is important to her/him to live in secure surroundings. She/he avoids anything that might endanger her/his safety."	
	"It is important to her/him that the government ensures her/his safety against all threats. She/he wants the state to be strong so it can defend its citizens."	
Conformity	"She/he believes that people should do what they're told. She/he thinks people should follow rules at all times, even when no-one."	
	"It is important to her/him always to behave properly. She/he wants to avoid doing anything people would say is wrong."	
Tradition	"It is important to her/him to be humble and modest. She/he tries not to draw attention to herself/himself."	
	"Tradition is important to her/him. She/he tries to follow the customs handed down by her/his religion or her/his family."	1 = "Not at all like me." 2 = "Not like me." 3 = "A little like me." 4 = "Somewhat like me." 5 = "Like me." 6 = "Very much like me."
Benevolence	"It's very important to her/him to help the people around her/him. She/he wants to care for their well-being."	
	"It is important to her/him to be loyal to her/his friends. She/he wants to devote herself/himself to people close to her/him."	
Universalism	"She/he thinks it is important that every person in the world should be treated equally. She/he believes everyone should have equal opportunities in life."	
	"It is important to her/him to listen to people who are different from her/him. Even when she/he disagrees with them, she/he still wants to understand them."	
	"She/he strongly believes that people should care for nature. Looking after the environment is important to her/him."	
Self-direction	"Thinking up new ideas and being creative is important to her/him. She/he likes to do things in her/his own original way."	
	"It is important to her/him to make her/his own decisions about what she/he does.	

	She/he likes to be free and not depend on others. It is important to her/him to make her/his own decisions about what she/he does. She/he likes to be free and not depend on others."	
Covariates		
Political Orientation	"In political matters, people talk of 'the left' and 'the right.' How would you place your views on this scale, generally speaking?"	1 = "Left" 10 = "Right
Anxiety	"How afraid are you that you or your loved ones get sick and suffer severely from the Corona virus?"	1 = "Not at all afraid" 2 = "Not very afraid" 3 = "Neither, nor" 4 = "Quite afraid" 5 = "Very afraid"
Satisfaction with health	"All things considered, how satisfied are you these days with your: … health condition."	1 = "Completely dissatisfied" 10 = "Completely satisfied"
Individual satisfaction	"All things considered, how satisfied are you these days with your: … life as a whole."	1 = "Completely dissatisfied" 10 = "Completely satisfied"

Supplemental Analysis and Data

Table 14. Share of citizens by country that believe COVID-19 is a hoax

Country	**Yes, I do believe in these stories.** (% of total)	**No, I don't believe in these stories.**
Chile	1373 (60.51%)	896
Russia	579 (38%)	946
Georgia	364 (36.33%)	638
Kazakhstan	363 (35.07%)	672
Poland	307 (31.62%)	664
Greece	272 (17.66%)	1268
China	564 (17.63%)	2636
Austria	352 (17.43%)	1666
Brazil	577 (16.29%)	2966
Germany	291 (14.46%)	1718
Italy	188 (13.6%)	1194
Colombia	230 (13.3%)	1500
Maldives	119 (11.6%)	907

Hong Kong	392 (12.81%)	2669
Japan	281 (9.37%)	2719
United Kingdom	179 (8.81%)	1854
South Korea	275 (6.88%)	3725
Sweden	49 (1.92%)	2505
Total	6,755 (20.18%)	31,143

Note. N = 37,898. Only South Korea (2) is displayed.

Table 15. Correlations of key variables at country-level

Variable	**1**	**2**	**3**	**4**	**5**	**6**	7	**8**	**9**
1. Conspiracy	-								
2. COVID-19 deaths / 100k	.43	-							
3. Excess deaths	.58*	.65**	-						
4. V-Dem	-.30	.20	-.40	-					
5. Internet penetration	-.09	-.12	-.24	.36	-				
6. SM more favourable	.60**	.21	.51*	-.48*	-.03	-			
7. Inglehart Index	-.08	-.22	.09	-.24	-.45	-.11	-		
8. Years in school	.05	.12	.08	.31	.72**	-.13	-.48	-	
9. GDP	-.16	-.49*	-.35	-.30	-.17	-.37	-.04	-.04	-

Note. N = 18 countries (except for Inglehart Index, for which N = 16), **p < .01 (2-tailed); *p < .05.

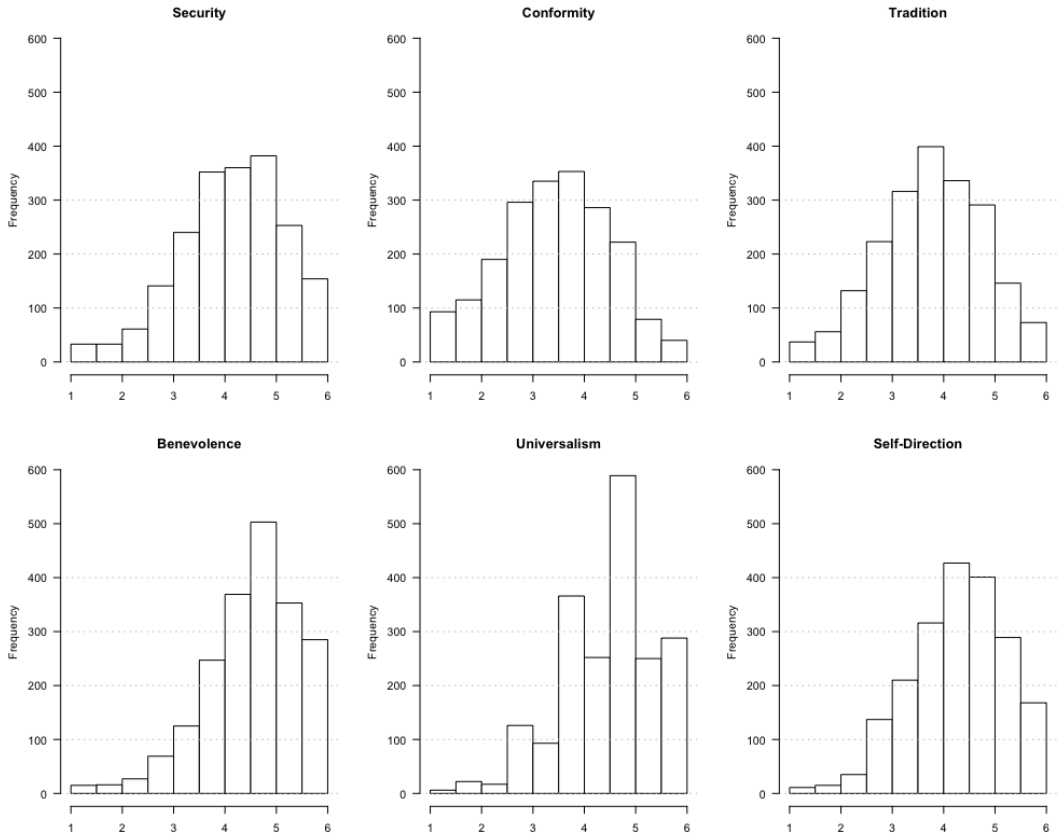


Figure 14. Histograms of values, Germany

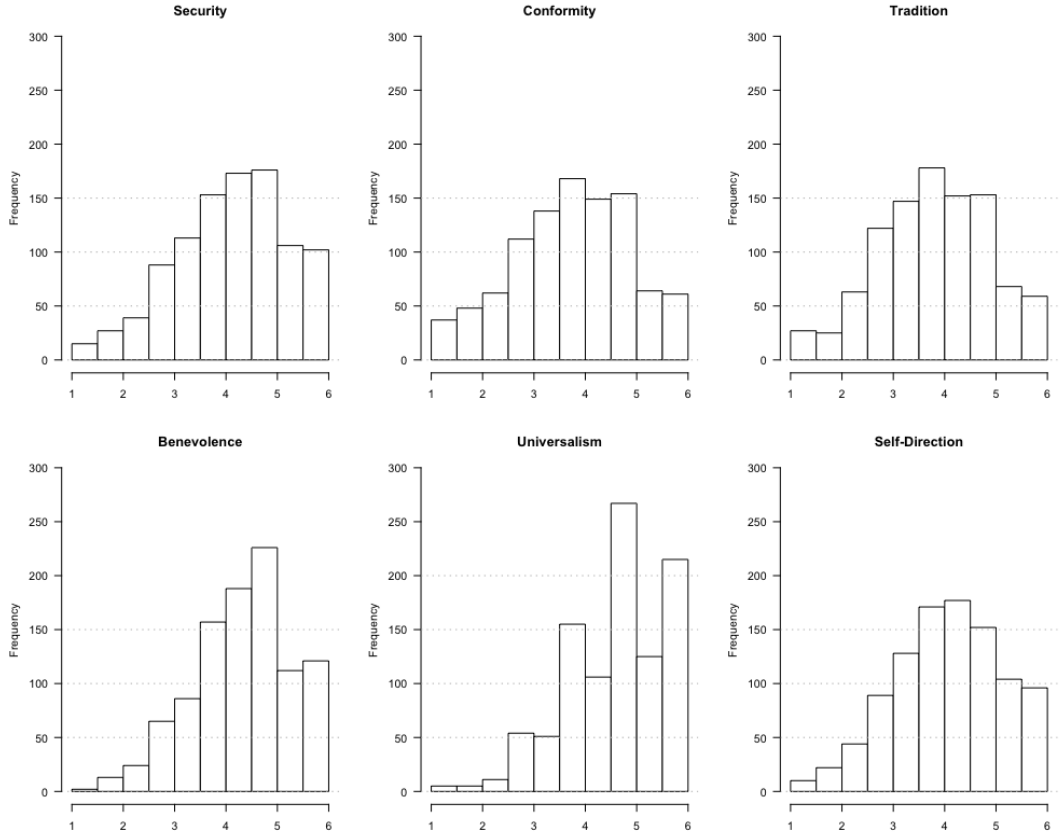


Figure 15. Histograms of values, Poland

Table 16. Descriptive statistics for variables used in full model

Variable	*N*	*M* (*SD*)	Skewness	Kurtosis	Min-Max
Germany					
Anxiety	2009	2.91 (1.11)	0.12	-0.65	1-5
Political Orientation	2009	4.96 (1.80)	0.20	0.48	1-10
Interpersonal Trust	2009	2.10 (0.66)	0.13	-0.14	1-4
Institutional Trust	2009	2.58 (0.81)	-0.24	-0.42	1-4
Trust in SM	2009	2.12 (1.02)	0.57	-0.27	1-5
Security	2009	4.37 (1.02)	-0.56	0.20	1-6
Conformity	2009	3.67 (1.08)	-0.20	-0.35	1-6
Tradition	2009	4.01 (1.02)	-0.27	-0.21	1-6
Benevolence	2009	4.77 (0.92)	-0.92	1.26	1-6
Universalism	2009	4.54 (0.92)	-0.63	0.30	1-6
Self-Direction	2009	4.51 (0.92)	-0.47	0.52	1-6
Poland					
Anxiety	1000	3.38 (1.17)	-0.35	-0.76	1-5
Political Orientation	949	5.45 (2.42)	0.24	-0.42	1-10
Interpersonal Trust	994	2.20 (0.65)	-0.14	-0.55	1-4
Institutional Trust	992	1.91 (0.92)	0.54	-0.85	1-4
Trust in SM	979	2.87 (1.19)	0.04	-0.62	1-5
Security	992	4.33 (1.01)	-0.46	-0.21	1-6
Conformity	993	4.00 (1.16)	-0.34	-0.34	1-6
Tradition	994	4.04 (0.96)	-0.66	-0.23	1-6
Benevolence	994	4.56 (0.96)	-0.48	-0.08	1-6
Universalism	994	4.68 (0.95)	-0.66	0.19	1-6
Self-Direction	993	4.30 (1.06)	-0.31	-0.33	1-6

Figure 16 shows the Pearson correlations for all continuous variables in the full model for the German sample. The temperature scale on the right indicates the direction of the correlations. Only statistically significant are displayed ($p < .05$). Pairwise correlations are added to the circles, showing values for the coefficients *r*. Values are ordered using the Average Overlap Estimation algorithm (AOE), placing highly correlated variables close to each other.

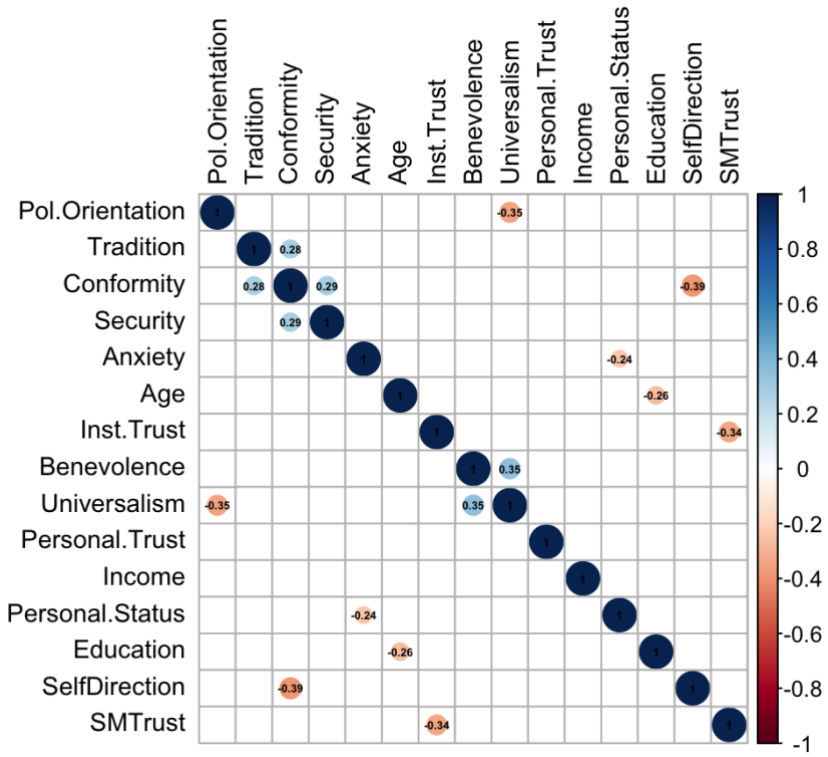


Figure 16. Correlations for full model, Germany

Figure 17 shows the Pearson correlations for all continuous variables in the full model for the Polish sample. Only statistically significant coefficients are displayed ($p < .05$). Values in circles indicate pairwise correlation coefficients.

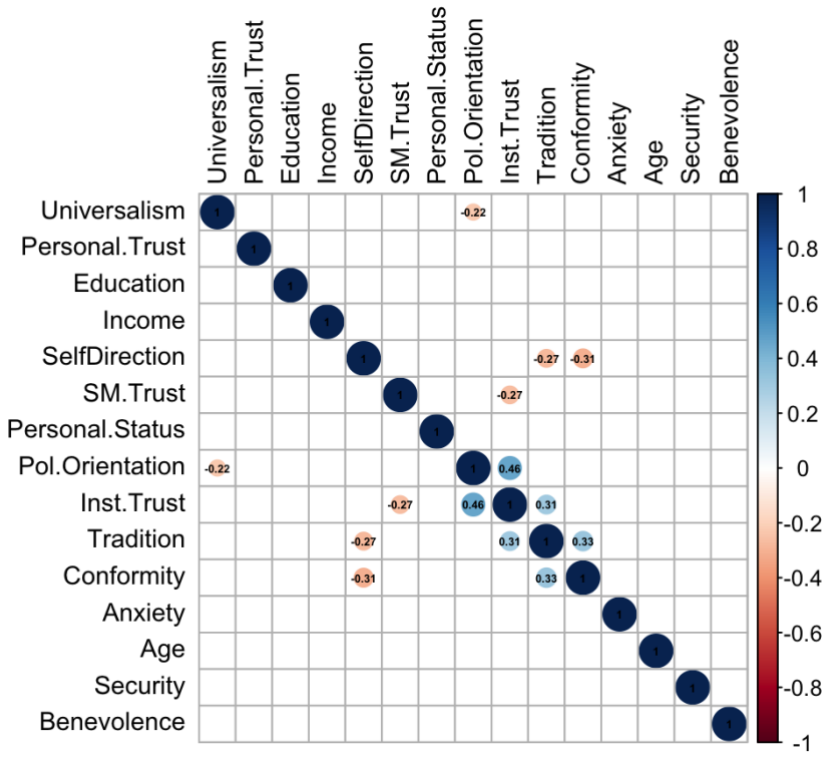


Figure 17. Correlations for full model, Poland

7.3. Annex III: List of Current CEOs of Selected Social Media Companies

Table 17. List of CEOs of selected social media companies as of 2022

Company	Name	Position	Tenure
Discord	Jason Citron	CEO, Co-Founder	2012 – today
Facebook	Mark Zuckerberg	CEO, Co-Founder	2004 – today
Instagram	Adam Mosseri	Head of Instagram[17]	2018 – today
LinkedIn	Ryan Roslansky	CEO	2020 - today
Telegram	Pawel Walerjewitsch Durow	Founder	2018 - today
TikTok	Shou Zi Chew	CEO	2021 - today
Twitter	Elon Musk	CEO	2022 - today
WhatsApp	Will Cathcart	Head of WhatsApp	2019 - today

7.4. Annex IV: Information on Cumulative Dissertation

Three individual papers provide the basis for this cumulative dissertation, each of which represents a chapter in this dissertation:

- Chapter 2: The Impact of Social Media on Democracy – Investigating the Effects on Individuals and Groups

  Not yet published.

- Chapter 3: Is Social Media Affecting the Perceived Trustworthiness of Misinformation? Evidence from Experimental Comparisons

  This chapter is published as Abels, C.M. (2021). Is social media affecting the perceived trustworthiness of misinformation? Evidence from experimental comparisons. *Romanian Journal of Political Science*, *21*(1), 116-138.

- Chapter 4: Providing Context to Conspiracy: A Country-Level Comparative Investigation

  Not yet published.

[17] The title of CEO is reserved for the founder(s) of the respective company within Meta Platforms, the technology conglomerate that owns Facebook, Instagram, and WhatsApp. The position of Head of Instagram is, however, functionally similar to a CEO position.

7.5. Annex V: List of Pre-Publications

Abels, C.M. (2022). Everybody lies: Misinformation and Its Implications for the 4th Space. *The 2021 Summit of the International Society for the Study of Information*, *68*, 120. doi.org/10.3390/proceedings 2022081120

Abels, C.M. & Hardegger, D. (2022). Privacy and transparency in the 4th Space: Implications for Conspiracy Theories. *Filozofia I Nauka* [Philosophy and Science], *10*, 187-212. 10.37240/FiN.2022.10.zs.8

Anheier, H. K., & Abels, C. (2020). Corporate Governance: What are the Issues? In H. K. Anheier & T. Baums (Eds.), *Advances in Corporate Governance: Comparative Perspectives* (pp. 10–42). Oxford University Press.