

# DISSERTATION | DOCTORAL THESIS

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Populism From Below. A Computational Analysis of Populist Communication in User Comments on News Media Facebook Pages.

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# 1 Introduction

Populism has evolved into a significant political force in Europe over the past decades (Mudde and Rovira Kaltwasser 2017) and has left its mark on both party systems (Vachudova 2021) and public discourse (Hameleers and Vliegenthart 2020). In 2017, Brubaker (2017b, 357) noted that “we have been living through an extraordinary pan-European and trans-Atlantic populist moment,” characterized by the success of Donald Trump in the 2016 US elections, Brexit, and a series of populist electoral successes across Europe. The reverberations of this “rise of populism” (e.g., Stoker 2019) remain tangible in 2024.

These successes have been echoed by a boom in populism research (Rooduijn 2019) and turned the term “populism” into a buzzword in public debate (Mudde and Rovira Kaltwasser 2017, 1). In journalistic debate, the term “populism” is often ill-defined, which has long been true also for the academic context (Canovan 1999, 3; Rooduijn 2019, 363). In the latter, this situation has improved greatly with the ‘ideational’ definition introduced by Cas Mudde (2004). This definition grasps populism as a “thin-centered ideology,” which revolves around the idea that “the pure people” are deprived of popular sovereignty by “the corrupt elite” (Mudde 2004, 543–44). This concept helped to disentangle populism from ideas that frequently accompany it, particularly its right-winged or left-winged host ideologies (Rooduijn 2019, 366). In this dissertation, I focus on the core of populism rather than on its variants. The ideational definition has also become the common denominator of current empirical research on populism and has fostered cumulative knowledge production (Rooduijn 2019).

Two strands of research that have emerged over the last decade are particularly relevant for this dissertation—research on *populist communication* and research on citizens’ *populist attitudes*. With regard to the former, a growing number of scholars recognize that populist ideas must be *communicated* in order to be effective (de Vreese et al. 2018a; Reinemann et al. 2017; Wirth et al. 2016). A key finding of this research is that social media plays a pivotal role in populist communication (N. Ernst, Esser, et al. 2019; Gerbaudo 2018). Seen from a supply-side perspective, social media provides populist politicians with an unmediated communication channel to engage closely with ‘the people’ (de Vreese et al. 2018a; Engesser et al. 2017).

This matches the *people-centric* dimension of populist ideology. Social media also fits with populism's second dimension, *anti-elitism*, as it allows populists to bypass the gatekeepers of the unbeloved 'establishment' media (Krämer 2017). Moreover, social media enables ordinary citizens to communicate their views to a potentially large audience and facilitates highly participatory public spheres (Benkler 2006; Bruns and Highfield 2016; Castells 2007; Dahlgren 2018). This aspect aligns with the populist "craving for direct, unmediated expression of the people's will [...] [and] voice" (Canovan 1999, 13). These opportunity structures have led scholars to speak of an "elective affinity" (Gerbaudo 2018) between populism and social media (N. Ernst, Esser, et al. 2019). While populist content disseminated by politicians on social media has received much scholarly attention (e.g., Bobba 2018; Engesser et al. 2017; N. Ernst, Blassnig, et al. 2019; N. Ernst, Esser, et al. 2019; Heiss and Matthes 2020; Jacobs, Sandberg, and Spierings 2020; Jost, Maurer, and Hassler 2020), only a few studies have examined citizen-generated populist communication '*from below*' (Blassnig, Engesser, et al. 2019; Blassnig, Ernst, et al. 2019; Galpin and Trenz 2019; Hameleers 2019b). Given the centrality of 'the people' to populist ideology (Canovan 1999), this is surprising. In this thesis, I aim to narrow this research gap and analyze the contexts and consequences of citizen-generated populist communication in user comments on the Facebook pages of news media outlets.

The second strand of research that informs this dissertation takes a bottom-up perspective as its starting point. A growing number of studies focus on the demand side of populism and investigate the *populist attitudes* of citizens (A. Akkerman, Mudde, and Zaslove 2014; Gründl 2021; Zaslove et al. 2021; for an overview, see Marcos-Marne, Gil de Zúñiga, and Borah 2023). These studies have shown, for example, that populist attitudes predict voting for populist parties (e.g., A. Akkerman, Mudde, and Zaslove 2014; Marcos-Marne, Gil de Zúñiga, and Borah 2023; Wettstein et al. 2020; Spierings and Zaslove 2017). Populist attitudes are regarded as latent and are considered to be activated in certain contexts (Hawkins, Rovira Kaltwasser, and Andreadis 2020; Mudde and Rovira Kaltwasser 2017). Highly emotional situations, such as crisis events that spark anger (Rico, Guinjoan, and Anduiza 2017) or fear (Dennison and Turnbull-Dugarte 2022), have been found to activate populist attitudes (Marcos-Marne, Gil de Zúñiga, and Borah 2023, 298). Another branch of research has investigated the ambivalent relationship between populist attitudes and support for democracy. Bos et al. (2023) found that populist

citizens exhibit less support of democratic norms. However, populist individuals appear to support direct democracy (Mohrenberg, Huber, and Freyburg 2021; Zaslove et al. 2021) and prefer “expressive non-institutionalized modes of participation” (Anduiza, Guinjoan, and Rico 2019, 109), such as discussing or sharing their opinions online (Jeroense et al. 2022).

Existing work in this field of research has mostly focused on attitudes and relied on survey data or experiments (Marcos-Marne, Gil de Zúñiga, and Borah 2023, 294). Few studies have adopted a behavioral focus. Evidence on how (Hameleers 2019b) and when (Blassnig, Engesser, et al. 2019) citizens express populist views online remains scant. In this dissertation, I argue that this behavior is best studied using digital trace data, that is, records of activity on online platforms (Howison, Wiggins, and Crowston 2011, 769). These data capture behavior as it “naturally” occurs (Shah, Cappella, and Neuman 2015, 7), thereby enabling researchers to observe behavior that is likely to be suppressed in surveys and experimental settings due to social desirability (Blair, Coppock, and Moor 2020; Blassnig, Engesser, et al. 2019, 630). Expressing populist views is such a behavior (M. Maier et al. 2023). In all three studies included in this dissertation, I chose to analyze digital trace data to maximize ecological validity (Brewer and Crano 2014, 21) and leveraged computational methods to analyze these data (Shah, Cappella, and Neuman 2015). Nevertheless, I critically discuss the limitations of this data source, arguing that research based on experimental, survey, and digital trace data should aim to complement, rather than to replace, each other.

Citizens have been repeatedly theorized as a source of populist communication in online public spheres (de Vreese et al. 2018a; Esser, Stępińska, and Hopmann 2017; Krämer 2017). However, empirical analyses of citizen-generated populism are scarce. Galpin and Trenz (2019) investigated user comments on news media websites in the context of the 2014 European Parliamentary elections. The authors found high levels of negativity directed toward democratic institutions and coined the term “participatory populism” (Galpin and Trenz 2019, 781) for this phenomenon. However, the operationalization of populist communication in this study leaves something to be desired as it was limited to negativity (Galpin and Trenz 2019). Using considerably more comprehensive coding instructions, Blassnig, Engesser, et al. (2019) and Blassnig, Ernst, et al. (2019) analyzed reader comments

below online news articles on immigration during election campaigns in France, Switzerland, and the United Kingdom. They found that populist content is flourishing in comments (Blassnig, Ernst, et al. 2019) and that the level of this content is correlated with populist messages found in the news stories (Blassnig, Engesser, et al. 2019). Hameleers (2019b) conducted a qualitative content analysis of populist Facebook communities from the Netherlands and observed that user-generated populist content is frequently anti-democratic, hostile toward out-groups, and highly emotional. Overall, however, these studies have left at least two questions under-researched: first, the question of how “populism in reader comments is influenced by characteristics of the article or other context factors” (Blassnig, Ernst, et al. 2019, 1124); and second, the question of how populist comments affect the behavior of other commenters.

Addressing these questions is also relevant from a public spheres perspective: The first question draws attention to the interaction between a mass-mediated public and a populist *counterpublic* (Toepfl and Piwoni 2015; Fraser 1990). The second question is particularly relevant in terms of its implications for democratic discussions. According to deliberation theorists, the functioning of a democracy ultimately depends on whether and how people talk to each other (Dahlgren 2005, 149; cf., Habermas 2023, 57). Populism has been theorized to have an ambivalent relationship with democracy, oscillating between demands for popular sovereignty and crude majoritarianism (Canovan 1999; Mudde and Rovira Kaltwasser 2012a; Waisbord 2018b). A similar ambivalence can be observed for user comments, which are torn between their deliberative potential (e.g., Ruiz et al. 2011) and incivility (e.g., Coe, Kenski, and Rains 2014). Against this backdrop, the aim of this dissertation is to contribute to answering the following two overarching research questions:

**RQ-I:** *Which contextual factors shape the level of populism in user comments on social media?*

**RQ-II:** *What are the consequences of populist comments for democratic discussions among users?*

In the theory section, I break down these two questions into more differentiated questions and hypotheses in the theory section. I approach these questions in three individual papers that analyze user comments on the Facebook pages of news media outlets. Analyzing comments below online news is relevant, as it “is

considered (one of) the most popular form(s) of public online participation” (Ziegele, Springer, et al. 2018, 318; see also, e.g. Graham and Wright 2015; Springer, Engelmann, and Pfaffinger 2015). Commenting behavior can be grasped as a low-effort form of political participation (Knoll, Matthes, and Heiss 2018, 137). The comment and reply feature allows users to engage in discussion about news items, and has the potential to foster deliberation (e.g., Friess and Eilders 2015; Ruiz et al. 2011; Ziegele et al. 2020). However, empirical research shows that the deliberative quality of such comments is often low (Coe, Kenski, and Rains 2014), and is particularly low on Facebook (Esau, Friess, and Eilders 2017). Comment sections appear to be the central target of what Quandt (2018, 37, 41) has called “dark participation”, which denotes the “evil flip side of citizen engagement” and encompasses phenomena like trolling, cyberbullying, spreading misinformation, or hate speech. Populist comments can be considered one aspect of this form of ‘dark’ citizen engagement (Quandt 2018, 40). I study this phenomenon on Facebook, as populist citizens have been found to prefer this platform over other social media platforms, such as Twitter (Schulz 2019). Although the number of Facebook users is declining, it continues to be one of the most widely used social medium for consuming news (Newman et al. 2022). By focusing on one platform, this dissertation brings other dimensions of comparison to the fore, as this ensures that the effects of platform architecture are held constant (Bossetta 2018; Heft et al. 2023).

The digitalization of social interactions has led to an “unprecedented availability of information on discrete behaviors, social expressions, personal connections, and social alignments” (Shah, Cappella, and Neuman 2015, 7–8). To analyze such large volumes of often unstructured data, researchers have turned to computational methods that have undergone seminal developments in the last few decades (Grimmer 2015; Lazer et al. 2020; Shah, Cappella, and Neuman 2015). This dissertation contributes to this emerging field of “computational social sciences” (Lazer et al. 2009). In the three studies of this dissertation, particularly in *Paper II*, I develop, apply, and validate computational tools for capturing populism in social media texts (Thiele 2022a) and follow large-N research designs to investigate how user-generated populism relates to contextual factors and traces of other users’ behavior.

All three studies included in this dissertation focus on crisis situations. Two studies (*Papers I and II*) focus on the COVID-19 crisis, while the context of *Paper III* is the so-called ‘refugee crisis’ in 2015 and 2016. Both crises have been accompanied by heated, emotional discourses (e.g., Ball and Wozniak 2022; Ekman 2019; Paasch-Colberg et al. 2021) and populist mobilization (e.g., Hameleers 2019a; Stecula and Pickup 2021). Providing comparative insights, the studies analyze online discourse from Austria and Germany (*Paper I*); Austria, France, Germany, Italy, Netherlands, Sweden, and the United Kingdom (*Paper II*); and Austria and Slovenia (*Paper III*).

In doing so, this dissertation contributes to several strands of research described below:

1. The dissertation contributes to research on *populist communication* by advancing our empirical understanding of citizen-generated populist content online. The three papers extend the focus on election periods in previous studies (Blassnig, Engesser, et al. 2019; Blassnig, Ernst, et al. 2019; Galpin and Trenz 2019). I examine previously under-researched contextual factors associated with the level of populism in comments sections in *Papers I and II*, particularly crisis governance policies, media coverage, media types, and practices of content moderation. In addition, in *Paper III*, co-authored with Tjaša Turnšek, we investigate consequences of citizen-generated populist communication for the deliberative quality of discussions among users.
2. This dissertation also speaks to research that examines the activation of *populist attitudes* (Hameleers and Fawzi 2020; Hawkins, Rovira Kaltwasser, and Andreadis 2020) and research informed by political psychology that emphasizes the role of emotions in this process (Hameleers, Bos, and de Vreese 2017b; Rhodes-Purdy, Navarre, and Utych 2021; Rico, Guinjoan, and Anduiza 2017). I provide circumstantial evidence derived from digital trace data of real online behavior (Howison, Wiggins, and Crowston 2011) regarding the activation of populist attitudes in emotional contexts. This evidence complements previous findings from survey and experimental research (Rhodes-Purdy, Navarre, and Utych 2021; Rico, Guinjoan, and Anduiza 2017).

3. By examining the conditions under which users express populist views during *crises*, this dissertation adds a bottom-up perspective to research that focuses on the relationship between crises and populism (Buštíková and Baboš 2020; Moffitt 2015). Moreover, *Paper II* enhances the emerging research on science-related populism (Kohler and Koinig 2022; Mede and Schäfer 2020; 2022) by exploring user reactions to media coverage of scientific experts during COVID-19.
4. Going beyond populism research, this thesis contributes to the political communication literature that understands user comments as a participatory element of online *public spheres* (Benkler 2006; Bruns 2023; Springer 2014). In *Papers I and II*, I examine the conditions for the emergence of populist counterpublics (Fraser 1990; Toepfl and Piwoni 2015) in comments sections. Then, in *Paper III*, I shift the focus on how populist comments affect the deliberative quality of user discussions (e.g., Esau, Friess, and Eilders 2017; Rowe 2015b; Stromer-Galley 2007; Stroud et al. 2015). In doing so, this paper makes an empirical contribution to the normative debate on the relationship between populism and democracy (Canovan 1999; Mudde and Rovira Kaltwasser 2012a; Waisbord 2018b).
5. Finally, this dissertation makes a substantial contribution to the emerging field of *computational social science* (Alvarez 2016; Lazer et al. 2009), defined as “development and application of computational methods to complex, typically large-scale, human [...] behavioral data” (Lazer et al. 2020, 1060). In the studies included in this dissertation, particularly in *Paper II*, I develop, apply, and validate an efficient and interpretable tool for capturing ideological discourse in short texts. Following an open science paradigm, I have made this tool freely available, and have put considerable effort into making code and data available where possible.<sup>1</sup>

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<sup>1</sup> The tool ‘dictvectorR’ is available on GitHub (Thiele 2022a). Replication material is available on OSF and Harvard Dataverse (Thiele 2023; Thiele and Turnšek 2022b).

In summary, this dissertation makes an interdisciplinary contribution, not only to political science but also to communication science and computational social science. The remainder of this dissertation is structured in the following manner:

In *Chapter 2*, I develop the theoretical framework that underpins this dissertation, which is set against a presentation of the state of the art. I begin by introducing the concept of populism in *Chapter 2.1* and provide an overview over the state of populism research in *Chapter 2.2*, covering research that focuses on the supply side of populism (*Section 2.2.1*), the demand side of populism (*Section 2.2.2*), and on populist communication (*Section 2.2.3*). In *Chapter 2.3*, I shed light on populist user comments through the lens of public sphere theories and present a theoretical framework that informs the empirical studies. This chapter is organized as follows: *Section 2.3.1* defines user comments and highlights their relevance for study, *Section 2.3.2* addresses the concept of (digital) public spheres, and *Section 2.3.3* proposes an understanding of populist comments as part of counterpublics. *Section 2.3.4* introduces a theoretical model and the hypotheses that are empirically tested in the three individual papers.

*Chapter 3* introduces the data and methods employed in this thesis, offering a rationale for the case and country selection (*Chapter 3.1*), discussing advantages and limitations of the digital trace data analyzed (*Chapter 3.2*), introducing the main variables along with the computational and manual content analytical instruments employed for measuring them (*Chapter 3.3*), and addressing the statistical methods used for analysis (*Chapter 3.4*).

*Chapters 4–6* contain the three individual papers. In *Paper I (Chapter 4)*, I analyze how features of Facebook posts by news media from Germany and Austria are associated with the number of populist comments in the context of COVID-19. In this paper, I have used a dictionary measurement provided by Gründl (2022) to capture populist expressions. In *Paper II (Chapter 5)*, I build on the preceding study but extend the theoretical framework, the country selection, and the computational methods employed considerably. I used machine-translation and implemented a “distributed dictionary representation” (DDR) (Garten et al. 2018) measurement of populist communication to analyze data from seven European countries. In *Paper III (Chapter 6)*, co-authored with Tjaša Turnšek, we investigate how populist and anti-immigrant user comments affect the number and deliberative quality of re-

plies in Facebook comments sections during the ‘refugee-crisis’ 2015 and 2016, using both computational and manual content analyses.

I conclude by summing up the key findings in *Chapter 7* and by discussing the implications of these findings in a broader context in *Chapter 8*. The Appendices provide slightly amended<sup>2</sup> versions of the supplementary material that was published online to complement the individual studies. Table 1 provides an overview of the three papers included in this dissertation.

**Table 1.** Publications Included in This Dissertation

| Paper | Reference                                                                                                                                                                                                                                                                                           | Accepted   | Status    |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|
| I     | Thiele, Daniel. 2022. “Pandemic Populism? How Covid-19 Triggered Populist Facebook User Comments in Germany and Austria.” <i>Politics and Governance</i> 10 (1): 185–96. <a href="https://doi.org/10.17645/pag.v10i1.4712">https://doi.org/10.17645/pag.v10i1.4712</a> .                            | 2021-10-15 | Published |
| II    | Thiele, Daniel. 2024. “How COVID-19 and the News Shaped Populism in Facebook Comments in Seven European Countries.: A Computational Analysis.” <i>Computational Communication Research</i> 6 (1). <a href="https://doi.org/10.5117/CCR2024.1.2.THIE">https://doi.org/10.5117/CCR2024.1.2.THIE</a> . | 2023-10-24 | Published |
| III   | Thiele, Daniel, and Tjaša Turnšek. 2022. “How Right-Wing Populist Comments Affect Online Deliberation on News Media Facebook Pages.” <i>Media and Communication</i> 10 (4): 141–54. <a href="https://doi.org/10.17645/mac.v10i4.5690">https://doi.org/10.17645/mac.v10i4.5690</a> .                 | 2022-11-08 | Published |

<sup>2</sup> To avoid redundancies, certain sections of the Appendices have been abridged. The texts included in the Appendices have been revised for better readability. The version of Appendix A included in this dissertation is more complete than its counterpart in the original online publication.

## 2 Theoretical Framework

### 2.1. Populism

Populism has long been considered a “notoriously vague term” (Canovan 1999, 3). In public debates, the term is often used to denigrate political opponents and is rarely specifically defined (Albertazzi and McDonnell 2008, 2; Brubaker 2017b, 358; Schwörer 2021). The concept has also been contested in scholarly debate. One line of disagreement is the question of the genus of populism. Scholars have attempted to grasp what populism is using diverse terms such as “ideology” (Mudde 2004, 543), “political strategy” (Weyland 2001, 14), “political style” (Moffitt and Tormey 2014, 386), “political communication style” (Jagers and Walgrave 2007, 322), or “discursive frame” (Aslanidis 2016, 98). The difficulties in defining populism partially stem from the phenomenon’s multifaceted nature (Canovan 1999; Taguieff 1997) and “chameleonic quality” (Taggart 2000, 4).

Despite these challenges, the debates over the definition of populism have waned over the last decade (Gründl 2021, 11; Rooduijn 2019, 363). Today, the majority of populism researchers appear to have found common ground in the “ideational definition” (Hawkins and Rovira Kaltwasser 2018, 3). According to this minimal definition, populism is best understood as a set of core ideas that assert an antagonism between “the people” and “corrupt elites” (Rooduijn 2019, 3; Hawkins and Rovira Kaltwasser 2018, 3). In this dissertation, I follow this understanding, which has proven useful for operationalizing both populist communication (de Vreese et al. 2018a; N. Ernst, Blassnig, et al. 2019), and attitudes (A. Akkerman, Mudde, and Zaslove 2014; Wirth et al. 2016). The most influential definition from the ideational camp comes from Cas Mudde (2004), according to whom populism is a “thin-centered ideology” (Mudde 2004, 544) that

“considers society to be ultimately separated into two homogeneous and antagonistic groups, ‘the pure people’ versus ‘the corrupt elite’, and which argues that politics should be an expression of the *volonté générale* (general will) of the people.” (Mudde 2004, 543)

This definition entails several elements. At least two dimensions are commonly derived from this concept: *People-centrism*, denoting positive ideas regarding the people, and *anti-elitism*, denoting negative ideas about those who rule the people

(e.g., Aslanidis 2018, 1255; Rooduijn 2019, 364; Wirth et al. 2016, 47). While one group of scholars limit their operationalization of populism to these two dimensions (Aslanidis 2018; Rooduijn 2019; Rooduijn and Pauwels 2011), other scholars have argued to consider additional elements, although there is no consensus on which one (Castanho Silva et al. 2020, 411). One body of research, rooted in communication and opinion research (e.g., Engesser, Fawzi, and Larsson 2017; N. Ernst, Blassnig, et al. 2019; Gründl 2022; Schulz et al. 2018; Wirth et al. 2016) has aimed to operationalize populists' desire for unrestricted *popular sovereignty* (see also Kriesi 2018, 7). Another group of survey researchers has aimed to capture populists' *Manichean worldview* (A. Akkerman, Mudde, and Zaslove 2014; Castanho Silva et al. 2018; Steven M: van Hauwaert, Schimpf, and Azevedo 2020). I acknowledge the importance of these aspects, but follow Aslanidis' (2018, 1255) understanding that the abovementioned two aspects are included in populism's two core dimensions people-centrism and anti-elitism: In a nutshell, populism constructs 'the people' as the rightful sovereign (*people-centrism*), that is deprived of this right by their antagonist, the 'corrupt elite' (*anti-elitism*) (Aslanidis 2018, 1255). I will first carve out these core elements before returning to Mudde's notion of populism as a "thin-centered ideology."

### 2.1.1. The People

First, "the people" are the central point of reference for populism, which is where the name of the concept is derived from (Latin *populus*, the people). This dimension is addressed by "*people-centrism*" (e.g., Rooduijn 2019; Wirth et al. 2016), which can be defined as the "invocation of an overwhelming majority of 'the People' as rightful political sovereigns within a given polity" (Aslanidis 2018, 1255). Populists imagine "the people" as a "homogenous and virtuous community" (Hawkins and Rovira Kaltwasser 2018, 3) that is both "numerous and in the majority" (Taggart 2000, 92) and the "in-group" (Wirth et al. 2016, 49)—that is, "*our people*" (Canovan 1999, 5). This community of ordinary, "common people" (Canovan 1999, 5) is attributed with all sorts of positive characteristics, such as being hard working, honest, and endowed with common sense (Canovan 1999, 5; Mudde 2004, 547; Taggart 2000, 95). Populists believe that the people are a "monolithic" (Taggart 2000, 93) unity that has the ability to "speak with one voice" (Kriesi 2018, 7) and is divided only at the instigation of harmful elites (Mudde 2004, 546). This community is more

imagined, idealized, and constructed rather than existing in reality (Mudde 2004, 546).

Populism puts the people's will at the center (e.g. Canovan 2002; Mudde 2004). Some scholars conceptualize this element, referred to as "*popular sovereignty*," as an independent dimension of populism (Abts and Rummens 2007, 408; Kriesi 2018, 7; Wirth et al. 2016, 48). In populist thought, the struggle over sovereignty is what defines the relation of 'the people' to 'the elite' (Wirth et al. 2016, 7). This relation is imagined as antagonistic (Abts and Rummens 2007; Laclau 2005; Mudde 2004). In the populist worldview, "politics should be based on the immediate expression of the general will of the people" (Abts and Rummens 2007, 408). However, the elite is seen to "deprive the people of this right" (Wirth et al. 2016, 7) to unrestricted sovereignty. Populists lament that elites such as the government, mainstream parties, and the media systematically ignore the will of the people (Canovan 1999, 2). Populist politicians present themselves as those who are able to give the people a voice and to restore popular sovereignty, thereby claiming the role of "true democrats" (Abts and Rummens 2007, 408; see also Canovan 1999, 2; Wirth et al. 2016, 8).

This emphasis on popular sovereignty echoes a fundamentally democratic principle (Abts and Rummens 2007; Canovan 1999; 2002). Populists take the idea of "government by the people' literally" (Kriesi 2018, 8) and "speak and behave as if democracy meant the power of the people and *only* the power of the people" (Mény and Surel 2002, 9 emphasis in original). According to populists, politics should be an "unrestricted expression" (Kriesi 2018, 6) of the people's will, undiluted by constraints of liberal democracy, such as minority rights or checks and balances (Abts and Rummens 2007, 410; Canovan 1999, 7; Kriesi 2018, 8). This yields a "crude majoritarianism" that puts populism at odds with liberal democracy (Canovan 1999, 7). As populists strive for the immediate expression of the people's will, elements of representative democracy and deliberation are seen only as "redundant impediments" (Abts and Rummens 2007, 417). Against this backdrop, the relationship between populism and democracy must be considered an ambivalent one (Mudde and Rovira Kaltwasser 2012a).

Populism scholars have repeatedly noted that the notion of "the people" itself is highly ambiguous (Brubaker 2017b, 359; Mény and Surel 2002, 6; Taggart 2000, 92). The term may refer to the ordinary people (*plebs*), the people as sovereign (*demos*),

or the culturally distinct people (*ethnos*), as noted by Brubaker (2017b, 359). Populist politicians themselves often leave the meaning of the term vague (Mudde 2004, 546). This semantic ambiguity is arguably a constitutive feature of populism (Mény and Surel 2002) and might be the key to its success as a construct: “Populism requires devices that are themselves malleable, and ‘the people’ is just such a device” (Taggart 2000, 92). Coming from a post-structuralist theoretical tradition, Ernesto Laclau (2005, 70, 133) has worked out that ‘the people’ of populism is an empty, respectively floating, signifier that is only filled with meaning through the exclusion of an ‘Other.’

### 2.1.2. The Elite

Populism is less ambiguous in identifying its opponents (Mudde 2004, 546). Paul Taggart put this in memorable words:

“In practice, populists are often more sure of who they are not than of who they are. The demonization of social groups, and particularly the antipathy towards the elite, provides populists with an enemy, but it is also a crucial component of the attempt to construct an identity.” (Taggart 2000, 94)

By identifying enemies, and excluding them from the conception of ‘the people,’ populism creates a sense of identity; on this aspect, there is a coinciding of the concepts of Laclau (2005, 70) and the authors of the ideational approach (Canovan 2002, 34; Mudde 2004, 544). As Mouffe (2000, 54) and Abts and Rummens (2007, 418) have pointed out, this construction also links populist ideology to the ideas of Carl Schmitt (1992, 9). Populism divides society into at least two antagonistic groups: ‘The people’ and ‘the elite’ (Stanley 2008, 102). Therefore, the second key element of populism is *anti-elitism* (e.g., Wirth et al. 2016, 47). Elites are constructed as the “enemies of the people” that are “neither homogeneous nor virtuous” (Albertazzi and McDonnell 2008, 5). This antagonism runs in a vertical direction (Abts and Rummens 2007, 418; Jagers and Walgrave 2007, 324; Mény and Surel 2002, 12), separating the common people from those ‘up there’ (Jagers and Walgrave 2007, 324). This distinction is also Manichean and moralistic, clearly separating good from evil and friend from foe (Hawkins 2009, 1043; Mudde 2004, 544).

Following Aslanidis (2018, 1255), I define anti-elitism as “references against a slim minority of unaccountable power holders engaging in the misappropriation of

popular sovereignty.” The groups that are identified as “the elite” by populists can vary considerably, as noted by Jagers and Walgrave (2007):

“Elites can be political elites (parties, government, ministers, etc.), but also the media (media tycoons, journalists, etc.), the state (administration, civil service), intellectuals (universities, writers, professors) or economic powers (multinationals, employers, trade unions, capitalists).” (Jagers and Walgrave 2007, 324)

The faces of representative democracy and political power holders—such as the government, members of parliament and party officials—are the most obvious targets of anti-elitist resentment (Hameleers et al. 2021, 499; Kriesi 2018, 8). Similarly, journalists and ‘the media’ are often singled out as objects of hate by populists (Egelhofer, Aaldering, and Lecheler 2021; Fawzi 2020). For example, in Germany, right-wing populists have coined the term *lying press* (“Lügenpresse”) (Egelhofer, Aaldering, and Lecheler 2021, 660) to denounce journalists. However, the relationship between populism and the media is more complex than pure antipathy as I illustrate in *Chapter 2.2.3*. Economic elites are another group that is regularly attacked by populists. Both left-wing and right-wing populists demonize economic elites, albeit using different themes (Rooduijn and Akkerman 2017). Occasionally, anti-elitism includes images of “bankers and international financiers (often alleged to be Jewish)” (Mudde 2004, 561), thereby revealing a link between anti-elitism and antisemitism (Wodak 2015, 13).

Populists’ ideas of who is ‘the elite’ also change over time. More recently, populists have begun to identify “‘progressives’ and the ‘politically correct’” (Mudde 2004, 561) as their favorite target. One contemporary populist idea is that the “*vox populi*” (Canovan 1999, 14) is being censored by ‘woke’ elites and the so-called cancel culture (Menzner and Traunmüller 2023). Demonizing elites also renders populists susceptible to conspiracy theories, as Taggart (2000, 105) argued. This connection was evident in the COVID-19 pandemic, as, for example, Eberl et al. (2021) showed. Since populists believe that “*common sense* [...] is the basis of all good” (Mudde 2004, 547), they also harbor an aversion to knowledge produced by academic elites. Mede and Schäfer (2020) coined the term “science-related populism” for this aspect. In summary, it is evident that populist ideology is rather unspecific regarding the identity of ‘the people’ and flexible in its choice of enemies. However, what it does require is the construction of an antagonism between ‘the people’ and ‘the elite’.

### 2.1.3. A Thin-Centered Ideology

Populism has been defined as “thin-centered ideology” (Mudde 2004, 544) to differentiate it from more fully-fledged ideologies. The metaphor of a “thin-centered morphology” was introduced by Michael Freeden (1998, 750), denoting ideologies that are characterized by a “restricted core attached to a narrower range of political concepts.” While ‘full’ ideologies—as, for example, fascism or socialism—are “sets of political ideas, beliefs, and attitudes” (Freeden 1998, 749) that provide comprehensive guiding principles and plans of action to all sorts of political and social questions (Freeden 1998, 749–50), ‘thin’ ideologies, such as populism, fall short of such comprehensiveness (Canovan 2002, 32; Mudde and Rovira Kaltwasser 2017, 6). Instead, populism, at its core, is confined to the key elements discussed above. These core elements do not fall into any political camp on their own (Rooduijn 2019, 366). Both left-wing and right-wing politicians find powerful devices to convey and amplify their message in populist rhetoric. Or, as Canovan (1984, 314) put it, populism’s “specific ambiguities make it a kind of common currency into which the concerns of most brands of politics can be converted.” Due to this flexibility populism has been characterized as “chameleonic” (Taggart 2000, 4).

The notion of populism’s ‘thinness’ can also be seen as an analytic tool for identifying the common features of political movements and parties that appear far apart at first glance. In this sense, Mudde’s (2004) ideational definition can be understood as what Giovanni Sartori (1970) calls a *minimal definition*, which provides “only the core—necessary and sufficient—attributes of a concept” (Mudde and Rovira Kaltwasser 2013, 149). Empirically, combinations of populism with host ideologies are more likely to be observed than populism in a pure form (Stanley 2008, 95; Taggart 2000, 115). However, to avoid drawing wrong inferences regarding populism it is key to analytically distinguish between the host ideologies and populism itself (Hunger and Paxton 2022; Rooduijn 2019, 365).

*Populist radical right* parties have become the most successful proponents of populist ideology in the European political landscape since the 1980s (Arzheimer 2015, 536; Mudde 2007). The key defining element of this right-winged variant of populism is, in addition to its populist core, *nativism* (Mudde 2007, 22). Nativism is defined as “an ideology, which holds that states should be inhabited exclusively by members of the native group (‘the nation’) and that nonnative elements (persons

and ideas) are fundamentally threatening to the homogenous nation-state” (Mudde 2007, 22). This ideology includes nationalist and xenophobic elements (Mudde 2007, 22). Since such elements can also be found in the manifestos of certain mainstream parties (Arzheimer 2015, 537), Mudde (2007, 22) proposed a maximum definition to identify populist radical right ideology, featuring nativism, authoritarianism, and populism.

While the first two papers of this dissertation focus on the expression of populist ideas, the third paper additionally considers one further dimension of right-wing populism. Thereby, I aim to disentangle the differential impact of populist and right-wing content on the democratic quality of user discussions. In the context of this dissertation, *right-wing populism* is understood as a combination of populist and nativist ideology, following Mudde’s (2004; 2007) minimal understanding of the populist right. That means, I do not aim to operationalize the dimension of authoritarianism, which characterizes populist *radical* right thought in a narrower sense. I operationalize nativism through the proxy of anti-immigrant discourse, which is arguably the most important form of articulating nativism (Betz 1994; 2019; Mudde 2004, 19). As left-wing populism is not examined separately in this dissertation, I bracket its definition.

The thinness of the concept has also given cause to question the definition of populism as an *ideology* (Aslanidis 2016). Aslanidis (2016, 89) argued that if we accept that populism lacks the characteristic that Gerring (1997, 980) has identified as the only unchallenged conceptual dimension of ideology—that is, *coherence*—one could not speak of “ideology”. Following Aslanidis (2016, 98), populism would be better conceived as a “discursive frame,” that helps to “organize experience and guide action” (Snow et al. 1986, 464). Nevertheless, Aslanidis (2016, 96; 2018, 1255) adheres to the same core elements of populism as the ideational definitions—that is, people-centrism, anti-elitism, and the demand to restore popular sovereignty.

Aslanidis (2016, 97) operational concept has been influenced by Laclau’s (2005) notion of populism as discourse. Although the latter has contributed considerably to understanding populism as the construction of an antagonistic relationship, Laclau’s (2005) concept somewhat resists empirical operationalization. At a point, Laclau (2005, 154) equates populism with the political itself, leaving researchers with “only two very doubtful pathways [...]: Either populism is something omni-

present, or anything that is not populist cannot be considered political” (Mudde and Rovira Kaltwasser 2012a, 7).

There are other influential contributions that consider populism as something other than ideology—for example as a discourse (Hawkins 2009) or a communication style (Jagers and Walgrave 2007). Nevertheless, these approaches mostly align with the ideational definition in considering the substantial message—‘the people’ vs. ‘the elite’—as the defining feature of populism (Rooduijn 2019, 364). However, Jagers and Walgrave (2007, 324) added a horizontal dimension of excluding segments of the population from ‘the people’ to their concept of populism. More accurately, Abts and Rummens (2007, 418) identified the direction of this exclusion as a “vertical antagonism downwards between the people and all those at the supposed bottom of society, criminals, foreigners, profiteers and perverts”. Within the framework of this dissertation, I acknowledge that these horizontal—respectively downward directed—antagonisms play an important role in specific forms of populism, particularly in right-wing populism (Mudde 2007; Rooduijn 2019, 366). However, a downward directed line of exclusion is not regarded as a necessary feature of populism in its minimal sense (Mudde 2004; Mudde and Rovira Kaltwasser 2013, 149). I follow this minimal understanding of populism.

Further, a performative understanding of populism has been proposed by Moffitt and Tormey (2014), highlighting the *style* in which populist politicians convey their message. In this conception of populism, appeals to ‘the people’ are likewise crucial; however, the authors complement this substantial element with a repertoire of performative features (Moffitt and Tormey 2014, 391). Moffitt and Tormey (2014, 392) argue that populist politicians rely on creating the impression of crisis and an urgency to act, as well as on displaying their closeness to the people by demonstratively rejecting established manners within the political realm. Populist communication research has examined such stylistic features more closely, as reviewed in *Chapter 2.3*.

Finally, a completely different approach to define populism has been proposed by Kurt Weyland (2001; 2017). Weyland (2001, 12, 14) defines populism as “a political strategy through which a personalistic leader seeks or exercises government power based on direct, unmediated, uninstitutionalized support from large numbers of mostly unorganized followers.” This definition is useful for understanding populist

mobilization practices. However, its weakness lies in its inability to distinguish between populism and other political phenomena that are built on mass support, not least because it does not take into account the *content* of populist ideas. As I show in the next section, research that accounts for the content of populist ideas (e.g., Hawkins, Read, and Pauwels 2017) has spawned a fruitful research agenda. One takeaway from the conceptual discussion here is that it is less important for empirical research whether populism is labeled an ideology or a discourse, but that its core ideas—people-centrism and anti-elitism, linked by a demand for popular sovereignty—are key for its definition.

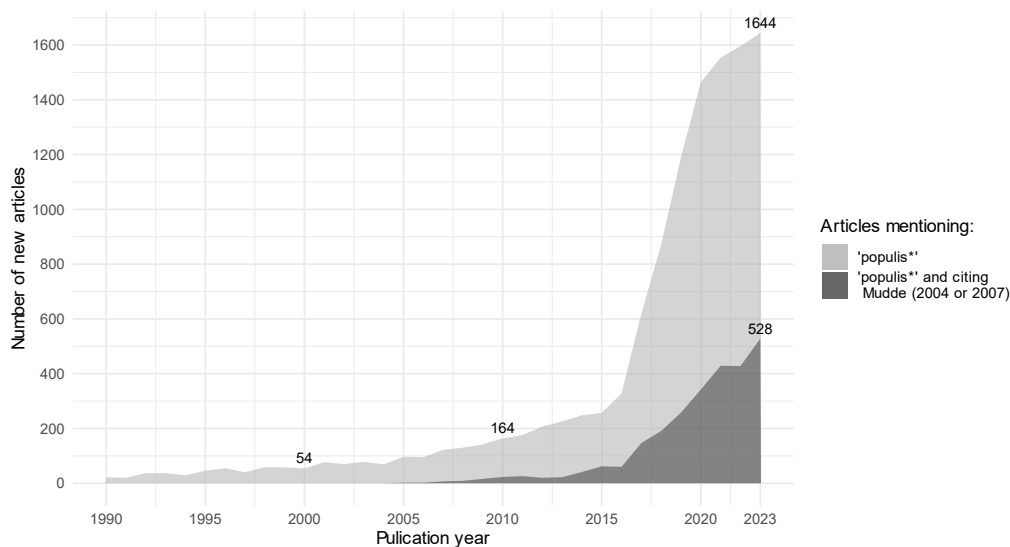
## **2.2. The State of Populism Research**

The ideational definition has been instrumental in stimulating cumulative, empirical research on populism (Rooduijn 2019, 363; Rovira Kaltwasser et al. 2017, 17). Until the 2000s, the number of studies on populism was small and marked by theoretical contributions (e.g., Canovan 1984; Germani 1978; Laclau 1977) or case studies (e.g., Goodwyn 1981; Venturi 1960) of limited generalizability (Rooduijn 2019, 363). While the 2000s witnessed a noticeable increase in comparative research on populism (e.g., Albertazzi and McDonnell 2008; Mazzoleni, Stewart, and Horsfield 2003; Mény and Surel 2002), the underpinning concepts still varied considerably (Rooduijn 2019, 363). The majority of these studies sought to categorize political actors as populist or non-populist, or to come up with explanations for their success (Rooduijn 2019, 363). With the increasing political successes of populism since 2016, the number of populism studies skyrocketed, which lead to a proliferation of the variety of research questions that were addressed (Rooduijn 2019, 363). A shared definition of the core concept fueled this boom and facilitated cumulative knowledge production. Figure 1 illustrates the growth of populism research using data from the Scopus application programming interface (API) by plotting the number of new articles published every year that include “populis\*” in the abstract, title, or keywords (light grey area). The dark grey area marks the number of new articles that include “populis\*” and cite one of Mudde’s (2004; 2007) seminal

texts to illustrate the crucial role that his definitions of populism and radical right populism play for this field of research.<sup>3</sup>

One key strength of the ideational definition is its versatility, as it “invites us to study both the supply side and the demand side of populism” (Hawkins and Rovira Kaltwasser 2017, 529). The concept has been fruitfully operationalized for studying political parties (e.g., Ivaldi, Lanzone, and Woods 2017; Meijers and Zaslove 2021; Zulianello 2020), citizens’ populist attitudes (e.g., A. Akkerman, Mudde, and Zaslove 2014; Dennison and Turnbull-Dugarte 2022; Marcos-Marne, Gil de Zúñiga, and Borah 2023), and populist communication by a broad range of actors (e.g., Blassnig, Ernst, et al. 2019; Gründl 2022; Hameleers, Bos, and de Vreese 2018b; Wettstein et al. 2019). In light of the tremendous number of publications in recent years, any review of the state of the art is bound to remain fragmentary. This is reflected in the existing reviews of the populism literature, which vary considerably (Hunger and Paxton 2022; Rooduijn 2019; Rovira Kaltwasser et al. 2017).

**Figure 1:** Yearly Published Articles on Populism in Scopus-Indexed Journals



In the following chapters, I provide an overview of the state of the art of the main strands of populism research without claiming exhaustiveness. I proceed by gradually moving toward the subject of this thesis, thereby identifying the research gaps that motivate this dissertation. First, I briefly review studies that addressed the supply side (*Chapter 2.2.1*) and the demand side of populism (*Chapter 2.2.2*),

<sup>3</sup> Note that the plotted numbers refer to the new publications each year, not cumulative numbers.

before reviewing populist communication research more thoroughly (*Chapter 2.2.3*).

### **2.2.1. The Supply Side**

Populism scholars started out with focusing on the *supply* side of politics—that is, the strategic positioning and actions of political parties and leaders (Hawkins, Read, and Pauwels 2017, 273). With the debates over defining populism abating, a major step forward was that researchers began to focus on the measurement of populism (Rooduijn 2019, 364). Content analysis, pioneered by scholars interested in populist communication (e.g., Jagers and Walgrave 2007; Hawkins 2009; Rooduijn and Pauwels 2011; Bos and Brants 2014; Rooduijn, de Lange, and van der Brug 2014), played a crucial role in this development (Gründl 2022, 1485; Rooduijn 2019, 364). Apart from content analysis, expert knowledge has been employed as a different source for assessing whether a political party is populist. The *PopuList* (Rooduijn et al. 2023) provides a carefully curated, binary expert classification of populist parties, while the *Populism and Political Parties Expert Survey* (POPPA) (Meijers and Zaslove 2021) provides continuous scores for a wide range of dimensions of populism in European political parties. Data on a global scale have been compiled by *The Global Party System* expert survey (Norris 2020).

One takeaway from the advances in measuring populism on the supply side is that populism can be usefully conceptualized and operationalized on a *continuous* scale (e.g., Aslanidis 2018; Gründl 2022; Meijers and Zaslove 2021; Norris 2020; Polk et al. 2017; Rooduijn and Pauwels 2011; de Vreese et al. 2018a). The underlying assumption is that populism “manifests in degrees of intensity” (Aslanidis 2018, 1242) and that “political actors can endorse populism to a lesser or larger extent” (Rooduijn 2019, 364). This does not preclude the binary classification of someone or something as populist (Mudde 2017, 35), but acknowledges the strategic function of populist ideas and rhetoric. Populism has been operationalized on continuous scales in communication research (e.g., Aslanidis 2018; Gründl 2022; Rooduijn and Pauwels 2011) and attitudes research (e.g., A. Akkerman, Mudde, and Zaslove 2014; Elchardus and Spruyt 2016; Gründl 2021, 12). All three papers included in this dissertation subscribe to this understanding of populism as something gradual.

### ***Correlates of Populist Successes***

Early on, supply side-oriented research has attempted to explain what causes the success of populist, respectively populist radical-right, parties. These explanations can be grouped into two clusters, following Hawkins et al. (2017): One group of studies highlights populism's provision of collective identities against the backdrop of structural societal changes (Hawkins, Read, and Pauwels 2017, 269). These "Durkheimian" (Hawkins, Read, and Pauwels 2017, 274) approaches include the accounts of Laclau (2005) or Rydgren (2004). More recent contributions include Sauer (2017), who explains right-wing populist successes through a gender-based strategy to construct identity, or Salmela and von Scheve (2018) who highlight the emotional underpinnings of populist identity constructions.

A second approach draws on a spatial and economic framework (Downs 1957) to explain the emergence and success of populism through party competition (Hawkins, Read, and Pauwels 2017, 271). The core argument of this approach is that "populist parties are a response to the electoral space created by a changing electorate and a unresponsive party system." (Hawkins, Read, and Pauwels 2017, 272). One of the earliest studies to rely on this kind of argument can be found in Betz's (1994) explanation of the emergence of radical right populist parties. In addition to this spatio-economic reasoning, Betz's (1994, 35) account integrated the argument that these parties provide a sense of identity to the "losers' of globalization" (Hawkins, Read, and Pauwels 2017, 271). Drawing on a similar model, Pauwels (2010, 1026) attempted to explain the emergence of populist parties by their ability to exploit electoral opportunity structures, defined as ideological spaces left open by mainstream parties. To understanding such opportunity structures, researchers have analyzed mainstream parties' reactions towards populist challengers (Heinze 2018) and their strategies in forming coalitions with populists (de Lange 2012). Others have researched how structural, long-term factors—such as weak governance (Agerberg 2017), corruption (Hawkins 2010; Kriesi 2014), or institutions, like electoral rules—influence the success of populist parties (Becher, González, and Stegmüller 2023; Norris 2005; van Kessel 2015).

Another set of studies focuses on short-term factors, notably populist performance in times of *crisis*. Populism has been theorized as a "response to a sense of crisis" (Taggart 2000, 5) or even as a "crisis movement" (Kriesi 1995, 16; own translation;

dt.: “Bewegungen der Krise”). Moffitt (2015) argued that populist politicians perform a sense of crisis, hoping that they can capitalize on it. Initially, the notion of “crisis” has “proven of limited use analytically because, although intuitively it may be easy to comprehend, it proves quite difficult to specify” (Mudde 2007, 205). Nevertheless, more empirical research on the matter has been conducted recently, as illustrated by the publication of two special issues (Caiani and Graziano 2019; Maher et al. 2022). Although these empirical studies have revealed that crises provide populists with a “window of opportunity” (Caiani and Graziano 2019, 1141), populists are not always able to capitalize on it. One anomaly that requires further investigation is (Hawkins, Read, and Pauwels 2017, 278), for example, that there was no uniform surge in populism across Europe in response to the recession in 2008 (Caiani and Graziano 2019; Kriesi and Pappas 2015). This dissertation contributes to this strand of research by analyzing populism—from a bottom-up perspective on citizen-generated content—in the context of two crisis situations, the so-called ‘refugee crisis’ in 2015-2016, and the COVID-19 crisis.

Both crises were decisive moments for populist movements and parties in Europe. In the aftermath of the so-called ‘refugee crisis’ in 2015, which extended into 2016, European right-wing populist parties succeeded in spreading their nativist and people-centric ideas into public discourse and then pressurizing mainstream parties to adapt (O. Gruber 2017; Krzyżanowski 2018; Krzyżanowski, Triandafyllidou, and Wodak 2018; Stier et al. 2017; Thiele, Pajnik, et al. 2024; Wodak 2021). Only a few studies have examined the role of ordinary citizens in spreading such discourses (Ekman 2019; Hameleers 2019a). *Paper III* of this dissertation examines how citizen-generated populist and anti-immigrant content affected online debates in the context of the ‘refugee crisis.’

The COVID-19 crisis is particularly interesting for populism research, as it mobilized citizens from across the political left-right spectrum to express discontent (e.g., Brunner et al. 2021; Heinisch and Werner 2024; Heinze 2018; Nachtwey, Schäfer, and Frei 2020; Neumayer, Pfaff, and Plümper 2023). The messages of those protestors aligned closely with populist ideology (Brubaker 2021; Eberl, Huber, and Greussing 2021; Stecula and Pickup 2021). Supply-side research has focused on political parties’ responses to those protests (Heinze 2018) and the strategies of protest organizers (Plümper, Neumayer, and Pfaff 2021). In *Papers I and II*

of this dissertation, I use this case to examine the contextual factors of populist citizen-generated expressions in comments sections on social media.

### ***Consequences of Populist Successes***

Research that focuses on the supply-side of populism has also investigated the *consequences* of the electoral successes of populist parties. One group of studies analyzed the mainstreaming of populist ideas into manifestos of other parties (Rooduijn, de Lange, and van der Brug 2014; Schumacher and van Kersbergen 2016). Adopting a macroscopic view, others have researched the impact of populist parties on party systems (Vachudova 2021; Zulianello 2020). With the increasing participation of populist parties in government, more researchers have turned their attention to populists in power (Albertazzi and McDonnell 2016; Caiani and Graziano 2022; Heinisch 2003). Relatedly, research has analyzed how the presence of (radical right) populist parties affects policies, including foreign policy (Verbeek and Zaslove 2015), development policy (Bergmann, Hackenesch, and Stockemer 2021), immigrant welfare (Römer, Röth, and Zobel 2023), and management of the COVID-19 crisis (Bušíková and Baboš 2020). It must be noted that populism scholars, not only within this strand of research, have paid more attention to the radical right variant of the phenomenon (e.g., Arzheimer 2015; Betz 1994; Mudde 2013; Rydgren 2004; 2005) than to its left-winged variant (e.g., Gerodimos 2015; Ivaldi, Lanzone, and Woods 2017; Rooduijn and Akkerman 2017). This focus reflects the greater success of right-wing populism in Europe, but it does not do justice to the phenomenon from a global perspective (e.g., Mudde and Rovira Kaltwasser 2013).

Increasingly, researchers are also assessing the relationship between populism and *democracy* on empirical grounds (Mudde and Rovira Kaltwasser 2012b; Ruth-Lovell and Grahn 2023), which has been only theorized for long (e.g., Abts and Rummens 2007; Canovan 1999; Finchelstein and Urbinati 2018; Mudde and Rovira Kaltwasser 2012a; Waisbord 2018b). Nevertheless, much remains to be empirically clarified in this normative debate. Of particular interest for this dissertation is the largely unexamined question of how populist content affects the democratic quality of communication among users (Waisbord 2018b).

Studies that focus on the supply side of populism alone are somewhat limited in their ability to explain its successes and consequences, as they do not account for

the political preferences and behavior of citizens. To gain a more encompassing understanding of these questions, scholars have turned their attention to individual-level factors by analyzing the *demand* side of populism (Hawkins, Read, and Pauwels 2017, 275).

### 2.2.2. The Demand Side

The study of the demand side of populism—that is, populist attitudes and individual-level factors associated with support for populist parties and ideas—has become a rapidly growing field of research over the last decade (Marcos-Marne, Gil de Zúñiga, and Borah 2023). This strand of research started out from analyzing populist voting. Again, the preference for populist radical right parties attracted most of the researchers' attention (e.g., Gidron and Hall 2017; Oesch 2008; Steenvoorden and Harteveld 2018). Fewer studies have attempted to explain voting for populist parties across the political spectrum (e.g., Bakker, Rooduijn, and Schumacher 2016; Magni 2017; Rooduijn 2018). To keep the vote choice analytically separate from beliefs in populist ideology, researchers began to survey *populist attitudes*. This leap forward was pioneered by Hawkins et al. (2012), Akkerman et al. (2014), and Elchardus and Spruyt (2016). The most commonly used scales for measuring populist attitudes are those introduced by Akkerman et al. (2014), Schulz et al. (2018), and Hobolt et al. (2016), according to a systematic review by Marcos-Marne et al. (2023, 296; for a comparison, see Castanho Silva et al. 2020). In this dissertation, I consider populist user comments as expressions of populist attitudes, following Blassnig et al. (2019, 634). To ground my hypothesizing, I briefly review what we know about the correlates and consequences of populist attitudes, drawing on the review of Marcos-Marne et al. (2023).

#### ***Correlates of Populist Attitudes***

Several psychologically-oriented contributions have investigated the connection between *personality traits* and populist attitudes and obtained mixed results. Fatke (2019) found a positive correlation between populist attitudes and neuroticism and agreeableness, which is contrary to the earlier findings of Bakker et al. (2016). Galais and Rico (2021) found a negative association between populist attitudes and the 'dark' personality traits psychopathy and Machiavellianism, which is similarly

counter-intuitive. Marco-Marne et al. (2023) suggested considering country-specific moderating effects to disentangle these puzzling findings.

Other, more volatile factors include *emotions*. Emotions, particularly anger, have been found to be strongly correlated with populist attitudes. Analyzing panel data from Spain, Rico et al. (2017) found that higher levels of anger in individuals are associated with support for populist attitudes. Rhodes-Purdy et al. (2021) support this finding using data from Spain and the US. While both studies found less conclusive evidence for a link between fear and populist attitudes (Rhodes-Purdy, Navarre, and Utych 2021; Rico, Guinjoan, and Anduiza 2017), Dennison and Turnbull-Dugarte (2022) and Abadi et al. (2021) found correlations between populist attitudes and perceived threats related to global crises and COVID-19, respectively.

These findings support the argument by Hawkins et al. (2020, 285) that populist attitudes “are not always salient but must be *activated* by context.” Hawkins et al. (2020, 286) relate this argument to the notion of populism as a thin ideology: Being little more than a set of “loosely articulated ideas,” these attitudes depend on “external triggers” to become present in citizens’ minds. According to Hawkins et al. (2020, 286), the contexts that are likely to activate populist attitudes are such in which elites can be blamed for failures of democratic governance. The authors theorize anger as a key activating mechanism (Hawkins, Rovira Kaltwasser, and Andreadis 2020, 286). Although Hawkins et al. (2020, 286) cite long-lived contextual factors, such as corruption, this argument has been fruitfully adapted to short-lived contexts, such as media effects (e.g., Hameleers et al. 2021; Hameleers and Fawzi 2020). As I show in *Chapter 2.2.3*, research focusing on the effects of populist communication found that specific messages and contexts (Hameleers et al. 2021; Blassnig and Wirz 2019) can activate clusters of populist attitudes, which Krämer (2014, 55) theorized as a “populism schema”.

While other psychologically-oriented research has linked populist attitudes to beliefs in conspiracy theories (Castanho Silva, Vegetti, and Littvay 2017; Eberl, Huber, and Greussing 2021; Erisen et al. 2021), a more sociological line of research highlighted socioeconomic factors and factors related to social identity to explain populist attitudes. One key argument is that the success of populism reflects a new cleavage between the ‘losers’ and ‘winners’ of globalization (Betz 1994; Kriesi 2014; Kriesi et al. 2008). Within this strand of literature, a few studies have focused on

objective factors. The most consistent predictors of populist attitudes identified by these studies appear to be lower education and residing in peripheral regions (Dvořák, Zouhar, and Treib 2024; Rovira Kaltwasser and van Hauwaert 2020). Other scholars have argued that the subjective perception of socioeconomic factors is paramount. Compelling evidence exists for a close connection between populist attitudes and *perceived relative deprivation*—that is, the perception that one’s in-group does not receive its fair share, while others receive much more without contributing anything in return (Elchardus and Spruyt 2016; Hamелеers and de Vreese 2020). I highlight gaps in the research on populist attitudes in the next section.

### ***Consequences of Populist Attitudes***

A second cluster of demand-side research has investigated the *consequences* of populist attitudes. Unsurprisingly, this research has amassed evidence for a correlation between populist attitudes and populist voting. Marcos-Marne et al. (2023) list 26 studies that found such a positive correlation, with a few of them covering a large number of Western democracies (e.g., Steven M. van Hauwaert and Kessel 2018; Spierings and Zaslove 2017; Wettstein et al. 2020).

The record for how populist attitudes influence other forms of political *participation* is more diffuse. Analyzing data from nine European countries, Anduiza et al. (2019) found that populist attitudes have a demobilizing or insignificant effect on voter turnout. However, these authors found that populist citizens prefer expressive, non-institutionalized modes of participation, particularly expressing political views online and petition signing (Anduiza, Guinjoan, and Rico 2019, 109). These findings align with the argument “that populist citizens are dissatisfied with the functioning of democracy [...] [and] less likely to vote in elections, but not to be disengaged in general” (Jeroense and Spierings 2023, 4). Jeroense et al. (2022) corroborated the finding that populist citizens react more frequently to political content on social media than other citizens. The authors emphasize that such imbalances matter, as higher levels of online activity can lead to a disproportionate visibility of populist citizens due to algorithms that underpin social media platforms (Jeroense et al. 2022, 213; see also Bossetta 2018). This dissertation contributes to the understanding of this phenomenon by investigating the conditions under which populist content is particularly prominent in online comments sections.

Finally, prior research has investigated the connection between populist attitudes and support for *democracy*. An initial survey among young and educated voters has found that populist citizens are less supportive of liberal democracy (Zanotti and Rama 2021). Expanding this line of research using Dutch survey data, Bos et al. (2023) showed that populist citizens are less supportive of norms of (liberal) democracy—such as equality in court, freedom of media and opposition, and minority protection—and are more likely to be intolerant towards people that voice divergent views online. In similar vein, using data from the Austrian National Election survey, Plescia and Eberl (2021) showed that populist citizens show lower comprehension for democratic compromise. In contrast to these findings, Rovira Kaltwasser and Hauwaert (2020) found that populist citizens, while being dissatisfied with the state of current democracies, exhibit a stronger general support for democracy when compared to non-populist citizens. Moreover, populist citizens have also been found to support forms of direct democracy, referendums in particular (Jacobs, Akkerman, and Zaslove 2018; Mohrenberg, Huber, and Freyburg 2021; Zaslove et al. 2021).

A few key takeaways can be summed up from the review of research on populist attitudes thus far, bracketing the contributions from communication scholars for now. First, populist attitudes are best understood as something latent that requires activation by contextual factors (Hawkins, Rovira Kaltwasser, and Andreadis 2020). Second, a number of studies suggest that emotions might be the key in this activation, with anger being the most plausible candidate (Rhodes-Purdy, Navarre, and Utych 2021; Rico, Guinjoan, and Anduiza 2017). Third, populist citizens exhibit a preference for expressive and non-institutionalized modes of political participation (Anduiza, Guinjoan, and Rico 2019), such as interactive engagement on social media (Jeroense et al. 2022). Fourth, populist citizens' support for democracy might be as ambivalent, as the theorized relationship between populism and democracy suggests (Canovan 1999; Mudde and Rovira Kaltwasser 2012b). Populist citizens may support democracy in principle, but appear to be averse to norms of liberal democracy (Bos, Wichgers, and van Spanje 2023; Zaslove et al. 2021).

With regard to the themes addressed in this dissertation, at least two research gaps stand out: First, research on populist attitudes has rarely examined how citizens *express* these attitudes in real-world settings. Busby et al. (2019) examined expres-

sions of populist attitudes but only in open-ended opinion survey items, which barely resemble a real-world setting. The expression of populist attitudes is a behavior that is likely to suffer from social desirability bias when studied with survey instruments (Blassnig, Engesser, et al. 2019, 630; M. Maier et al. 2023). In such research settings, respondents are likely to hold back or underreport socially undesired attitudes or behavior (e.g., Blair, Coppock, and Moor 2020; Krumpal 2013). In similar vein, Marcos-Marne (2023, 294) argued that research on populist attitudes could profit from a variety of methodological approaches. In this dissertation, I study the expression of populist attitudes in user comments by using digital trace data (Howison, Wiggins, and Crowston 2011), as only a few contributions from communication research have done before (Blassnig, Engesser, et al. 2019; Blassnig, Ernst, et al. 2019; Galpin and Trenz 2019). In doing so, I aim to circumvent the problem of social desirability bias and increase the ecological validity of the findings—that is, their real-world applicability (Brewer and Crano 2014, 21).

Second, research addressing political behavior associated with populist attitudes and its implications for democracy need to be investigated more thoroughly. Empirical research has showed that populist citizens are more active than other citizens on social media (Jeroense et al. 2022), but also that they are more illiberal, less tolerant (Bos, Wichgers, and van Spanje 2023), and opposed to compromise (Plescia and Eberl 2021). Thus, a crucial question that remains to be addressed is how populist expressions on social media affect the democratic and deliberative quality of discussions among users. The prospects sketched by communication theorists are rather gloomy (Waisbord 2018b). The third paper of this dissertation addresses this question.

### **2.2.3. Populist Communication**

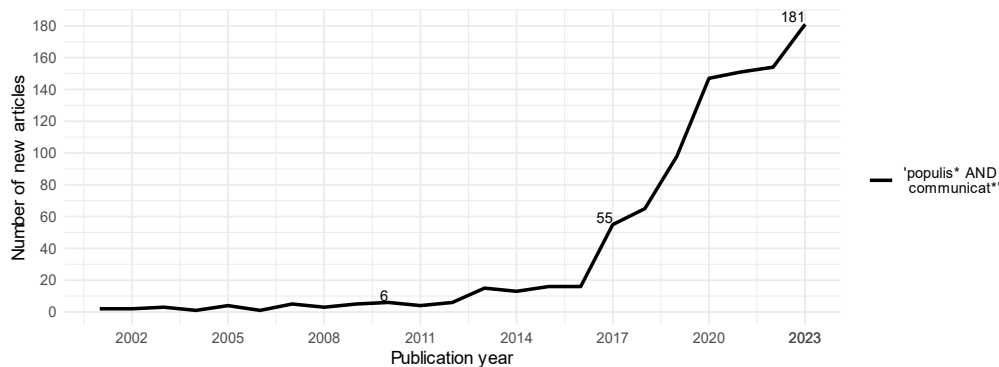
The starting point of populist communication research is “that populist ideas must be communicated discursively to achieve the communicator’s goals” (de Vreese et al. 2018a, 425). Surprisingly, this intuitive idea took off only late to develop into an independent branch of research. While the discursive nature of populism has been acknowledged by theorists (Aslanidis 2016; Laclau 2005) and a number of pioneering empirical studies (Bos, Brug, and de Vreese 2011; Bos and Brants 2014; Jagers and Walgrave 2007; Mazzoleni, Stewart, and Horsfield 2003; Rooduijn 2014;

Rooduijn and Pauwels 2011), Aalberg and De Vreese wrote as recently as 2017 regarding the lack of research on populist communication:

“Thus, we have a striking paradox: Although it is widely acknowledged that the media and, more broadly, the role of communication are key to understanding the rise and success of populist leaders, parties, and movements, research on populist political communication is scant.” (Aalberg and de Vreese 2017, 4)

Seven years later, this situation has changed dramatically. Since 2016, the number of new academic journal articles published each year that refer to populism and communication has virtually exploded, as Figure 2 illustrates using data from the Scopus API. Today, the research landscape on the topic is far more differentiated than it was just a few years ago.

**Figure 2.** Yearly Published Articles on Populist Communication in Scopus-Indexed Journals



The most influential concepts of populist communication (de Vreese et al. 2018a; Wirth et al. 2016) draw on the ideational definition of populism (e.g., Mudde 2004). De Vreese et al. (2018a, 425) suggested to differentiate between the *content* of populist communication, which conveys “core components of populist ideology (such as people-centrism and anti-elitism) with a characteristic set of key messages” and populist *style*, which refers to the characteristics of presentation.

A considerable number of studies consider both elements, content and style, when referring to populist communication (e.g., Bos, Brug, and de Vreese 2011; de Vreese et al. 2018a; N. Ernst, Blassnig, et al. 2019; Wettstein et al. 2019). However, although stylistic elements—such as dramatization, emotionality, or colloquial language—play an important role in populist communication, they can occur in different contexts as well (Wettstein et al. 2019). Here, I follow Wirth et al.’s (2016, 43) strict interpretation of the ideational approach to consider only the content as the defining feature of populist communication.

Following Stanyer et al. (2017, 354) there are two approaches to studying populist communication: An “actor-centered approach”, which departs from a classification of political actors as populist or not, and a “communication-centered” approach that begins by identifying key elements of populist communication and proceeds with analyzing the actors, contexts, and effects that accompany these messages. The latter regards populism as “a characteristic of a specific message rather than a characteristic of an actor sending that message” (Rooduijn 2014, 728; similarly de Vreese et al. 2018a, 425). The advantage of this approach is that it is not restricted to a predefined set of actors and can be applied to actors who are not political professionals (Rooduijn 2014, 728). Since my focus is on the communication of ordinary citizens, all three papers of this dissertation follow a communication-centered approach.

Researchers’ efforts to capture populist communication through content analyses have been a major step forward in measuring populism (among the earliest, e.g. Bos, Brug, and de Vreese 2010; Bos and Brants 2014; Jagers and Walgrave 2007; Rooduijn 2014; Rooduijn and Pauwels 2011). The assumption underpinning these endeavors is that in communicated content—such as speeches, news coverage, campaign material, social media posts, or user comments—populist ideas “become visible and transform from mental constructs into perceptible dimensions” (Wirth et al. 2016, 41). In communication, populist ideology turns from something latent into something manifest that can be measured (de Vreese et al. 2018a, 427).

The most detailed codebook to date for capturing populist communication was developed by Blassnig et al (2016), who drew on a thorough conceptualization and review of earlier contributions (Wirth et al. 2016). This coding instrument captures references to ‘the people,’ ‘the elite,’ or ‘the others’ along with twelve key messages of populist content and six elements of populist style and has been applied to social media posts, television broadcasts, and press coverage (N. Ernst, Esser, et al. 2019), as well as user comments (Blassnig, Engesser, et al. 2019).

Drawing mainly on Blassnig et al.’s (2016) codebook, and on a close reading of the studied material, I defined ten key messages of populist communication, which are listed in Table 2. The details of the operationalization are described in *Chapter 3* of this dissertation and in the individual papers. There, I outline also the computational methods used for measuring populist content, to which *Paper II* makes an

innovative contribution. The detailed coding instructions are documented in Appendix A.

**Table 2.** Key Messages of Populist Communication

| Dimension              | Key Message                                                                                            | Examples <sup>3</sup>                                                                                                                   |
|------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <b>People-Centrism</b> | • Attributing virtues and positive traits to the people <sup>1</sup>                                   | <i>“Every normal citizen knows about this”</i>                                                                                          |
|                        | • Attributing responsibility of positive developments to the people <sup>1</sup>                       | <i>“A lot of work and sweat has built this country”</i>                                                                                 |
|                        | • Describing the people as a homogeneous group with a common worldview, will, or feelings <sup>1</sup> | <i>“Austrians are afraid of...”</i>                                                                                                     |
|                        | • Characterizing the people as a threatened collective <sup>2</sup>                                    | <i>“Who is protecting us???”</i>                                                                                                        |
|                        | • Demanding to listen to the people’s will or calling the people to wake up <sup>1</sup>               | <i>“Let’s unite and take the streets! Together we can make a difference!”</i>                                                           |
| <b>Anti-Elitism</b>    | • Criticizing that the people’s will is not represented or distorted by elites                         | <i>“The people will not be deceived any longer by this clown.”</i>                                                                      |
|                        | • Discrediting elites as morally degenerated <sup>1</sup>                                              | <i>“This sell-out government!”</i>                                                                                                      |
|                        | • Blaming elites for seriously harmful, negative developments <sup>1</sup>                             | <i>“Our politicians have managed to make Austria an unsafe country.”</i>                                                                |
|                        | • Denying sovereignty to elites by advocating for less power to the elite <sup>1</sup>                 | <i>“The politicians do not listen to us”</i><br><i>“I hope that the EU breaks apart so that Austria can finally close the borders!”</i> |

Sources: 1: Blassnig et al. (2016, 17–21); 2: Hamelers (2019a, 6); 3: Abridged translations, taken from the analyzed material.

Three types of actors are key for populist communication: political actors, the media, and citizens (Aalberg and de Vreese 2017; de Vreese et al. 2018a; Reinemann et al. 2017). In the remainder of this chapter, I provide an overview of the current state of research on populist communication, organized along these three groups of actors. For the first two actor groups, I focus on the question of whether there is an affinity between populism and certain communication channels. Since citizens are the focus of this dissertation, I will review at greater length contributions that have examined (populist) citizens as consumers, recipients, and creators of populist content.

## ***Political Actors***

Populist communication of professional political actors, such as parties and politicians, can be regarded as a form of *strategic communication* (Aalberg and de Vreese 2017; Reinemann et al. 2017; Wirth et al. 2016). This perspective acknowledges that actors across the political spectrum can use populist content and style in their communication, regardless of whether they believe in populist ideology or for entirely tactical reasons (Wirth et al. 2016, 39).

A growing number of studies has analyzed populist communication by political actors. Studies have analyzed populist communication across various channels, including TV broadcasts (Jagers and Walgrave 2007), newspapers, television news, and talk shows (Bos and Brants 2014), parliamentary debates (e.g., Bonikowski and Gidron 2016; Thiele, Sauer, and Penz 2021; Thiele, Pajnik, et al. 2024), and political party publications (Schumacher and van Kersbergen 2016). Several researchers highlighted the role of populist *style* elements in the communication of politicians. For example, Bossetta (2017) analyzed how populist style elements were adopted by UK politician Nick Clegg. Nai (2021) drew on expert ratings to show that populist campaigns are more negative, and Widmann (2021) showed that populist parties frequently appeal to negative emotions, such as anger and fear.

Further, *social media* has proven to be a crucial channel for populist communication. This channel has been theorized to allow populist politicians to “directly communicate with sympathetic audiences while sidestepping traditional news channels” (Esser, Stępińska, and Hopmann 2017, 377). Journalists of traditional media—which have fulfilled a gatekeeping function, at least in the past—are regarded by populists as representatives of the corrupt establishment (Engesser et al. 2017, 1113; Krämer 2017, 1294; Manucci 2017, 475). The interactive nature of social media (Klinger and Svensson 2015) also brings populist politicians “closer to the people” (Schmuck and Hameleers 2019). The alignment of populist ideology and the features of social media has prompted Gerbaudo (2018) to speak of an “elective affinity” between the two.

Early empirical studies of populism on social media followed an actor-centered approach (Stier et al. 2017; van Kessel and Castelein 2016). Following a communication-centered approach, Engesser et al. (2017) found in a qualitative content analysis that populist messages on social media are often disseminated in a frag-

mented form, rarely including all dimensions of populist ideology. Ernst et al. (2017), corroborated this in a semi-automated content analysis and noted that populist content was more prevalent on Facebook than on Twitter and more prevalent on pages of actors from the political extremes. Schmuck and Hameleers (2019), analyzing Tweets and Facebook posts from Austria and the Netherlands, found that populist communication is more frequent during election campaigns across the political spectrum, but most prevalent on pages of right- and left-wing populist parties.

Ernst, Blassnig, et al. (2019) and Ernst, Esser, et al. (2019) systematically addressed the question of which communication channel political actors prefer for disseminating populist communication by analyzing content from Facebook, Twitter, TV talk shows (N. Ernst, Blassnig, et al. 2019), and news media (N. Ernst, Esser, et al. 2019) from six democracies. They found that social media, particularly Facebook, offers favorable conditions for disseminating populism, although newspapers also play a significant role in this regard (N. Ernst, Blassnig, et al. 2019; N. Ernst, Esser, et al. 2019). The authors interpret these findings to indicate that populist politicians use social media not only to bypass traditional news media, but also to influence them (N. Ernst, Esser, et al. 2019, 184).

To summarize the above discussion, this strand of research has demonstrated the importance of social media, particularly of Facebook, for populist communication that originates from political actors. One direction in which this research should be expanded is to investigate the interactions between politicians and regular citizens on these platforms more thoroughly. While research has begun to investigate the impact of populist content on the scope of user engagement (e.g., Hameleers et al. 2020; Jost, Maurer, and Hassler 2020), there is more to be discovered about citizen-generated content as a source of feedback for politicians (e.g., Heiss, Schmuck, and Matthes 2019). This dissertation focuses on citizen-generated, populist content on Facebook pages operated by news media.

### ***The Media***

Populist messages must be mediated to reach their audience. While the previous chapter has shown that social media is used to circumvent journalistic gatekeepers, traditional news media continue to play an important role in hybrid media

systems (Chadwick 2013)—even for populist politicians (N. Ernst, Esser, et al. 2019) and populist citizens (Stier et al. 2020). Consequently, journalistic media is considered the second key actor in populist communication.

Conceptualizing the relationship between populism and the media, Esser et al. (2017, 367) distinguished between populism *through* the media, populism *by* the media, and populist *citizen* journalism. In populism *through* the media, outlets provide visibility to populist politicians and their messages (Esser, Stępińska, and Hopmann 2017, 369). Mazzoleni (2008, 50; 2003) theorized this as “media complicity”. According to Mazzoleni (2008, 50), newsrooms would follow the market logic of maximizing audience and cover populist politicians as they make for sensational, controversial news stories that attract public attention. Populism *by* the media occurs when media outlets produce and disseminate populist messages on their own account, independent of covering populist politicians (Esser, Stępińska, and Hopmann 2017, 367; Krämer 2014, 42, 48). *Citizen-generated populism* is facilitated by media platforms that allow audience members to share their own views, often through comments sections on news websites or on respective social media pages (Esser, Stępińska, and Hopmann 2017, 371). The latter phenomenon is at the center of interest in this dissertation.

As one aim of this dissertation is to investigate which types of media are particularly susceptible to citizen-generated populism in comments sections, it is worth reviewing what we know about the relationship between media types and populism. Theorists have long suggested an affinity between *tabloid* media and populism, both with regard to populism *by* and *through* the media (Krämer 2014; Mazzoleni 2008; Mazzoleni, Stewart, and Horsfield 2003). According to Mazzoleni (2008, 52), tabloid media—being driven more strongly by market imperatives than quality media—is more likely to cover sensationalist, personalized, and emotional stories served by populist politicians. Upmarket journalists are more deeply integrated into elitist structures and hence more likely to criticize populist challengers than their tabloid counterparts (Mazzoleni 2008, 51). Krämer (2014, 50) adds that tabloid journalism is also likely to produce populism *by* the media, as it responds strongly “to a popular aversion to abstract and theoretical conceptions of society.” Similar arguments have been echoed by Manucci (2017) and Moffitt (2018).

However, the empirical record for a complicity between tabloid media and populism is mixed. Older studies struggled to substantiate this connection, regardless of whether they analyzed media coverage from one country longitudinally (Bos and Brants 2014), from two countries (T. Akkerman 2011), or from five countries (Rooduijn 2014). However, more recent studies—such as Hameleers et al. (2019), which analyzed Dutch media outlets, and Wettstein et al. (2018; 2019), which conducted a large-scale, cross-sectional content analysis of 95 news outlets from ten European countries—found that populist messages occur more frequently in tabloid press than in quality press. However, the general ‘media complicity’ hypothesis (Mazzoleni 2008) was not supported by the latter (Wettstein et al. 2018, 487, 490).

The empirical evidence for a trend toward more populism over time is similarly mixed. Bos and Brants (2014, 717), who analyzed two decades of a variety of Dutch media formats, found a puzzling downward trend of populist content and style in 2012. Manucci and Weber (2017) found low and stable levels of populist content in newspapers from five European countries. However, Hameleers and Vliegenthart (2020) analyzed Dutch newspapers over a period of several decades and found a clear increase of populist content over time. These inconsistent results could be driven by country-specific factors. Hence, one takeaway from these findings could be that populist communication research should strive to substantiate its findings with comparative research designs.

The majority of media populism research has focused on populism *by* and *through* the media (Esser, Stępińska, and Hopmann 2017). This focus has sidelined—with a few notable exceptions (Blassnig, Engesser, et al. 2019; Blassnig, Ernst, et al. 2019; Galpin and Trenz 2019)—questions of how, and in which contexts, *citizen-generated populism* gains visibility on online platforms provided by mass media. A number of crucial research gaps remain. Although there is research on the media diets of populist citizens (e.g., Schulz 2019; Stier et al. 2020), we know little about which types of media attract populist commenters. The same holds for media coverage of certain issues: While issue ownership is well researched for parties and political actors (e.g., Bos et al. 2017), it is unclear whether citizen-generated populism reacts to certain issues more strongly than others. Finally, we lack evidence on how effective the attempts of media outlets are to moderate populist content in com-

ments sections (e.g., Wintterlin et al. 2020). This dissertation aims to provide answers to these questions, drawing on previous research regarding the role of citizens in populist communication.

## ***Citizens***

The study of populist communication would be incomplete without taking into account the third key actor, citizens (Reinemann, Matthes, and Sheafer 2017, 381). Citizens can take on three different roles in populist communication research (de Vreese et al. 2018b, 431): Citizens can either be seen as media *consumers* whose media diet is affected by their populist attitudes or—shifting the focus on media effects—they can be researched as *recipients* of populist communication. Further, citizens can be analyzed as the *originators* of populist messages, which is the perspective adopted in this dissertation. As I show, a majority of studies have focused on the first two aspects, whereas only a few empirical studies have seriously adopted the perspective on citizens as originators of populist communication. This is the most crucial research gap addressed in this dissertation.

### **Citizens as Media Consumers**

A number of studies have investigated populist citizens' patterns of news *consumption*, media preferences, and usage patterns. The first pattern that emerges from the findings is that populist citizens are skeptical towards quality and mainstream media and prefer tabloid or alternative media. Analyzing survey data of Dutch citizens, Hameleers et al. (2017a) found that populist citizens have a preference for tabloidized and entertainment-oriented media, and they harbor populist ideas regarding what the media should ideally provide. Similarly, Schulz (2019), analyzed multi-national survey data and found that populist citizens are more inclined to consume news than non-populist citizens, have a preference for commercial television and tabloid newspapers, and prefer Facebook over Twitter among social media platforms. Using large-scale tracking data from six countries, Stier et al. (2020) found that populist citizens, compared to other citizens, are less likely to visit legacy press websites and more likely to visit hyperpartisan news websites. However, populist citizens do not avoid established news channels altogether, such as public broadcasters' websites (Stier et al. 2020). Adding to these findings,

Müller and Schulz (2021) revealed that populist attitudes are linked to frequent alternative media use.

The pattern that populist citizens prefer tabloid or alternative media over quality or mainstream media also emerges from surveys on *attitudes* regarding the media. Krämer (2014, 453) suspected that populist citizens may entertain a form of “anti-media populism that considers mainstream (non-populist) media as a part of an elite conspiracy”. Populist citizens have indeed been found to adopt a more skeptical stance toward the media (in general) than other citizens (Fawzi 2019; Fawzi and Krämer 2021). People-centric attitudes were found to be correlated with trust in tabloid and commercial media (Fawzi 2019). Schulz et al. (2020) found that populist citizens assume that their own views reflect the opinions of the majority, and perceive the mainstream media as being hostile toward these views.

Other research focused on the *active* role of citizens in media use. For example, Hameleers et al. (2018b) showed in an experiment that citizens who feel deprived selectively expose themselves to populist news stories. In a panel survey, Heiss and Matthes (2020) found that anti-immigrant citizens selectively expose themselves to right-wing populist content on Facebook, which reinforced anti-elitist attitudes.

Populist citizens also appear to have specific tendencies regarding how they use *social media*. While a naïve, direct link between strong social media use and populist attitudes could not be substantiated, there appears to be a link with certain forms of social media use. Groshek and Koc-Michalska (2017) found that supporters of populist candidates in the 2016 US elections used social media in a more passive and uncivil manner than others. Schulz (2019, 103) found that among citizens who consume online news, populist attitudes were strongly correlated with Facebook use. Müller and Schulz (2021) found that frequent users of Facebook and Twitter were also more likely to be exposed to populist alternative media. Jeroense et al. (2022) dug deeper into specific forms of using Facebook and Twitter, using data from the Netherlands. These authors found, in contrast to the findings of Groshek and Koc-Michalska (2017), that populist citizens are more likely than other citizens to actively react to political messages on social media (Jeroense et al. 2022, 211). Similarly, Mede et al. (2023, 14) found, that citizens leaning towards science-related populism are more prone to comment on science-related content

on social media platforms. Populist citizens appear to have a preference for Facebook (Schulz 2019), and are likely to be keen commenters (Jeroense et al. 2022; Mede, Schäfer, and Metag 2023).

Nevertheless, a few of these findings are inconsistent. Against this backdrop, Marcos-Marne et al. (2023, 300) note the importance of considering contextual factors which may vary between countries. In this dissertation, I take this into consideration by pursuing cross-country comparative research designs. Moreover, I aim to complement this strand of research that primarily draws on survey data by analyzing observational data that captures the actual behavior of citizens expressing populist ideas on social media.

### **Citizens as Recipients**

Another strand of populist communication research focuses on citizens as *recipients* and the effects of populist messages. The majority of these studies draw on experimental designs or linkage analyses. Krämer (2014) provided a theoretical framework for the effects of populist messages on citizens. One key argument is that populist messages may activate, through priming (Roskos-Ewoldsen, Roskos-Ewoldsen, and Carpentier 2002) a cognitive “populism schema” (Krämer 2014, 55)—that is, a larger set of cognitions related to populist attitudes. Krämer (2014, 56) argues that this effect would be moderated by previously held populist attitudes.

A number of studies have substantiated these claims, demonstrating that populist messages can activate populist attitudes under certain circumstances (Hameleers, Bos, and de Vreese 2017b; Hameleers et al. 2021; Hameleers and Schmuck 2017; Heiss and Matthes 2020; Müller et al. 2017). Hameleers et al. (2017b), and Hameleers and Schmuck (2017) used populist blame attributions as stimulus material and found positive effects on populist attitudes, which was moderated by respondents’ attachment to national identity (Hameleers, Bos, and de Vreese 2017b), or mediated by sympathy for the sender of the message (Hameleers and Schmuck 2017). In a linkage analysis, Müller et al. (2017), similarly observed that exposure to populist messages reinforced previous support or rejection of populist attitudes. Finally, in an experiment conducted in 15 European countries, Hameleers et al. (2021) found that people-centric messages activated all dimensions of populist attitudes, while the effect of anti-elitist messages was mediated by education and po-

litical extremity. Overall, the empirical evidence for a conditional, activating effect of populist messages on populist attitudes appears rather robust.

By and large, this impression is corroborated by studies that have examined dependent variables that differ from populist attitudes, such as political cynicism (Rooduijn et al. 2017), political engagement (Hameleers et al. 2018), populist voting (Hameleers, Bos, and de Vreese 2018a), or perceived in- and out-group divide (Hameleers and Fawzi 2020).

The underlying mechanism for the activating potential of populist messages has been said to be an *emotional* one (Hawkins, Rovira Kaltwasser, and Andreadis 2020, 286; Magni 2017; Rico, Guinjoan, and Anduiza 2017; Salmela and von Scheve 2018). Wirz (2018) and Wirz et al. (2018) compiled evidence for the emotional impact of populist communication. Linking a content analysis of news media to panel survey data, Wirz et al. (2018) found that populist communication elicits negative emotions, while anti-immigrant statements primarily affected cognitions regarding immigrants (Wirz et al. 2018, 509). Analyzing the persuasiveness of populist messages, Wirz (2018) demonstrated that populist messages elicit emotions and thus have an indirect effect—mostly mediated by anger and hope—on attitudes toward policies (Wirz 2018, 1128). These findings align with the observed correlation between populist attitudes and emotions (Rhodes-Purdy, Navarre, and Utych 2021; Rico, Guinjoan, and Anduiza 2017).

A different strand of literature has focused on the impact of populist messages on social media. Utilizing digital trace data obtained from these platforms, a few of these studies have moved away from experimental designs. These contributions are important complements to the experimental findings, as they can provide higher ecological validity. These studies have mostly addressed the question of whether populist content has a mobilizing effect on user engagement—that is, liking, sharing, or commenting. Bobba (2018) analyzed Facebook posts by the Italian Lega Nord, finding that user engagement on this page was driven by explicitly right-winged content rather than by populist messages. Using experimental data, Blassnig and Wirz (2019) found that users react more frequently to populist messages and that this effect is moderated by populist attitudes but did not find effects for the source of the message (Blassnig and Wirz 2019, 9). In contrast to these findings, Blassnig et al. (2020) found only weak evidence for a mobilizing effect of pop-

ulist content in their analysis of Facebook and Twitter data, reporting significant effects only for a cumulative score of populist messages sent per account (Blassnig et al. 2020, 103); this effect was stronger on Facebook (Blassnig et al. 2020, 103). In addition, in their analysis of Twitter and Facebook data, Hameleers et al. (2020) found populist style to be more clearly associated with user engagement than populist content. Finally, Jost and Hassler (2020) found that anti-elitist messages in posts of German politicians receive more ‘angry’ Facebook-reactions, while people-centric content elicited ‘love’ reactions.

The key takeaways from the reviewed studies can be summed up as follows: Populist messages can activate larger clusters of previously formed populist attitudes (Hameleers, Bos, and de Vreese 2017b; Hameleers et al. 2021; Hameleers and Schmuck 2017; Heiss and Matthes 2020; Müller et al. 2017) and appear to mobilize users to engage with social media content under certain conditions (Blassnig et al. 2020; Blassnig and Wirz 2019; Bobba 2018). Emotions, particularly anger, are likely to play an important role in the mechanisms that underpin these connections (Wirz 2018; Jost, Maurer, and Hassler 2020).

However, the literature on the effects of populist messages is characterized by a certain one-sidedness: The majority of studies investigate attitudinal effects, based on experimental data (Hameleers, Bos, and de Vreese 2017b; Hameleers et al. 2021; Hameleers and Schmuck 2017; Heiss and Matthes 2020; Müller et al. 2017). Other studies, which have examined behavioral observations using digital trace data are often confined to user engagement metrics (Blassnig et al. 2020; Bobba 2018; Hameleers et al. 2020; Jost, Maurer, and Hassler 2020). Here, I argue, that we can obtain a more nuanced understanding if we analyze the content of user-generated responses to populist messages. We take this route in *Paper III* by examining the deliberative quality of replies to populist comments on Facebook.

### **Citizens as Originators of Populist Communication**

‘The people’ are the central point of reference of populist ideology (Canovan 1999; Mudde 2004; Taggart 2000). In the populist worldview, the people’s will should drive politics and should be expressed loud and clear as “vox populi” (Abts and Rummens 2007, 408), imagined as “one voice” (Kriesi 2018, 7). Populist citizens favor expressive modes of political participation (Anduiza, Guinjoan, and Rico 2019) and are keen commenters on social media (Jeroense et al. 2022).

Communication scholars have repeatedly theorized citizens as disseminators of populist messages in online publics, labelling this phenomenon “populist citizen journalism” (Esser, Stępińska, and Hopmann 2017, 371) or “populist non-elite actors to enter the arenas of communication” (Engesser, Fawzi, and Larsson 2017, 1284). De Vreese et al. (2018a, 430) highlighted that citizens take an active role in populist communication by “expressing themselves in reaction to news coverage [...] or by initiating or engaging with populist messages on social media.” Despite the theoretical acknowledgment, empirical research on citizen-generated populist communication remains scant. Thus, although the “striking paradox” (Aalberg and de Vreese 2017, 4)—that is, the imbalance between theoretical recognition and empirical research—has been resolved for populist communication in general, it persists with regard to citizen-generated populism.

Only a few empirical studies have analyzed citizen-generated populist communication. Among the first scholars to analyze such content was Hameleers (2018; 2019b; 2019a). Hameleers (2018) conducted a qualitative analysis of Facebook and Twitter posts of politicians from the US, the UK, and the Netherlands, as well as citizens’ comments. This contribution improved the conceptual understanding of citizen-generated populist communication, acknowledging that “citizens can be perceived of as mass self-communicators, shifting between populist communicators and populist receivers” (Hameleers 2018, 2182), and provided initial evidence for the existence of this phenomenon in user comments. Hameleers (2019b) dug deeper into content on Dutch populist Facebook community pages, finding highly emotional and hostile constructions of group identities, and little viewpoint divergence. He concludes that the analyzed content is “inherently anti-democratic” and poses a risk to deliberation (Hameleers 2019b, 160–61).

Galpin and Trenz (2019) introduced the concept of “participatory populism.” Acknowledging that interactive online elements—such as comments sections on news websites—have transformed today’s public spheres, the authors focus on collective expressions of discontent in these spaces. They define “participatory populism” as instances “in which selected users engage collectively as a unified voice to express discontent with political representatives and institutions” (Galpin and Trenz 2019, 782), which may, purposefully or incidentally, create the impression that the comments section represent ‘the people’s’ will (Galpin and Trenz 2019, 782). Galpin

and Trenz (2019, 787–88) operationalized anti-elitism as negativity towards mainstream institutions and analyzed the first 20 user comments below 111 online news articles on the European Parliamentary election in 2014 from Germany and the UK. The authors found a “strong opposition to the EU institutions and candidates as well as highly negative views of domestic government and opposition parties” (Galpin and Trenz 2019, 794) in the comments, a higher frequency of populist expression on tabloid news websites from the UK, and male bias among populist commenters, judging from the usernames.

Despite its valuable explorative contribution and the appealing theorization of populist comments, that study has weaknesses. As reflected by the authors themselves (Galpin and Trenz 2019, 795), their measurement of negativity toward mainstream institutions is not a comprehensive operationalization of populist content. Moreover, the analyzed sample is small, reliability scores are low, and the results of significance tests were partially omitted (Galpin and Trenz 2019, 787, 793, 795). This leaves ample room for methodological improvement. Finally, empirically focusing on aggregate outcomes, the authors leave it open to conjecture which mechanisms they assume at a micro level.

Crucially advancing the state of the research, Blassnig et al. (2019; 2019) conducted a fine-grained quantitative content analysis of populist communication in news stories and user comments on news websites from France, the UK, and Switzerland. The selected news outlets cover up-market and mass-market print, public and private TV broadcasters, and online media (Blassnig, Engesser, et al. 2019, 636; Blassnig, Ernst, et al. 2019, 1117). Both studies focus on election periods and immigration news. For  $n=332$  (Blassnig, Engesser, et al. 2019, 636), and  $n=358$  (Blassnig, Ernst, et al. 2019, 1118) articles, respectively, these studies analyzed the first ten user comments.

Blassnig et al. (2019, 1122) found that populist key messages are widespread in user comments, observing at least one populist message in 34% of the comments and in 87% of the comments sections (Blassnig, Ernst, et al. 2019, 1119). Anti-elitist messages were observed most frequently, followed by people-centrism and popular sovereignty being the least frequent dimension (Blassnig, Ernst, et al. 2019, 1121). In the follow-up study, Blassnig et al. (2019) linked populism in the news to populist comments. Drawing on Krämer’s (2014) theorizing of a “populism schema,” the

authors argued that fragments of populist ideology can activate larger clusters of populist ideas (Blassnig, Engesser, et al. 2019, 634). As this may also spark emotions (Wirz 2018) and identity-based collective action frames (Hameleers et al. 2018; van Zomeren, Postmes, and Spears 2008), populist citizens are likely mobilized to express these attitudes in the comments sections (Blassnig, Engesser, et al. 2019, 633). The authors found that news items that included populist messages were associated with more user comments in general and more populist comments (Blassnig, Engesser, et al. 2019, 640, 642). However, the authors report to have found no effects of the type of media outlet (Blassnig, Engesser, et al. 2019, 642).

While the two studies by Blassnig et al. (2019; 2019) have greatly improved the state of the research on populist communication in user comments, many questions still remain unaddressed. Importantly, the question raised by the authors themselves in the discussion of the first paper—how “populism in reader comments is influenced by characteristics of the article or other context factors” (Blassnig, Ernst, et al. 2019, 1124)—deserves further inspection. Thus far, little is known regarding the impact of issue-specific coverage and coverage of elites in the news. Moreover, more aggregate contextual factors—such as the impact of policies or governmental decisions—deserve to be analyzed. The non-finding with regard to the media type raises the question of whether this holds in other contexts and countries; particularly against the backdrop of inconsistent findings in the literature on media populism (Bos and Brants 2014; Hameleers and Vliegenthart 2020; Rooduijn 2014; Wettstein et al. 2019). Finally, the question arises regarding how media outlets and journalists can actively influence the levels of populism in their content sections, for example through moderation (Wintterlin et al. 2020).

Moreover, the two studies by Blassnig et al. (2019; 2019) build on narrow design choices, focusing exclusively on news coverage of the topic of immigration during election periods, raising questions regarding the generalizability of the findings. The data obtained in both studies was restricted to the first ten user comments per news item. This raises questions regarding the robustness of the findings. Given that certain online news items attract hundreds of user comments, ten comments appear to be an unnecessarily thin empirical foundation.

Equally important as the question of the contexts of citizen-generated populist communication is the question of its consequences. Neither of the studies reviewed here has directly addressed this question. While research has revealed that populist messages can have an impact on attitudes (Hameleers, Bos, and de Vreese 2017b; Hameleers et al. 2021; Hameleers and Schmuck 2017; Heiss and Matthes 2020; Müller et al. 2017) and behavior (Blassnig et al. 2020; Bobba 2018; Hameleers et al. 2020; Jost, Maurer, and Hassler 2020), little is known about how populist expressions in comments sections influence the interaction among users. Since populism has been theorized to have an ambivalent relationship with democracy (e.g., Abts and Rummens 2007; Canovan 1999; Finchelstein and Urbinati 2018; Mudde and Rovira Kaltwasser 2012a) and some scholars characterize populist communication as downright damaging to democracy (Hameleers 2019b; Waisbord 2018b), the question of its impact on the democratic quality of online discussions arises. Against the backdrop of these research gaps, I aim to provide answers to the following two overarching research questions in this dissertation:

**RQ-I:** *Which contextual factors shape the level of populism in user comments on social media?*

**RQ-II:** *What are the consequences of populist comments for democratic discussions among users?*

## **2.3. Populism in Comments Sections**

To address both research questions, it is essential to situate user comments within a theoretical framework of public spheres, which informs my analytical understanding of contextual factors and provides a normative orientation for assessing the democratic impact. First, I clarify the conceptual understanding of user comments, emphasize the relevance of studying them, and highlight previous findings (*Chapter 2.3.1*). Second, I introduce the concept of public spheres along with critical updates for the digital age (*Chapter 2.3.2*). In *Chapter 2.3.3*, I suggest considering populist comments as part of digital *counterpublics* (Toepfl and Piwoni 2015). Addressing a critique of using this label for non-progressive publics (Jackson and Kreiss 2023), I propose to gauge the democratic implications of populist comments against *deliberative* norms—which provide a normative corrective that can be empirically assessed in citizen-generated content (e.g., Friess and Eilders 2015). These two analytic lenses derived from public spheres theory—counterpublics and delib-

eration (Toepfl and Piwoni 2015)—also guide the organization of this dissertation. The counterpublics framework guides the empirical analysis of contexts of populist comments, which are the focus of *Papers I and II*. Shifting the focus to the consequences of populist comments for democratic debates among users, *Paper III* operationalizes concepts derived from a deliberative framework. *Chapter 2.3.4* presents a model of user commenting behavior that guides the empirical analyses, clarifies the levels and units of analysis, and introduces the key arguments and hypotheses tested in the three papers.

### 2.3.1. User Comments

Broadly, user comments can be defined as a “computer-mediated, public, and interpersonal form of communication, which is published in connection with online content” (Schindler and Domahidi 2021, 2478). This feature is frequently employed on news websites (e.g., Springer 2014; Ziegele and Quiring 2013), on social media platforms (e.g., Humprecht, Hellmueller, and Lischka 2020), and wherever website operators consider feedback from users or customers helpful. User comments have become a “standard feature of the web 2.0.” (J. Ernst et al. 2017, 4). In this dissertation, I focus on user comments that gain high visibility by being published in immediate proximity to mass-mediated content. Therefore, the understanding of user comments underpinning this dissertation is a narrower one, aligning with the definition provided by Ziegele und Quiring (2013, 131):

“[A]n online user comment as a computer-mediated, written, public, and asynchronous subcategory of MSIC [media-stimulated interpersonal communication] that is published in the immediate context of a news item on the websites of mass-media organizations (such as NYtimes.com) or on their respective presences within other online communication services (such as facebook.com/NYtimes). A sequence of online user comments [...] is defined as an online discussion.” (Ziegele and Quiring 2013, 131)

The space where such user comments can be found is referred to as the comments section, which are located below news stories, whether they are published on a news website or on a social media platform. The focus of this dissertation is on comments on news media Facebook pages. Facebook continues to be the most popular social media platform for consuming online news (Newman et al. 2022). Researching user comments below the news is relevant for at least six reasons:

*First*, commenting on online news is *widespread* and considered “(one of) the most popular form(s) of public online participation” (Ziegele, Springer, et al. 2018, 318). According to the Reuters Digital News Report (DNR) 2023, which surveyed 93,000 respondents across 46 countries, 18% of online news users comment on news stories on social media, compared to 9% doing so on news websites (Eddy 2023, 38). Using DNR 2016 data from five European countries and the US, Kalogeropoulos et al. (2017, 2) found that 13%–34% of online news users comment regularly. Reading user comments is even more common, with 31% of online news users doing so regularly on social media (Eddy 2023, 38). Although commenters are a minority, they exceed the infamous “1% rule” (Horowitz 2006), which claims that only 1% of users are highly active, 10% are somewhat engaged, and 90% are lurkers (Kalogeropoulos et al. 2017, 2). Further, engagement rates vary by country—30% of Austrian respondents comment regularly, compared to merely 9% in France (European Commission 2016, 16). Commenting participation is also skewed toward males across countries and decades (Friemel and Dötsch 2015; Peacock and Van Duyn 2023; Springer 2014; Springer, Engelmann, and Pfaffinger 2015; Ziegele et al. 2013; for a contrast, see Kalogeropoulos et al. 2017, 8). While the uneven participation rates indicate that user comments do not represent the general public opinion, they can influence what is *perceived* as public opinion by other users (Friemel and Dötsch 2015; Neubaum and Krämer 2017; Zerback and Fawzi 2017).

*Second*, user comments below mass-mediated news offer citizens the opportunity to reach a *large audience*, thereby distinguishing this form of user-generated content from others (Springer and Kümpel 2018, 242). Castells (2007, 248) describes this as “mass self-communication”—communication that is self-generated, self-directed, and self-selected but can reach “potentially a global audience”. On social media, this wide audience blends with “personal publics” (Schmidt 2013), as a user’s comments are often shown to the user’s personal network (Rowe 2015b, 542). Social media, as defined by Carr and Hayes (2015, 50) are “Internet-based channels that allow users to opportunistically interact and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others.” Motivations for commenting on Facebook include seeking discussions, exchanging information, self-presentation, and entertainment, thus combining cognitive and social motives (Macafee 2013, 2770). While these findings include private

commenting behavior on Facebook, social and self-expressive motives could be expected to be more important for commenting on social media than they have been found to be for commenting on news websites (Springer, Engelmann, and Pfaffinger 2015, 808). The mix of interpersonal and political communication makes user comments a particularly interesting subject for study (Shah et al. 2017).

*Third*, expressing political views in comments sections below online news constitutes a form of *political participation* and is part of what Theocharis (2015) calls “digitally networked participation”. Van Deth’s (2014, 349) seven criteria for recognizing political participation help to clarify this: Political participation must be (1) an *activity*, (2) *voluntary*, (3) conducted by *citizens*, and have a certain connection to *politics* (4-7). Posting political user comments falls into the most broadly defined category of political participation, as it fulfils criteria 1–3 and *expresses political intentions* (7) (van Deth 2014, 354–59). Theocharis and van Deth (2018, 150) argue that digitally networked participation extends the *repertoire* of existing participation modes, while Anduiza et al. (2019, 109) describe it as “non-institutional expressive modes of participation,” linking it to populist attitudes. Knoll et al. (2018, 137) suggest categorizing participation by the effort involved, with posting political user comments being low-effort (Knoll, Matthes, and Heiss 2018, 137). Regardless of whether digital political participation is considered a distinct mode, its real-world manifestations, contexts, and consequences merit closer study.

*Fourth*, user comments have normative implications from a public spheres perspective, particularly from the perspective of *deliberative* democracy (Habermas 2023; Dahlberg 2011, 859). Comments “enable interactivity between the discussants” (Ziegele and Quiring 2013, 132), which is central to deliberation—understood as a “rational, constructive, reciprocal, and respectful exchange of reasons among equal participants” (Friess, Ziegele, and Heinbach 2020, 626) that is regarded as being beneficial to democracy (Mutz 2008, 530). Early scholars were optimistic that the Internet would foster this kind of interaction (Graham and Witschge 2003; Papacharissi 2002). Empirical studies have since investigated whether comments meet these standards (e.g., Collins and Nerlich 2015; Graham and Wright 2015; Parra, Ayerdi, and Fernández 2020), which factors influence their deliberative quality (Beckert and Ziegele 2020; Esau, Friess, and Eilders 2017; Friess, Ziegele, and Heinbach 2020; Manosevitch, Steinfeld, and Lev-On 2014; Rowe 2015b; Stroud

et al. 2015; Ziegele et al. 2020), and the effects of adhering to these norms (Hwang, Kim, and Huh 2014; Schäfer, Müller, and Ziegele 2024). Earlier studies drew positive conclusions (Graham and Wright 2015; Rowe 2015b; Ruiz et al. 2011; J. Singer 2009), but a more pessimistic view prevails today (Ziegele et al. 2020, 861), which is supported by findings of widespread incivility in comments (e.g., Coe, Kenski, and Rains 2014; Su et al. 2018), particularly on controversial topics (Ziegele et al. 2020, 880). This led some news outlets to ban comments sections on their websites, thereby limiting user discussions to social media platforms like Facebook (Nelson, Ksiazek, and Springer 2021; Kim, Lewis, and Watson 2018, 1; Ziegele et al. 2020, 861). Rowe (2015b, 552; 2015a, 132) found, focusing on *The Washington Post*, that Facebook comments exhibit a lower deliberative quality, but—paradoxically—also lower levels of incivility. Esau et al. (2017) found that Facebook comments in the context of German news outlets are characterized by the lowest deliberative quality but match website comments in terms of reciprocity. Facebook’s comments section (cf. Peacock and Van Duyn 2023) invites users to reply to each other, which will be explored in the third paper of this dissertation, which focuses on reciprocal commenting and deliberative quality.

*Fifth*, user comments have also attracted the attention of scholars interested in *counterpublics* (Fraser 1990). Toepfl and Piwoni (2015, 466) argue that the comment sections below news provide space for expressions that challenge the dominant, mass-mediated discourse. This perspective shifts the focus to interactions between mass-mediated publics and user-generated counterpublics (Toepfl and Piwoni 2015, 483). It also moves the focus away from deliberative criteria to discourses that appeal to emotions and identities (Toepfl and Piwoni 2015, 469, 475; Mouffe 1999, 755–56). This analytical lens helps to understand the contextual factors that shape populism in comments sections, which is the focus of *Papers I and II* of this dissertation. The counterpublics framework has been fruitfully applied to studying online comments of far-right activists (Kaiser 2017; Lien 2024; Toepfl and Piwoni 2015; 2018). However, historically, the concept of counterpublics was linked to progressive movements (Jackson and Kreiss 2023). The attempt to “de-normativize” (Kaiser and Rauchfleisch 2019, 244) the concept and to subsume far-right activists under that label has been criticized (Jackson and Kreiss 2023, 106). In *Chapter 2.3.3*, I address this criticism and defend the analytical value of viewing

populist comments as counterpublic expressions while acknowledging the need for a normative corrective.

*Sixth*, user comments can have an *impact* on other users. Empirical research has adapted the spiral of silence theory—according to which the perceived opinion climate influences citizens’ readiness to speak out (Noelle-Neumann 1974; 1993)—to online comments, finding limited evidence in initial studies (Neubaum and Krämer 2017; Zerback and Fawzi 2017). However, in a comparative study, Eilders and Porten-Cheé (2022) struggled to replicate these findings for Germany and found effects of user comments on the perception of public opinion only in the collectivistic context of South Korea. Ziegele, Weber, et al. (2018) found that specific message characteristics of comments affect the willingness of others to comment. Behavioral effects beyond online settings have been investigated by Sun and Lu (2023), who found that user comments can influence people’s willingness to get vaccinated against COVID-19. User comments also affect perceptions of news, influencing perceived media bias (Lee 2012), news credibility (Naab et al. 2020; Waddell 2018), and journalistic quality (Prochazka, Weber, and Schweiger 2018). In addition, Liu and McLeod (2019) found that comments can counter-frame editorials on news websites. Finally, comments are feedback loops that can influence the work of journalists (Hanusch and Tandoc 2019; Lee and Tandoc 2017) and politicians (Heiss, Schmuck, and Matthes 2019; Russmann 2018).

This overview has shown that user comments are a highly relevant subject to study, raising a variety of empirical questions and carrying substantial normative implications for the democratic process. While it is essential for empirical research to disentangle normative from empirical questions, it would be misguided to completely ignore normative concerns (Kaiser and Rauchfleisch 2019, 244). Research interest in both user comments (e.g., Dahlberg 2011; Ruiz et al. 2011) and populism (e.g., Abts and Rummens 2007; Canovan 1999) is driven not least by normative questions about their implications for our democracies. To arrive at a normatively meaningful, yet analytically precise, framework for researching the contexts and consequences of populism in comment sections, I embed these concepts in a discussion on public spheres theories.

### 2.3.2. Public Spheres

The concept of the public sphere was introduced to the social sciences by Jürgen Habermas (2023 [1962]). In a nutshell,

“a functioning public sphere is understood as a constellation of communicative spaces in society that permit the circulation of information, ideas, debates ideally in an unfettered manner—and also the formation of political will (i.e., public opinion)” (Dahlgren 2005, 148).

According to Habermas, the bourgeois public sphere is constituted by citizens engaging in *deliberation*—that is, discursive interaction characterized as “unrestricted rational discussion of public matters” (Fraser 1990, 59) in which status differences are bracketed and which is, in principle, accessible to everyone (Habermas 2023, 97–98; Dahlgren 2018, 150; Fraser 1990, 59). The proponents of deliberation argue “that democracy resides, ultimately, with citizens who engage in talk with each other” (Dahlgren 2005, 149; cf., Habermas 2023, 57). Ideally, this process leads to the formation of public opinion in the sense of mutual enlightenment and consensus (Dahlberg 2011, 860; Fraser 1990, 59; Habermas 2023, 291).

Obviously, the bar has been set high for reality to meet this ideal. Unsurprisingly, Habermas’ concept has also received criticism. One objection is that “the” public sphere, referred to in the singular form, is little more than a “convenient fantasy” (Hartley and Green 2006, 346–47). According to Dahlgren (2005, 148) “sociological realism points to the plural”—that is to a multiplicity of public spheres. Among the first to formulate this objection was Nancy Fraser (1990). Fraser (1990, 59) contends that “despite the rhetoric of publicity and accessibility,” Habermas’ notion of the bourgeois public sphere overlooks that it “rested on, indeed was importantly constituted by, a number of significant exclusions” based on gender, class, and race. However, Habermas failed to acknowledge “that the bourgeois public was never *the* public” but accompanied by “a host of competing counterpublics” (Fraser 1990, 61). Further, Fraser (1990, 67) defines *subaltern counterpublics* as “parallel discursive arenas where members of subordinated social groups invent and circulate counterdiscourses, which in turn permit them to formulate oppositional interpretations of their identities, interests, and needs.” Instead of fearing the multiplicity of competing publics as a step away from democracy, like Habermas, Fraser (1990, 62, 70) embraces this plurality as fostering participatory parity. Her empha-

sis on identities formed in discursive conflict aligns her with “agonistic” models of democracy (Mouffe 1999; Toepfl and Piwoni 2015, 469).

That ‘the’ public sphere is better conceived in its plural form as multiplicity of public spheres is also a fundamental insight of internet research (Bruns 2023, 70). The Internet and social media have reshaped “the opportunity structures by which people [...] can participate in an increasingly mediatized society” (Livingstone 2013, 24). According to Benkler (2006, 10–11), the emerging digital “networked public sphere” provides “anyone with an outlet to speak, to inquire, to investigate, without need to access the resources of a major media organization.” The Internet has proliferated the opportunities for participation in public discourse by radically lowering the transaction costs for citizens to communicate and to engage with each other (Farrell 2012, 39). However, not only have the opportunities for participation proliferated, but so have the number of platforms on which interaction can take place (van Aelst et al. 2017). These changes have altered the logic of political communication (Klinger and Svensson 2015), political conversation (Shah et al. 2017), and political participation (Boulianne 2019; Knoll, Matthes, and Heiss 2018), as well as they have transformed the understanding of the public sphere itself (Benkler 2006; Bruns 2023).

In view of the multitude of spaces in which information can be obtained and exchanged, it “seems clear that ‘the’ public sphere is now irretrievably fractured into a multiplicity of online and offline, larger and smaller, more or less public spaces that frequently (and often serendipitously) overlap and intersect with one another” (Bruns 2023, 70). To account for this multiplicity, researchers have come up with a number of new terms (Bruns 2023, 70), for example, “public spheres” (Dahlgren 2009), “public sphericules” (Cunningham 2001), or “personal publics” (Schmidt 2013). Despite this diversification of terms, the phenomena designated by them by and large fulfill the same functions as those assigned to ‘the’ public sphere:

“[I]t enables the rapid if uneven dissemination of information and formation of personal and public opinion, and sustains a myriad of spaces for discussion and argument at varying levels of publicness, insight, and civility” (Bruns 2023, 70).

However, the very features of online platforms that enable these functions also provide opportunities for adverse phenomena (Bruns 2023, 70). Unlike early cyberoptimists (e.g., Benkler 2006), empirical Internet research increasingly

acknowledges forms of “dark participation” (Quandt 2018) in online public spheres. In particular, comments sections are plagued by forms of dark participation, which include hate speech (e.g., Erjavec and Kovačič 2012; Paasch-Colberg et al. 2021), trolling (e.g., McCosker 2014), and spreading mis- and disinformation (e.g., Bruns, Harrington, and Hurcombe 2020; Metzger et al. 2021). The patterns of dark user engagement can be driven by spontaneous expressions of individuals, intentional activities of groups or movements (Quandt 2018, 42), or even by state-backed influence operations (Keller et al. 2020; Lukito 2020). The abundance of disruptive communication phenomena that appear to be proliferating alongside the rise of populism prompted Bennett and Pfetsch (2018, 245) to speak of “disrupted public spheres”.

Despite these challenges, it is important that empirical research on online publics does not succumb to mere pessimism or optimism, but acknowledges ambivalences. Following Bruns (2023, 70), this includes to “bridge the gap between the traditional, normative emphasis on rational deliberation and the overwhelming evidence for the critical importance of affect in everyday communication and decision-making”. The design of this dissertation seeks to build such a bridge by considering populism in comments sections as counterpublics (*Papers I and II*) that thrive in contexts which trigger “passions” (Mouffe 1999, 756) on the one hand, and gauges its consequences against deliberative norms (*Paper III*) on the other.

### 2.3.3. Populist Counterpublics

According to Toepfl and Piwoni (2015, 465–66), there are two key analytical lenses that can be employed for researching user comments from a public spheres perspective: A framework focusing on *deliberation* (Habermas 2023; Ziegele et al. 2020; Friess and Eilders 2015) and another focusing on *counterpublics* (Fraser 1990), which is promoted by the two authors themselves. In this chapter, I argue that for addressing the two overarching research questions of this dissertation, a combination of both frameworks is most useful. The counterpublics approach provides useful conceptual tools for understanding the contexts in which populist user comments occur. I defend the analytical value of this approach against a recent normative critique by Jackson and Kreiss (2023). However, I share those authors’ normative concerns with regard to (right-wing) populism. As the counterpublics

framework itself offers little to assess the democratic quality of discourse, I suggest using the deliberative framework as a corrective.

Populist user comments can be considered part of *counterpublics* as conceptualized by Toepfl and Piwoni (2015). These authors argue, following Fraser (1990), that the “public-at-large,” is “comprised of a multiplicity of unequal (sub)public spheres” (Toepfl and Piwoni 2015, 469), which can be differentiated along three aspects: (1) The *communicative space* in which a public sphere is located, (2) characteristic *discursive patterns*, and (3) its *participants* (Toepfl and Piwoni 2015, 469–70). This helps to analytically differentiate between the public (sub-)spheres of mass-mediated content, disseminated by professional news outlets on their websites and social media channels, and citizen-generated content in comments sections (Toepfl and Piwoni 2015, 470). This framework also enables the differentiation between *strong* publics that are equipped with decision-making power, such as parliaments, and *weak* publics that lack this power (Fraser 1990, 75). The framework draws researchers’ attention to spaces in which unequal public spheres collide and interact with each other (Toepfl and Piwoni 2015, 483), as is the case with user comments below online news.

Comments sections in themselves do not yet constitute counterpublics. However, they can become spaces in which counterpublics flourish. Toepfl and Piwoni (2015, 470–71) suggest thinking of the publics constituted by citizen-generated content as being further fragmented into sub-public spheres that either align with mainstream discourses, or constitute *counterpublic* spheres, which are characterized by counterpublic discursive patterns. The latter is defined by the authors as talk that (1) sets itself apart from a superordinate, allegedly dominant and mainstream public sphere; (2) challenges the dominant consensus; and (3) seeks to strengthen a collective identity (Toepfl and Piwoni 2015, 471).

All three aspects are reflected in the key messages of populist communication defined in *Chapter 2.2.3* of this dissertation (see also Galpin and Trenz 2019, 794). Populist messages are inherently anti-mainstream as they attack the “corrupt elite” (Mudde 2004, 543), allegedly depraved powerholders (Aslanidis 2018, 1255), and all sorts of established institutions and actors, whether political or journalistic (Blassnig, Engesser, and Esser 2016, 14; Blassnig, Engesser, et al. 2019, 637). Populist messages appeal to a collective identity by invoking the people as a virtuous,

homogeneous in-group (Aslanidis 2018, 1255; Blassnig, Engesser, et al. 2019, 637). Moreover, citizen-generated populism challenges the dominant consensus by presenting itself as a rebellion of the ‘silent majority’ that no longer accepts being ignored (Mudde 2004, 557; Wirth et al. 2016, 8).

In addition to its analytical clarity, three general hypotheses regarding the contexts of populist counterpublics can be derived from the counterpublics framework, which guide the research design of *Papers I and II*. First, citizen-generated populist counterpublic discourse can be expected to flourish in contexts that trigger strong *emotions* (Toepfl and Piwoni 2015, 475). This expectation aligns with what we know from populism research (Hameleers, Bos, and de Vreese 2017b; Magni 2017; Rico, Guinjoan, and Anduiza 2017; Salmela and von Scheve 2018; Wirz 2018). Second, Toepfl and Piwoni (2015, 484) expected that counterpublic discourse in comments sections would thrive in a setting that “systematically disregards the views of a vocal minority on a specific issue.” The COVID-19 pandemic arguably constitutes such a situation, as it was characterized by initial rallying-around the flag in support of restrictive policies (Bol et al. 2021; Schraff 2021) and subsequently moralized sanctioning of non-compliance (Rains et al. 2022). Following a most-likely strategy in case selection (Levy 2008, 12), *Papers I and II* focus on this crisis. Third, the counterpublic framework offers an alternative hypothesis for the connection between media type and populism in user comments. Instead of expecting homophily between user-generated populism and tabloid media (Blassnig, Engesser, et al. 2019; Mazzoleni 2008), a counterpublic framework would expect to find populist comments in spaces where they generate friction and conflict, such as on pages of public broadcasters which represent the established mainstream (Toepfl and Piwoni 2015, 484).

### ***‘Counterpublics’ or ‘Defensive Publics’?***

Despite its analytical appeal, Toepfl and Piwoni’s (2015) approach has been criticized on normative grounds (Jackson and Kreiss 2023). In particular, Jackson and Kreiss (2023, 106) criticized the assignment of the label “counterpublics” to far-right movements, which was adopted by a number of studies (e.g., Kaiser 2017; Reinhardt, n.d.; Toepfl and Piwoni 2015; 2018). These attempts to “de-normativize” (Kaiser and Rauchfleisch 2019, 244) the concept of counterpublics would forget that it has been historically associated with progressive movements,

such as queer, feminist, and anti-racist movements (Jackson and Kreiss 2023, 102–3). According to Jackson and Kreiss (2023, 106), labelling far-right publics as *counter*-publics would overlook that the movements that constitute these publics align with, and strive to perpetuate, established power structures. This would obscure differences between democratic and anti-democratic publics and re-affirm the self-portrayal of far-right movements as anti-mainstream (Jackson and Kreiss 2023, 106). Instead, the authors suggest labelling far-right publics as “defensive” publics (Jackson and Kreiss 2023, 102), adding three commandments:

“First, normatively scholarship should not equate movements for democracy with movements against democracy [...]. Second, distinguishing between counterpublics and defensive publics helps us see that it is only the former that furthers the idealized public spheres imagined by classic scholarship [...]. Third, researchers should not be in the practice of simplifying their theories in order to do the research they desire [...].” (Jackson and Kreiss 2023, 108)

While I agree that there is a fundamental difference between progressive and far-right movements, three shortcomings undermine the argument of the authors: First, Fraser’s (1990) original concept explicitly provides for the inclusion of “nationalist” (Fraser 1990, 61) as well as “anti-democratic and anti-egalitarian” (Fraser 1990, 67) publics in the counterpublics concept. This should be recognized if we want to avoid the simplification of theories received (Jackson and Kreiss 2023, 108).

Second, Jackson and Kreiss’ (2023, 102, 106) suggestion to label far-right publics as “defensive” publics instead of “counter” publics ignores that the former equally echoes a far-right self-representation—that is, that of the *defender*, be it of the occident (Cusumano 2022) or of the traditional family (Tebaldi 2023). The questionable normative gain comes at the cost of an analytical loss—ignoring the anti-mainstream dimension overlooks that an upward, vertical antagonism is a key element of far-right ideology and self-presentation, particularly when it takes the form of right-wing *populism* (Abts and Rummens 2007, 418; Fawzi and Krämer 2021; Hameleers 2019a; Mols and Jetten 2016; Toepfl and Piwoni 2018). Recently, Henriksen (2024) introduced concept of “anti-systemic counterpublics” that “seek to fundamentally undermine the legitimacy of the dominant socio-political order” (Henriksen 2024, 2019). This concept is analytically more useful than the term “defensive publics” (Jackson and Kreiss 2023, 102, 106), as it does help to delineate regressive and progressive counterpublics without omitting the vertical, anti-establishment dimension. While Henriksen (2024) argued that anti-lockdown pro-

testors fall into this category, the conceptual fit with populist counterpublics—which are not necessarily anti-system—remains to be discussed.

Third, empirical reality is often messier than the authors' distinction between democrats and anti-democrats suggests (Jackson and Kreiss 2023, 108). This becomes particularly evident for *populism*, which is constituted by an ambivalent relationship with democracy (Canovan 1999; Mudde and Rovira Kaltwasser 2012a). Additionally, not all research settings enable an analysis of the underlying socio-structural power relations, as demanded by Jackson and Kreiss (2023, 106). For example, in certain scenarios, no information regarding the social position of the involved actors can be obtained. This is the case for the material studied in this dissertation as well. In contrast, Toepfl and Piwoni's (2015, 471) framework allows me to adopt a communication-centered approach (Stanyer, Salgado, and Strömbäck 2017, 354) to studying populist counterpublics that is attentive to empirical nuances and ambivalences.

### ***Deliberative Norms as a Corrective***

Conceptualizing user-generated populism as counterpublics, does not force researchers to be uncritical of the studied content. I agree with Jackson and Kreiss (2023) that far-right discourses do not enrich democratic debates. Normative reservations also apply to populist communication (Waisbord 2018b), albeit in a more ambivalent manner. Against the backdrop of an increasing scholarly awareness of “dark participation” (Quandt 2018), the judgment of Toepfl and Piwoni (2015, 485) sounds somewhat naïve, who “can think of no compelling arguments against viewing counterpublic spheres, as they are likely to emerge in comments sections, as enriching and welcome additions to extant public spheres at large”. Then, the question that arises is how to assess the democratic impact of populist counterpublics.

Normatively, the counterpublics theory embraces the proliferation of public spheres and extended participation, irrespective of the discursive norms that characterize these spaces (Fraser 1990, 63, 67). However, in view of today's online publics, it must be acknowledged that not all forms of participation have desirable consequences for democracy (Quandt 2018). For example, prejudiced user comments can trigger further prejudiced comments (Hsueh, Yogeewaran, and Ma-

linen 2015) and “uncivil, aggressive, and ‘off-topic’ comments are likely to heat up the subsequent debate” (Ziegele, Weber, et al. 2018, 1432). Marginalized groups, to which progressive counterpublics want to give a voice, are particularly frequently targeted by dark participation (Gardiner 2018). Since low discussion standards are “presumably the prime and most relevant reason” (Springer, Engelmann, and Pfaffinger 2015, 811) for avoiding comments sections, increased ‘dark’ participation by counterpublic commenters may drive away the very groups that are genuinely marginalized (Jackson & Kreiss, 2023, p. 105).

Communicative norms make a difference in democratic interaction. Even Fraser, who argued that deliberative norms “can serve as a mask for domination” (Fraser 1990, 64) and have been used as markers of inequality and exclusion (Fraser 1990, 63), acknowledges the importance of discursive norms:

“The question is: would participants in such debates share enough in the way of values, expressive norms, and, therefore, protocols of persuasion to lend their talk the quality of deliberations aimed at reaching agreement through giving reasons?” (Fraser 1990, 69)

However, the counterpublics framework provides no criteria for evaluating the democratic quality of observed discourse by its content. In the absence of a better alternative, I resort to *deliberative* norms to assess the consequences of populist counterpublics for democratic discussions. Deliberation continues to be the most widely accepted normative framework for accessing the democratic quality of discussions (Dahlberg 2011; Freelon 2015). In *Paper III*, we conducted a literature review to identify the five most commonly employed criteria of deliberation in empirical research—that is, reciprocity, argumentation, sourcing, civility, and politeness (see also Friess, Ziegele, and Heinbach 2020). *Reciprocity* requires that participants of a discussion interact with, and respond to each other (Friess, Ziegele, and Heinbach 2020, 626; Friess and Eilders 2015, 329). *Argumentation* requires that participants provide reasons for claims, which can be also be supported by providing *sources*—these two aspects together form the dimension of rationality (Friess, Ziegele, and Heinbach 2020, 626; Graham and Witschge 2003, 177; Stromer-Galley 2007, 4). *Civility* and *politeness* together form the dimension of *respect* (Friess, Ziegele, and Heinbach 2020, 626) and are frequently used interchangeably (e.g., Coe, Kenski, and Rains 2014). Here, I follow Papacharissi (2004), who argued that the term *incivility* should be reserved for substantive expressions of intolerance, stereotypes and violence (Papacharissi 2004, 274) while *impoliteness* must be con-

sidered a mere stylistic matter, defined here as a “unnecessarily disrespectful tone” (Coe, Kenski, and Rains 2014, 660).

Although populism has an ambivalent relationship with democracy (Canovan 1999; Mudde and Rovira Kaltwasser 2012a), it can be expected that populist communication frequently involves breaching deliberative norms (Hameleers 2019b; Moffitt and Tormey 2014; Waisbord 2018b). Rather than focusing on the deliberative quality of populist comments, the more interesting question is how do populist expressions affect the deliberative quality of responding comments, particularly when comments sections are viewed as spaces in which mainstream publics and counterpublics collide (Toepfl and Piwoni 2015). This is the research question addressed empirically in *Paper III*. As the existing literature on populist communication and deliberation (Hameleers 2019b; Waisbord 2018b) does not clearly distinguish between populism and right-wing ideology, this paper also aims to disentangle the influence of these two dimensions by analyzing a case in which both are likely to occur—the so-called “refugee crisis” of 2015–16.

#### **2.3.4. The Research Framework**

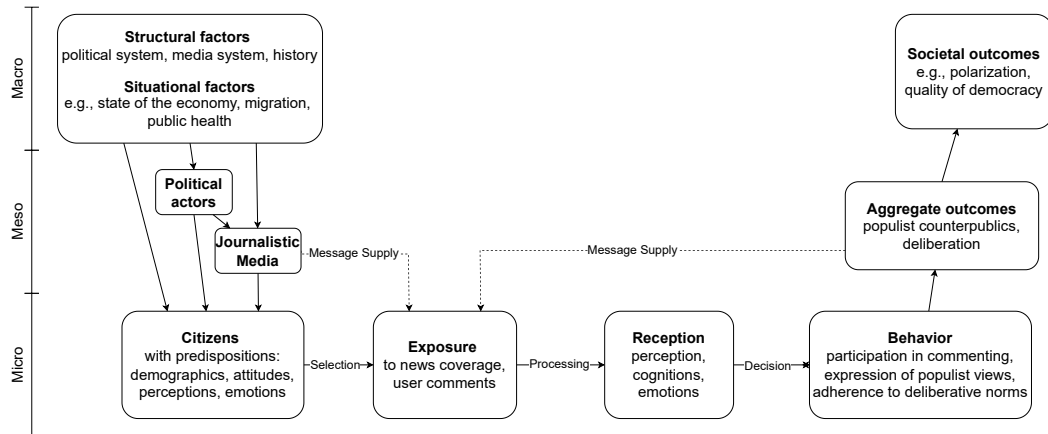
Building on the findings of populism research and an understanding of populist user comments from the perspective of public sphere theory, I outline here the theoretical model that guides the empirical analyses of the three papers. The papers address the two overarching research questions. *Papers I and II* address the overarching RQ-I, regarding the contextual factors that shape the levels of populism in comments sections on social media. *Paper III* addresses RQ-II, regarding the consequences of populist comments for democratic discussions among users. The two analytical lenses of the public sphere theory—the *counterpublics* and the *deliberation* perspective—inform this twofold structure. I first introduce the overarching theoretical model, then clarify levels and units of analysis, before introducing the key arguments and hypotheses tested in the three papers.

#### ***The Theoretical Model***

The overarching model presented here underpins all three papers included in this dissertation. For crafting this model, I combined models of populist communication, social media participation, and commenting behavior on macro-, me-

so-, and micro-levels, following Coleman's (2000, 8) bathtub scheme. Figure 3 illustrates the model of user commenting behavior in the context of online news.

**Figure 3.** Theoretical Model of User Commenting Behavior



The model spans across three levels of social analysis: The *macro-level* comprises situational and structural factors. The *meso-level* encompasses organizations, such as political actors and journalistic media, as well as also mid-range aggregated phenomena, such as populist counterpublics emerging from comments sections or the overall quality of deliberation of a sub-public sphere. At this level, I also locate the output of meso-level organizations, such as media coverage. At the *micro-level* are the individual citizens and their individual commenting behavior (Reinemann et al. 2017, 21; Ziegele, Springer, et al. 2018, 319). Further, macro- and meso-level factors together constitute what I consider the *context* that influences individual decisions regarding commenting behavior (Ziegele, Springer, et al. 2018, 319).

Political user commenting behavior, be it the expression of populist views or the reply to populist comments, is “embedded in structural and situational macro-level factors” (Reinemann et al. 2017, 21). Structural factors include long-term stable factors, such as the political system (Easton 1971) and the media system (Hallin and Mancini 2004) or factors shaped by history and culture, such as the political culture and collective memories (Reinemann et al. 2017, 21). These factors are most often considered to vary between countries. In addition to these stable factors, there are situational factors at the macro level that change over time. These changes can occur slowly or suddenly, as in crisis situations. Situational factors include economic cycles, shifts in foreign affairs, migration movements, or threats to public health, among other factors. Macro-level factors can affect individual

citizens at the micro-level directly through individual experience (Reinemann et al. 2017, 22), as indicated by the arrow on the far left of Figure 3.

Moreover, macro-level factors can indirectly affect citizens by impacting the behavior of political actors at the *meso-level*, including the government, lawmakers, and political parties. The output of political actors' behavior can be public policies or public statements (Reinemann, Matthes, and Sheafer 2017, 21), which, again can affect citizens directly or via a mediated route. Journalistic mass media remains the most important mediator that informs individual citizens regarding events at the macro-level and the actions and statements of political actors (Reinemann et al. 2017, 23). As discussed earlier, social media platforms have changed these dynamics, as they allow politicians to communicate directly with citizens (e.g., N. Ernst, Blassnig, et al. 2019) and provide citizens with a opportunities to engage with each other or with the content published by meso-level actors (e.g., Galpin and Trenz 2019; Ziegele and Quiring 2013). Moreover, platform-specific factors, such as the design of comments sections, can influence how citizens make use of these features (Peacock, Scacco, and Jomini Stroud 2019). Because this dissertation focuses on a single platform and to keep the illustration simple, Figure 3 does not visualize such platform effects. The collective of comments presented under online news represent a meso-level outcome—which result from an aggregation of individual comments—and are capable of influencing the perceived opinion climate (Eilders and Porten-Cheé 2022; Friemel and Dötsch 2015; Neubaum and Krämer 2017; Zerback and Fawzi 2017).

At the *micro-level*, citizens vary in terms of sociodemographic features and are equipped with a range of predispositions, such ideological orientations, populist attitudes (e.g., A. Akkerman, Mudde, and Zaslove 2014), perceptions (e.g., Denison and Turnbull-Dugarte 2022), media preferences (e.g., Fawzi and Krämer 2021; Schulz 2019), and emotions (Reinemann, Matthes, and Sheafer 2017, 386). Influenced by these predispositions, citizens are exposed to content, either by active selection (Müller and Schulz 2021; Stier et al. 2020), or incidental exposure (Knoll, Matthes, and Heiss 2018, 140), illustrated by the arrow labelled 'selection'. The two dotted lines in Figure 3, labelled 'message supply,' indicate the two sources of content to which citizens are exposed to that are of relevance for this dissertation—journalistic content disseminated by mass media on their social me-

dia pages (dotted arrow from the left) and citizen-generated content encountered in comments sections (dotted arrow from the right).

The individual users process the content which they have been exposed to. They are likely to appraise the relevance of the content by weighting in situational factors and individual predispositions (Knoll, Matthes, and Heiss 2018, 142; Reinemann, Matthes, and Sheafer 2017, 386). Relevant content can activate a range of response states (Reinemann, Matthes, and Sheafer 2017, 386)—such as emotional arousal (e.g., Dillard and Shen 2005; Tannenbaum et al. 2015; Wirz 2018) or priming (e.g., Krämer 2014, 56; Roskos-Ewoldsen, Roskos-Ewoldsen, and Carpentier 2002)—which “serve as mediators of different kinds of emotional, cognitive, attitudinal, or behavioral communication effects” (Reinemann, Matthes, and Sheafer 2017, 386). In this dissertation, two behavioral outcomes are in focus: Writing a populist comment (*Papers I and II*) and writing a reply to a comment that adheres or breaches deliberative norms (*Paper III*). The specific mechanisms assumed to underpin these behaviors are introduced further below.

The results of the individual behavioral choices regarding how to participate in the comments section add up to aggregate phenomena. In *Papers I and II*, I focus on what Galpin and Trenz (2019, 782) have called a populist “collective voice,” or what I have suggested to consider as part of a *populist counterpublic*, following Toepfl and Piwoni (2015). Measurements that operationalize the aggregate level of populism in comments sections are the dependent variables in both papers. *Paper III* shifts the attention to dependent variables that characterize the discursive interactions among users. In this paper, we investigate how right-wing and populist content in comments is related to the scope of interaction among commenters and to the quality of replying comments.

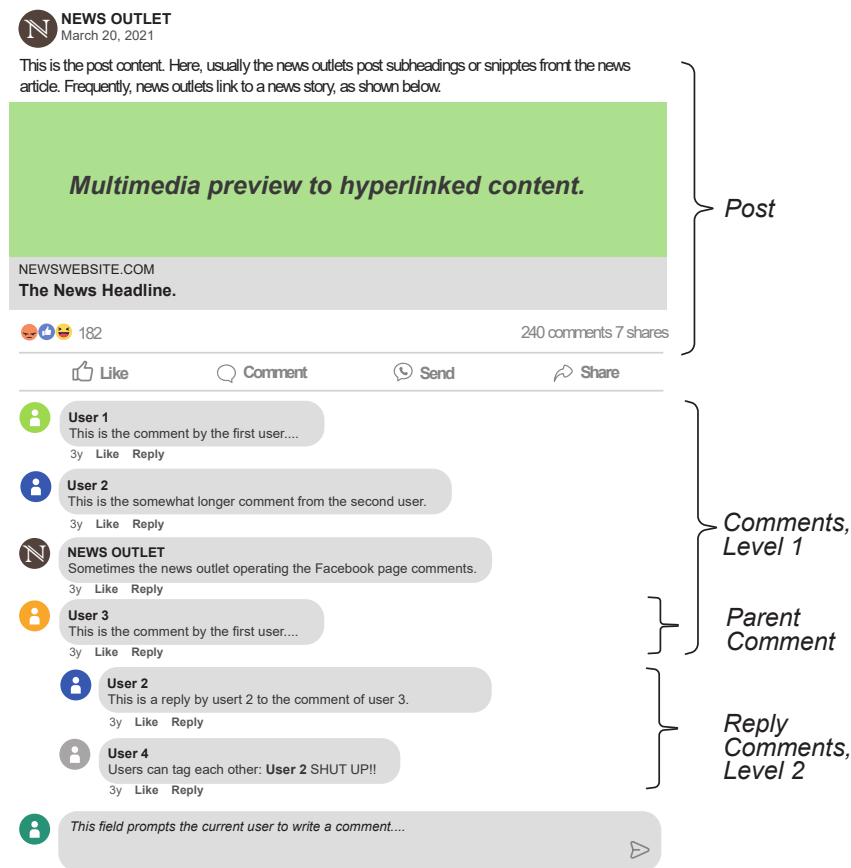
Eventually, these aggregate meso-level outcomes—that is, the establishment of a populist counterpublic in comments sections or poor deliberative quality of those online spaces—might affect society as a whole, and potentially in a negative manner, for example, by increasing political and societal polarization (Mau, Westheuser, and Lux 2024; Mudde and Rovira Kaltwasser 2018, 1681), by turning the climate of democratic debates toxic (Waisbord 2018b), and by eventually resulting in a rollback of liberal policies (Norris and Inglehart 2019). However, the focus of this dissertation is on mid-range phenomena and meso-level outcomes, thereby

analyzing the links between contextual factors and the content characteristics of comment sections, respectively links between content characteristics of comments on different levels of analysis.

### ***Units of Analysis***

The units of analysis of the variables investigated in this dissertation become clearer by considering the structure of the analyzed material. The focus of this dissertation is on understanding relations between different forms of content published on Facebook pages that are operated by news media. It is crucial to recognize that the resulting data is nested. At the most aggregate *macro-level*, there are structural, country-specific factors as well as situational national-level factors that change over time, such as indicators for specific public policies. The Facebook pages reflect *meso-level* actors, as each of them is operated by one news media outlet. On these Facebook pages, the news outlets publish headlines and snippets from news articles in Facebook ‘posts,’ most often accompanied by hyperlinks to the article on their website. Below each Facebook post, individual users are provided with the opportunity to publish a comment. Adding one layer of nesting, users can ‘reply’ to each comment with another comment. An individual comment or reply is regarded to reflect a behavior at the *micro-level*. Other opportunities to interact with the post are to ‘like’ the post, to ‘react’ to it with an emoji-like reaction, to ‘share’, or to ‘send’ the post. Figure 4 illustrates the structure of a Facebook post and the comments section.

In *Papers I and II* I investigate the relationships between *contextual* factors as independent variables and the aggregate level of populist content found in the comments section of each post as dependent variables. By *contextual* factors, following Ziegele et al. (2020, 876), I mean all macro-level variables, all variables that characterize meso-level actors—that is, the news outlets—and, importantly, all post-level characteristics. *Paper III*, then, focuses on the interplay between characteristics of comments at the first level, called ‘parent comments,’ and the ‘replies’ to these comments at the second level.

**Figure 4.** The Nested Structure of Posts, Comments, and Replies

All three papers make the micro-foundation of their theoretical arguments explicit. However, empirically, the available digital trace data confines the analyses of this dissertation to associations between macro- and meso-level variables (*Papers I and II*), respectively to associations between content characteristics of comments at the micro-level (*Paper III*). The data does not allow the investigation of the influence of individual predispositions of commenters—such as socio-demographics and previously held populist attitudes—and also does not allow the direct testing of the assumed psychological mechanisms. Despite this disadvantage, the great advantage of digital trace data is that it warrants a high ecological validity of findings, as actual behavior is observed in real-world settings (Blassnig, Engesser, et al. 2019, 630; Howison, Wiggins, and Crowston 2011; Shadish, Cook, and Campbell 2002). In addition, the examination of contextual factors is highly relevant for policymakers and journalists, as they can be directly influenced by these meso-level actors.

### ***Contexts of Populist User Comments***

Both *Papers I and II* address the first overarching research question RQ-I: *Which contextual factors shape the level of populism in user comments on social media?* Paper II builds on Paper I, with the latter being more limited in terms of selected countries, applied methods, and examined contextual factors. In both papers, I analyze populist comments in the context of the COVID-19 pandemic. The underlying rationale for this case selection is explained in *Chapter 3.1*; it can be summed up as a *most-likely* research design logic (Levy 2008, 12) for examining the hypothesis that populist comments are linked to anger-inducing contexts. Nevertheless, both papers aim to contribute to field of populist communication research more broadly and investigate three sets of contextual factors, which are explained below.

First, the main argument that is investigated is that populist user comments occur more frequently in contexts that evoke emotions, particularly *anger*. Populism research has emphasized the role of emotions from various angles (e.g., Magni 2017; Rico, Guinjoan, and Anduiza 2017; Salmela and von Scheve 2018). Populist messages generated by both citizens (Hameleers 2019b) and politicians (Widmann 2021) are more emotional than other messages and express anger particularly strongly. Survey research has linked high levels of anger to support of populist attitudes (Rhodes-Purdy, Navarre, and Utych 2021; Rico, Guinjoan, and Anduiza 2017) and populist voting (Magni 2017), arguing that anger activates populist attitudes (Hawkins, Rovira Kaltwasser, and Andreadis 2020). The experimental findings of Wirz (2018) demonstrate that populist messages elicit anger and are, therefore, more persuasive. Finally, Jost et al. (2020) linked populist messages to ‘angry’ reactions on Facebook. In addition, the analytical lens developed in the previous section to consider populism in comments sections as a counterpublic shifts our attention towards emotional discourse (Toepfl and Piwoni 2015, 469, 475; Mouffe 1999, 755–56).

In this dissertation, I argue that specific situational factors and message characteristics of posts can elicit anger, activate populist attitudes, and mobilize citizens to express these attitudes in comments. The specific constellation of the COVID-19 crisis enabled me to test the implications of this argument. I drew on the concept of *psychological reactance*, which is defined as “the motivational state that is hypothesized to occur when a freedom is eliminated or threatened” (S. S. Brehm and

Brehm 1981, 37) and has been found to be closely intertwined with experiencing anger (Dillard and Shen 2005). The restrictive policies implemented to contain COVID-19 have been found to have triggered anger and reactance among individuals (Ball and Wozniak 2022; Díaz and Cova 2022; Dillard et al. 2023; Hajek and Häfner 2021; Taylor and Asmundson 2021). Moreover, media coverage of the pandemic and of restrictive containment policies reportedly led certain citizens to perceive themselves as the target of a persuasion campaign, which is a known trigger of reactance (Flew 2021; Rosenberg and Siegel 2018). The abundance of media reports on the topic of COVID-19 could have reinforced this effect, as repetitive messages have been found to further increase reactance (Koch and Zerback 2013).

Experiencing reactance-induced anger may have activated previously held populist attitudes in some citizens (Rhodes-Purdy, Navarre, and Utych 2021; Rico, Guinjoan, and Anduiza 2017). At the same time, anger—being known as a strong mobilizer of political behavior (C. Weber 2013)—might have increased citizens' readiness to engage in the comments section. The populist content expressed in comments exhibits a pattern that is typically associated with reactance—that is, a derogatory stance toward the source of a restriction (Dillard and Shen 2005, 146). The “gratifications sought” (Springer, Engelmann, and Pfaffinger 2015, 800) in this compensatory behavior may be the regaining of a feeling of control (Dillard and Shen 2005, 146). Based on these considerations, which are explained in greater detail in *Papers I and II*, the hypotheses listed in Table 3 were tested. To test whether the initial findings of *Paper I* could be generalized to other country contexts as well as to explore additional relationships, I expanded the analysis to seven European countries in *Paper II*.

A *second* set of hypotheses investigated the role of mentioning elite representatives—that is, the government and experts. The underpinning argument is that mentions of these elite representatives may activate a cognitive “populism schema” (Krämer 2014, 55)—that is, a set of populist attitudes—through priming (Blassnig, Engesser, et al. 2019, 634). A comparative experiment has demonstrated that fragments of populist messages can activate larger clusters of populist attitudes (Hameleers et al. 2021, 506). In addition, studies informed by social identity theory have highlighted the importance of shifting blame toward elites, which serve as out-groups in populist communication (Busby, Gubler, and Hawkins 2019;

Hameleers, Bos, and de Vreese 2017b; Hameleers et al. 2021). Here, I focused on the two elite groups of *government* representatives and *scientific experts*. The government is the most obvious target of anti-elitism, as it is the institutionally established center of political power (Hameleers et al. 2021, 499; Kriesi 2018, 8). Further, scientific experts are being increasingly targeted by populists (Mede and Schäfer 2020) and have gained unprecedented media attention during the pandemic. Together with governments, experts have initiated the containment policies for which they have been held publicly accountable, and which were unbeloved among populists (Brubaker 2021). Based on these considerations, I tested the hypotheses listed in Table 4 in *Papers I and II*.

As a *third* set of factors, I investigated media-related factors in *Paper II*. Against the backdrop of an alleged complicity between tabloid media and populism (Krämer 2014, 50; Mazzoleni 2008, 54), that has resulted in mixed empirical evidence (Bos and Brants 2014; Hameleers and Vliegthart 2020; Rooduijn 2014; Wettstein et al. 2019), I examined the impact of the type of the media outlet (tabloid, quality, or public broadcaster) with an open research question. Additionally, I raised the question of how visible moderation (Gibson 2019; Wintterlin et al. 2020) affects the level of populism in comments sections. By visible moderation, I mean moderation practices that are visible to other users—for example, journalist-authored statements in the comments section that remind users about conversation rules instead of deleting comments (Wintterlin et al. 2020, 907). Table 5 lists the respective research questions.

**Table 3.** Hypotheses on Contextual Factors Assumed to Induce Anger

| Hypotheses/Research Questions <sup>1</sup>                                                                                                                                       | Paper I <sup>2</sup> | Paper II     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------|
| <b>Mentioning COVID-19</b>                                                                                                                                                       |                      |              |
| Facebook posts from news media mentioning COVID-19 are associated with increased levels of populism in the comments section.                                                     | <b>I.H1</b>          | <b>II.H3</b> |
| <b>Mentioning restrictions</b>                                                                                                                                                   |                      |              |
| Facebook posts from news media mentioning restrictive COVID-19 containment policies are associated with increased levels of populism in the comments section.                    | —                    | <b>II.H4</b> |
| <b>Mentioning COVID-19 * Policy stringency</b>                                                                                                                                   |                      |              |
| For Facebook posts from news media mentioning COVID-19, the stringency of COVID-19 containment policies is associated with increased levels of populism in the comments section. | <b>I.H3</b>          | <b>II.H5</b> |
| <b>First wave</b>                                                                                                                                                                |                      |              |
| During the first wave of the COVID-19 crisis, the level of populism in comments sections was lower, compared to later stages.                                                    | —                    | <b>II.H7</b> |

|                                                                                                                                              |             |               |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|
| <b>Time</b>                                                                                                                                  |             |               |
| Throughout the COVID-19 crisis, the level of populism in comments sections increased.                                                        | —           | <b>II.H6</b>  |
| <b>Time * Mentioning COVID-19</b>                                                                                                            |             |               |
| The attraction of COVID-19 posts for populist comments grows over time.                                                                      | <b>I.H2</b> | —             |
| <b>Countries</b>                                                                                                                             |             |               |
| How does the association between stringency of COVID-19 containment policies and the level of populism in comments sections vary by country? | —           | <b>II.RQ3</b> |

Notes: 1: If equivalent hypotheses were tested in both papers, the wording from *Paper II* is presented here.  
2: Numbers indicate the paper (roman numerals) and the number of the hypothesis/research question in the original paper.

**Table 4.** Hypotheses on Contextual Factors Related to Out-Groups

| Hypotheses <sup>1</sup>                                                                                                            | Paper I <sup>2</sup> | Paper II     |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------|
| <b>Mentioning the government<sup>3</sup></b>                                                                                       |                      |              |
| Facebook posts from news media mentioning the government are associated with increased levels of populism in the comments section. | —                    | <b>II.H1</b> |
| <b>Mentioning experts</b>                                                                                                          |                      |              |
| Facebook posts from news media mentioning experts are associated with increased levels of populism in the comments section.        | —                    | <b>II.H2</b> |
| <b>Mentioning government * Mentioning COVID-19</b>                                                                                 |                      |              |
| The attraction of COVID-19 posts for populist comments grows with mentioning government representatives.                           | <b>I.H4a</b>         | —            |
| <b>Mentioning experts * Mentioning COVID-19</b>                                                                                    |                      |              |
| The attraction of COVID -19 posts for populist comments grows with mentioning experts.                                             | <b>I.H4b</b>         | —            |

Notes: 1: If equivalent hypotheses were tested in both papers, the wording from *Paper II* is presented here.  
2: Numbers indicate the paper (roman numerals) and the number of the hypothesis/research question in the original paper.

**Table 5.** Research Questions on Media-Related Contextual Factors

| Research questions                                                                                                              | Paper I | Paper II <sup>1</sup> |
|---------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------|
| <b>Media type</b>                                                                                                               |         |                       |
| How is the type of news media operating a Facebook page associated with the level of populism in comments sections?             | —       | <b>II.RQ2</b>         |
| <b>Moderation</b>                                                                                                               |         |                       |
| How are comments from news media moderating discussions on Facebook associated with the level of populism in comments sections? | —       | <b>II.RQ1</b>         |

Notes: 1: Numbers indicate the paper (roman numerals) and the number of the hypothesis/research question in the original paper.

### *Consequences of Populist User Comments*

In *Paper III*, co-authored with Tjaša Turnšek, we address the second overarching research question of this dissertation: *What are the consequences of populist comments*

on democratic discussions among users? This question involves changing the analytical perspective: Populism in user comments becomes an independent variable, whereas it was the dependent variable in *Papers I and II*. The starting point of this analysis is the argument that populism has an ambivalent relationship with democracy (Canovan 1999; Mudde and Rovira Kaltwasser 2012a). On the one hand, it has been argued that populism could “revitalize” (Mudde and Rovira Kaltwasser 2012a, 21) democracy and democratic discussions by bringing back political conflict (Laclau 2005). Empirically, this argument is backed up, for example, by studies that observed a mobilizing effect of populist messages on online user engagement (Blassnig, Engesser, et al. 2019; Blassnig et al. 2020; Blassnig and Wirz 2019; Bobba 2018). Normatively, in principle, a counterpublics perspective would welcome increased participation in public spheres (Fraser 1990, 62, 70; Toepfl and Piwoni 2015, 485). However, other scholars have argued that specific forms of participation (Quandt 2018)—in particular, populist messages (Waisbord 2018b)—have detrimental effects on democratic discussions.

Here, instead of describing problematic, anti-democratic features of citizen-generated populist communication (e.g., Hameleers 2019b), I am interested in the discursive interactions among users (Ziegele and Quiring 2013, 132), particularly in how other users *reply* to populist comments. To assess the democratic quality of these replies, I return to deliberative norms, which continue to be the most widely shared framework for evaluating the quality of democratic discussions (Dahlberg 2011; Freelon 2015; Toepfl and Piwoni 2015). As introduced in *Chapter 2.3.3*, deliberation is understood in this dissertation as a “rational, constructive, reciprocal, and respectful exchange of reasons among equal participants” (Friess, Ziegele, and Heinbach 2020, 626), operationalized along the five aspects reciprocity, argumentation, sourcing, civility, and politeness (Friess, Ziegele, and Heinbach 2020).

Previous studies (Hameleers 2019b) have left unclear whether the democratically problematic aspects of citizen-generated populist communication stem from genuinely *populist* discursive elements or from elements that are part of right-winged ideology, such as nativism and anti-immigration stances. In our research design, we followed Rooduijn’s (2019, 365–66) recommendation to analytically separate these elements. For *Paper III*, we selected the case of the so-called European ‘refugee crisis’ in 2015–16, which was expected to provide likely conditions to observe both right-wing and populist content in comments sections (Blassnig, Engesser, et

al. 2019, 644). We captured populist and nativist content—the latter was operationalized by the proxy of anti-immigrant stances—separately from each other, thereby aiming to isolate their respective connection to deliberative discussion characteristics. The overarching research question RQ-II of the dissertation is specified in this paper in the following manner: How do right-wing populist comments affect the number and deliberative quality of reply comments on Facebook? This question is addressed by analyzing data from ten popular Facebook pages of news outlets from Austria and Slovenia. The underlying rationale for the country selection is explained in *Chapter 3.1* of this dissertation.

We expected an overall *ambivalent* impact of populist content on democratic discussions, which were translated into testable hypotheses that consider different dependent variables. Table 6 provides an overview of the tested hypotheses and explored questions. First, we expected a *mobilizing* effect of populist and right-winged content in comments on the number of replies (Blassnig, Engesser, et al. 2019; Blassnig et al. 2020; Blassnig and Wirz 2019; Bobba 2018). The number of replies was interpreted as an indicator for reciprocal communication that may be driven either by like-minded users supporting the populist comment (Blassnig and Wirz 2019) or by opponents provoked to speak out against such ideas.

Second, with regard to the quality of these replies, we expected that populist comments were associated with less frequent *arguments* in the replies. The highly moralizing discourse of populism makes discussions and consensus-building extremely difficult (Mudde and Rovira Kaltwasser 2012a, 21) and might discourage opponents from even attempting to present arguments. For populists respondents themselves, deliberative arguments are merely “redundant impediments to a direct expression of the popular will” (Abts and Rummens 2007, 417). For similar reasons, we expected that populism’s devaluation of expert knowledge (Mede and Schäfer 2020) and journalistic output (Egelhofer, Aaldering, and Lecheler 2021; Fawzi and Krämer 2021) would be associated with a less frequent provision of *sources* in replies.

Third, for *incivility* and *impoliteness* in replies, we expected a positive correlation with both populist and right-winged content. The underlying argument for incivility is similar to that of the spiral-of-silence theory (Eilders and Porten-Cheé 2022; Noelle-Neumann 1974) and argues that right-wing populist comments would re-

duce the perceived risk of other commenters of being sanctioned for expressing socially undesired, uncivil views (Keum and Miller 2018). For impoliteness, the effect might be a simpler contagion effect (Song et al. 2022). Finally, I explored the question of how civic counter-speech—that is, replies that opposed right-wing and populist comments without referring to such ideological messages themselves—affect the quality of subsequent replies. The theoretical arguments introduced here are presented in greater detail in the individual papers.

**Table 6.** Hypothesized Consequences for Democratic User Discussions

| Hypotheses                                                                                     | Paper III <sup>1</sup> |
|------------------------------------------------------------------------------------------------|------------------------|
| <b>Participation</b>                                                                           |                        |
| Right-wing populist user comments receive more reply comments than other comments.             | <b>III.H1</b>          |
| <b>Reasoning</b>                                                                               |                        |
| Populist user comments decrease the probability of arguments in reply comments.                | <b>III.H2</b>          |
| Populist user comments decrease the probability of the provision of sources in reply comments. | <b>III.H3</b>          |
| <b>Respect</b>                                                                                 |                        |
| Right-wing populist user comments increase the probability of uncivil reply comments.          | <b>III.H4</b>          |
| Right-wing populist user comments increase the probability of impolite reply comments.         | <b>III.H5</b>          |
| <b>Civic moderation</b>                                                                        |                        |
| How does countering right-wing populism affect the deliberative quality of reply comments?     | <b>III.RQ</b>          |

Notes: 1: Numbers indicate the paper (roman numerals) and the hypothesis number used in that paper.

### 3 Data and Methods

#### 3.1. Case and Country Selection

The three papers included in this dissertation fall in two groups, organized in accordance with their contribution to the two overarching research questions, which concerned the contexts (*Papers I and II*) and consequences (*Paper III*) of populist comments. All three papers focus on *crisis situations* as primary cases—with *Papers I and II* focusing on the COVID-19 crisis and *Paper III* on the so-called ‘refugee crisis’ in 2015–16. In all three papers, the strategy for selecting these crises followed a *most-likely* research design logic (Levy 2008, 12). Levy describes the inferential logic of this design for testing hypotheses as “inverse Sinatra inference—if I cannot make it there, I cannot make it anywhere” (Levy 2008, 12). The focus of all the three papers is Europe, and—with the exception of *Paper III*—Western Europe in particular, which has been a key “area of sustained populist growth and success” (Albertazzi and McDonnell 2008, 1) for decades. Below, I explain the underlying rationale for selecting both crises and the different countries.

##### **COVID-19**

In *Papers I and II*, the central overarching hypothesis whose implications I aimed to test was that populism in comments occurs more often in contexts that evoke anger. The COVID-19 crisis provided conditions that made it likely to observe this connection. First, the COVID-19 pandemic had an enormous social impact, with a global death toll of approximately 7.1 million by 2024 (WHO 2024), thereby making it one of the most severe pandemics of modern history. This impact also made it a highly newsworthy topic (Galtung and Ruge 1965) that dominated media coverage for over two years. The coverage of high-impact events has been linked to increased levels of activity (P. Weber 2014, 951) and interactivity (Ziegele et al. 2020, 880) in comments sections. Moreover, governments’ policies to contain the pandemic—such as lockdowns and social distancing policies—made it difficult to gather offline, thus increasing the importance of online channels, such as comments sections, for political expression and protest (Pressman and Choi-Fitzpatrick 2020). Against this backdrop, I expected an overall increased commenting activity in the

context of COVID-19, which also increased the opportunities to examine populist comments. Second, the COVID-19 containment policies drastically restricted personal freedoms, making them and the associated communication textbook triggers of reactance (J. W. Brehm 1966; S. S. Brehm and Brehm 1981; for COVID-19, Ball and Wozniak 2022; Díaz and Cova 2022; Dillard et al. 2023; Taylor and Asmundson 2021). This setting allowed me to test a set of hypotheses with regard to the connection between such reactance- and anger-inducing contexts and populism in comments. Third, the containment policies were imposed top-down by governments as a rapid response to crisis developments. While opposition parties mostly rallied around the flag during the first wave, discontent with decision-makers and their advisory experts grew (Kriesi and Oana 2023, 743; Neumayer, Pfaff, and Plümper 2023, 400), making it a most-likely scenario to observe populist anti-elitism (Brubaker 2021, 74).

With these considerations in mind, I selected two different sets of *countries* to be studied in the two papers, which also reflected their different research objectives. The first paper (*Paper I*) can be understood as a pilot study, or what Levy (2008, 6) calls a “plausibility probe,” in which the basic argument was examined using a limited selection of countries (Germany and Austria) and less resource-intensive methods. By selecting Germany and Austria, I continued to follow a *most-likely* logic, as protests against containment policies took off early in these countries—in Germany in summer 2020, and in Austria at the beginning of 2021 (Brunner et al. 2021; Kriesi and Oana 2023, 758). In part, this study was also ideographically motivated (Levy 2008, 4) due to the novelty of the pandemic.

In *Paper II*, I aimed for a more challenging hypothesis test to improve the generalizability of findings, using data from the seven European countries—Austria (AT), Germany (DE), France (FR), Italy (IT), Netherlands (NL), Sweden (SE), and the United Kingdom (UK). This selection includes *less likely* country cases, such as Sweden, where very few restrictive COVID-19 policies were introduced (Gordon, Grafton, and Steinshamn 2021); France, where existing protests had other social causes and were already smoldering before the pandemic; and Italy, which was hit hard during the outbreak of the pandemic, which might have increased the acceptance of tough measures among the population (Kriesi and Oana 2023, 757–58). The country selection also aimed to increase the variance in one of the central independent variables—COVID-19 policy stringency—that is, the restrictiveness of

the measures (Hale et al. 2021). Figure 6 in *Paper II* provides an overview of the weekly infection rates and policy stringency for each of the selected countries.

In case studies, cases are selected because they represent instances of larger classes of events about which the researcher seeks to gain generalizable insights (Levy 2008, 2). The COVID-19 crisis can be considered a “case of” (Levy 2008, 2) situations in which governments are forced to impose restrictive and unpopular policies due to an impending danger. A different case that belongs to this class of situations is climate change and the policies that are being discussed to curb it—for example, introducing a speed limit on German highways. I will flesh out implications of this comparison in the discussion of *Paper II* and in the overarching discussion.

### ***The ‘Refugee Crisis’ of 2015–16***

The overarching hypothesis examined in *Paper III* was that populist comments have ambivalent consequences for democratic online discussions—increasing participation but decreasing deliberative quality. Moreover, the aim of this paper was to disentangle the impact of populist content from right-winged content, such as anti-immigrant messages, which are too often not analytically separated in the literature (Rooduijn 2019, 365; cf. Hameleers 2019b).

The so-called ‘refugee crisis’ in Europe—in which 1.2 million refugees applied for asylum in both 2015 and 2016 (Eurostat 2024)—provides a most likely case for this study. First, this peak in numbers, which was primarily driven by the escalating war in Syria, was echoed by media attention for asylum and immigration topics, peaking in September 2015 and remaining high thereafter (Greussing and Boomgaarden 2017, 1759). Consequently, I expected this topic to have attracted user comments in general. Second, the topic of immigration and the refugee crisis in particular have been linked to both the far-right *and* to populist rhetoric (Hameleers 2019a; Taggart 2017, 252). For right-wingers, the ‘ownership’ of the issue immigration is well documented (e.g., Betz 1994; Boomgaarden and Vliegenthart 2007; Burscher, van Spanje, and de Vreese 2015). But, similarly, populist content has been observed more frequently in the context of the topic of immigration (N. Ernst, Esser, et al. 2019, 178). Third, the so-called “refugee crisis has been surrounded by fierce debates in media, politics and society” (Hameleers 2019a, 2). Right-wing populist statements are likely to have further polarized the

discussion climate (Heiss, Sikorski, and Matthes 2019). Moreover, conflict-laden topics such as immigration have been linked to both increased levels of interactivity and incivility in user comments (Ziegele et al. 2020, 878), thereby leading to a lively but tough debate. Arguably, this context provides not only the most likely conditions to observe right-wing populist user comments as argued by Blassnig et al. (Blassnig, Engesser, et al. 2019, 636), but also the most likely conditions to observe its ambivalent impact on democratic discussions.

Austria and Slovenia were selected for a comparison,<sup>4</sup> loosely following Mill's (2008 [1843]) *Method of Agreement*, which demands selecting cases that share the outcome of the dependent variable but are different with regard to all but one independent variable (Levy 2008, 10). While we do not have a priori knowledge of the dependent variables, and focus on smaller units of analysis, we know that both countries have witnessed heated debates and considerable right-wing populist mobilization in the aftermath of the 'refugee crisis' (e.g., O. Gruber 2017; Pajnik 2019) and a growth of anti-refugee attitudes (Czymara 2021, 1317). In addition, the two neighboring countries, located along the so-called 'Balkan route,' faced similar events during the crisis and the same movement of refugees. But they are dissimilar with regard to a number of other variables: while Austria functioned as a destination country for refugees, receiving 85,505 applications for asylum in 2015 (25,675 in 2014), Slovenia received merely 260 in 2015. The two countries can also be seen as representatives of Western Europe and post-socialist Central-Eastern Europe, each exhibiting distinct features in their right-wing populist discourses. Brubaker (2017a, 1206) argued that right-wing populist discourse in Northern and Western Europe emphasizes defending European civilization and identity, while in Central-Eastern Europe, these discourses are more nationalist and security-focused. Finally, citizens' habits to engage in comments sections appear to differ widely between the two countries. In a special Eurobarometer in 2015 (European Commission 2016, 16), 30% of Austrians reported to engage "very often" or "sometimes" in comments sections, and another 22% report to do so "rarely", merely 10% of Slovenes reported to do so occasionally or often, and additionally 10%

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<sup>4</sup> This study was conducted in the context of the Austrian-Slovenian research project entitled "Political and Media Populism. 'Refugee crisis' in Slovenia and Austria" (POP-MED); funded by the Austrian Science Fund (FWF) [I 4105] and the Slovenian Research Agency [J5-9445].

“rarely”. Against this backdrop, I argue that if a connection between populism and the democratic quality of user discussions can be observed in both countries, the links might hold in other countries as well.

### 3.2. Data

All three papers included in this dissertation analyze *digital trace data*. I took the decision of not using survey or experimental data because key dependent variables—the expression of populist views (M. Maier et al. 2023) and uncivil expressions (Hopp et al. 2020)—are behaviors that are likely to suffer from “sensitivity bias” (Blair, Coppock, and Moor 2020). Due to perceived social desirability, respondents in experiments or surveys might hold back these views or express them less explicitly than they would in a real-world setting (Blair, Coppock, and Moor 2020; Blassnig, Engesser, et al. 2019, 630).

Digital trace data are “records of activity (trace data) undertaken through an online information system (thus, digital)” (Howison, Wiggins, and Crowston 2011, 769), which are produced when people interact with online platforms, such as Facebook (Jungherr et al. 2017, 337). Platform operators collect and store these data and can provide researchers with access to it. As digital trace data reflect “naturally occurring” behavior (Shah, Cappella, and Neuman 2015, 7), their key advantage is to warrant a high level of “ecological validity” (Brewer and Crano 2014, 21). Empirical findings are considered ecologically valid, if they correspond to phenomena that “occur in the world as is” (Brewer and Crano 2014, 21). This concept is related to external validity, which assesses whether findings hold across different settings (Brewer and Crano 2014, 21).

Digital trace data has grown rapidly since the rise of social media. Analyzing these data to understand social phenomena is one of the main promises of the emerging field of computational social science (Atteveldt and Peng 2018; Lazer et al. 2009; Shah, Cappella, and Neuman 2015). However, this data source also poses challenges and has its limitations. For example, the operators of the platforms Facebook (Bruns 2019) and X, formerly known as Twitter (Tromble et al. 2023), have increasingly restricted access to data for researchers (Freelon 2018; Ohme et al. 2024; Tromble 2021). Although the European Union has recently implemented a legal framework to grant researchers with access to such data, the situation is improv-

ing rather slowly (e.g., Jaursch, Ohme, and Klinger 2024). In addition, the application programming interfaces (APIs) of the platforms used for data collection are often not sufficiently transparent, thereby making it difficult to assess data quality (Tromble 2021). Therefore, digital trace data studies are a crucial tool for obtaining ecologically valid insights into digital communication, but do not render traditional research designs—such as surveys and experiments—obsolete. Instead, these different methodological approaches should complement each other in a division of labor (Shah, Cappella, and Neuman 2015). With this dissertation, I pursue the path of specialization in the computational analysis of digital trace data, particularly user-generated texts.

I collected data through the Facebook Graph API using the research software *Facepager* (Jünger and Keyling 2020) and the R package *Rfacebook* (Barberá 2017). I selected Facebook, as it remains the most widely used social media platform for news consumption in all countries studied here for which data from the DNR was available,<sup>5</sup> even though the heyday of this platform has passed (Newman et al. 2022). The DNR 2022 (Newman et al. 2022) reports that Facebook ranks first in the UK, with 19% of the online population using this platform for news, as it does in Austria (27%), France (39%), Germany (17%), Italy (45%), Netherlands (27%), and Sweden (29%). No data is available for Slovenia.

In each of the three papers, I followed an equivalent scheme for selecting the Facebook pages of news outlets: For each of the selected countries, I classified the most widely used news websites reported in the DNR (Newman et al. 2016; 2020; 2022) as quality press, tabloid media, or public broadcaster, drawing on previous classifications (Wettstein et al. 2019, 524–25) and my expert judgment. I then identified the corresponding Facebook pages and selected those pages that maximized followers and/or the weekly reach of the corresponding website. For each country and media type, I selected one (*Paper II*) or two, if applicable, (*Papers I and 3*) Facebook pages.

For each page, all accessible posts within the selected timeframes were downloaded (*Paper I*: January 2020–May 2021; *Paper II*: February 2020–June 2021; *Paper III*: July 2015–August 2016). In a second iteration, I downloaded all the chronologically

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<sup>5</sup> All countries but Slovenia.

first 200 (*Paper I*), 100 (*Paper II*), respectively 500 (*Paper III*) user comments per post. Table 7 provides an overview of the analyzed data. In Paper III, the analysis proceeded in the following two steps: First, using the full dataset, we investigated the connection between right-wing populism in comments and the number of replies. Second, focusing on a narrower sample of 535 parent comments and 1,413 replies and resorting to manual, quantitative content analysis, we examined the deliberative quality of replies. The details are reported in the paper.

**Table 7.** Analyzed Facebook Data

| Country      | Facebook Page         | Type <sup>1</sup> | Paper I       |                  | Paper II      |                  | Paper III    |                |
|--------------|-----------------------|-------------------|---------------|------------------|---------------|------------------|--------------|----------------|
|              |                       |                   | Posts         | Com.             | Posts         | Com.             | Posts        | Com.           |
| AT           | Der Standard          | Q                 | 3,054         | 51,551           | 4,094         | 47,539           | 607          | 20,724         |
|              | Die Presse            | Q                 | 3,739         | 52,412           | –             | –                | 577          | 11,034         |
|              | Kronen Zeitung        | T                 | 4,514         | 187,819          | 5,334         | 164,430          | 637          | 44,963         |
|              | Oe24.at <sup>2</sup>  | T                 | 4,045         | 160,647          | –             | –                | 611          | 37,771         |
|              | Zeit im Bild          | P                 | 814           | 128,333          | 2,917         | 261,727          | 1,861        | 116,415        |
| DE           | Der Spiegel           | Q                 | 2,253         | 223,003          | 3,010         | 173,768          | –            | –              |
|              | Die Zeit              | Q                 | 2,243         | 40,252           | –             | –                | –            | –              |
|              | Bild                  | T                 | 2,243         | 231,542          | 3,598         | 237,775          | –            | –              |
|              | Tagesschau            | P                 | 2,216         | 367,714          | 3,458         | 310,952          | –            | –              |
| FR           | Le Monde              | Q                 | –             | –                | 2,873         | 113,185          | –            | –              |
|              | 20 Minutes            | T                 | –             | –                | 2,891         | 162,311          | –            | –              |
|              | Franceinfo            | P                 | –             | –                | 3,054         | 167,811          | –            | –              |
| IT           | La Repubblica         | Q                 | –             | –                | 2,891         | 179,065          | –            | –              |
|              | Tgcom24               | T                 | –             | –                | 2,693         | 84,349           | –            | –              |
|              | Rainews.it            | P                 | –             | –                | 2,963         | 57,678           | –            | –              |
| NL           | De Telegraaf          | Q                 | –             | –                | 3,037         | 199,052          | –            | –              |
|              | AD.nl                 | T                 | –             | –                | 3,743         | 189,661          | –            | –              |
|              | NOS                   | P                 | –             | –                | 3,133         | 255,227          | –            | –              |
| SE           | Aftonbladet           | Q                 | –             | –                | 2,721         | 137,664          | –            | –              |
|              | Dagens Nyheter        | T                 | –             | –                | 3,194         | 55,442           | –            | –              |
|              | SVT Nyheter           | P                 | –             | –                | 3,208         | 159,928          | –            | –              |
| SI           | Delo                  | Q                 | –             | –                | –             | –                | 392          | 1,368          |
|              | Dnevnik               | Q                 | –             | –                | –             | –                | 250          | 661            |
|              | Slovenske Novice      | T                 | –             | –                | –             | –                | 578          | 14,164         |
|              | 24ur.com <sup>2</sup> | T                 | –             | –                | –             | –                | 1773         | 33,290         |
|              | RTVSLO.si             | P                 | –             | –                | –             | –                | 372          | 725            |
| UK           | The Guardian          | Q                 | –             | –                | 2,889         | 160,362          | –            | –              |
|              | Daily Mail            | T                 | –             | –                | 1,848         | 132,528          | –            | –              |
|              | BBC News              | P                 | –             | –                | 1,709         | 174,237          | –            | –              |
| <b>Total</b> |                       |                   | <b>25,121</b> | <b>1,443,273</b> | <b>65,258</b> | <b>3,424,691</b> | <b>7,658</b> | <b>281,115</b> |

Notes: 1: Q = “Quality medium,” T = “Tabloid medium,” P = “Public broadcaster.” 2: Reported as mixed-media outlet in Paper III. As both outlets share aspects of tabloid style journalism, they are subsumed here under “Tabloid.”

Unfortunately, all this data has one common shortcoming: Due to the anonymization of the data conducted by the Facebook API, no information about the users who wrote the comments is available—that is, no user names, no user IDs, and no profile information that could be used to extract sociodemographic characteristics or political positions (Barberá 2015). Therefore, the analyses included in this dissertation are limited to examine correlations between co-occurring traces of discourses and cannot claim to unpack micro-level mechanisms. In this dissertation, I opted for a consistently computational approach based on digital trace data and decided on the tradeoff between ecological validity and access to micro-level data in favor of the former. This is one crucial limitation of the dissertation, which is discussed in all papers and the concluding discussion.

### **3.3. Variables and Measurement**

The key variables examined in the three papers are content analytic measurements. In *Papers I and II*, I rely on computational text analyses, which were validated against manually annotated data, while in *Paper III* we included both computationally and manually derived measurements. I first introduce the computational measurements along with a short review of computational text analysis methods in populist communication research, before introducing the manually coded variables and other variables.

#### **3.3.1. Computational Content Analysis**

Researchers have long strived to leverage computational methods for measuring populist content. Pauwels (2011), Rooduijn and Pauwels (2011), and Bonikowski and Gidron (2016) proposed dictionary methods for this task. Dictionaries are computational methods that count the occurrence of keywords (Grimmer and Stewart 2013, 274). This approach enables researchers to efficiently analyze large corpora of texts with a high degree of control and to closely align keyword lists with theoretical concepts. However, if used to capture complex concepts, dictionaries struggle to reach high recall (e.g., Rauh 2018)—that is, they often miss relevant instances (Stryker et al. 2006). Gründl (2022) approached this problem by employing regular expressions—that is rule-based matching patterns that capture a wide range of varying phrases—and introduced an extensive and validated diction-

ary for populist, German content on social media. This dictionary is applied and additionally validated in *Paper I*.

The complexity of that dictionary is both its strength and its weakness. Its over 13 thousand regular expressions make its translation or expansion to new contexts a time-consuming endeavor. Other authors have resorted to supervised machine learning. Hawkins and Castanho Silva (2018) report one attempt that yielded mixed results. Di Cocco and Monechi (2022) are more optimistic regarding their approach, which, however, was criticized for being insufficiently validated and for failing to capture populist content (Jankowski and Huber 2023). Instead of measuring populist content, the proposed pipeline classifies populist communication based on the source of the message (Jankowski and Huber 2023). What is still missing is a computational tool for measuring populist content that is *efficient*—that is, requires little manual or computational work; is intuitively *interpretable* and driven by theory; is sufficiently *flexible* to be applied to new contexts and languages; and is *valid*—that is, able to reproduce the annotations of trained human coders.

In *Paper II* of this dissertation I introduce a tool that aims to fulfil these criteria, which is also employed in *Paper III*. The tool is an implementation of the method called “Distributed Dictionary Representation” (DDR) (Garten et al. 2018) and has been made available in the R package *dictvectorR* (Thiele 2022a). This method captures how strongly a concept is represented in a given document. It obtains the average vector representation of each document and of a short dictionary that represents a concept from a word embedding model and then calculates the cosine similarity between the document and dictionary representations (Garten et al. 2018). Word embeddings seek to map semantic relationships between words in a vector space and result from unsupervised algorithms that learn these relationships from recurring co-occurrences of words in large collections of text (e.g., Mikolov et al. 2013; Bojanowski et al. 2017). Embeddings also form, in combination with a more complex architecture, the backbone of Transformer models and large language models (LLMs). My implementation draws on *fastText* (Bojanowski et al. 2017) embeddings, which are well suited for user-generated content as they are robust against misspellings and can generate representations of words that are not included in the vocabulary of that model. Since *fastText* models are relatively lightweight, they enable researchers to use custom-trained models if sufficiently

large training data is available. Custom-trained models are to be preferred over off-the-shelf pretrained models if the documents of interest contain content that differ greatly from the training data (e.g., Agustiningsih, Utami, and Alsyabani 2022; Ullah, Saeed, and Hussain 2023). Available pretrained *fastText* models rely on Wikipedia as training data (Grave et al. 2018), which differs considerably from the content of interest here: user-generated content that includes colloquial language, populist slogans, and vocabulary related to the novel COVID-19 crisis that are not included in the training corpus of pretrained models. Consequently, I trained and employed custom *fastText* models in both *Papers II* and *III*. Considerable effort was invested in optimizing and validating the short dictionaries representing populist (*Paper II*) as well as populist and anti-immigrant (*Paper III*) content.

Validation is crucial in computational text analysis. Scholars must demonstrate that a computational measurement accurately reflects human annotations (Grimmer and Stewart 2013, 271). This task becomes even more demanding in the analysis of multilingual texts, as in *Papers II* and *III*. Computational measures applied on multilingual corpora should ideally ensure *measurement equivalence*, *context sensitivity*, and *cost efficiency* simultaneously (Licht and Lind 2023, 19). There is often a trade-off between these objectives. Furthermore, there are no well-established benchmarks to prove the first two criteria (Licht and Lind 2023, 20). To approximate these standards, I used different strategies in the papers. In *Paper II*, I followed the strategy of “input alignment” for facilitating measurement equivalence (Licht and Lind 2023, 9). Following previous promising attempts (Lucas et al. 2015; de Vries, Schoonvelde, and Schumacher 2018), I machine-translated all non-German comments of the 3.4 million user comments to German, using the Google Translate API. In doing so, I also aimed to account for the “unanticipated linguistic variation” (D. Maier et al. 2022, 33) that I expected to find in the user-generated content. However, in the professional journalist-generated content at the post level, I expected that “most relevant linguistic variation can be anticipated” (D. Maier et al. 2022, 33) and, therefore, opted for the more precise and cost-effective solution of developing a multilingual dictionary. For both approaches, I took steps to increase country-specific context sensitivity—at the user comment level, this was done by training a custom *fastText* model rather than using an off-the-shelf model; at the post level, this was done by expanding the country-specific dictionaries. In *Paper III*, we opted for the less resource-intensive approach of analyzing the bilin-

gual data separately (Licht and Lind 2023, 8). In all three papers, all computationally obtained measurements were thoroughly validated against samples annotated by native speakers. Despite numerous precautions, the statement “all quantitative models of language are wrong—but some are useful” (Grimmer and Stewart 2013, 269) also holds for the computational measurements applied in this dissertation. The limitations of each method are discussed in the individual papers and are also picked up in the discussion section of this dissertation. Methodological details on the computational text analysis methods are reported in the papers and Appendices B and C (*Paper I*), F–H (*Paper II*), and K–M (*Paper III*).

### 3.3.2. Manual Content Analysis

I conducted manual content analyses for each paper included in this dissertation. In *Papers I and II*, these analyses were used to validate the computational measurements. In *Paper III*, both the validation and the second step of the analysis—which assessed the impact on deliberative quality—relied on manual coding. In the first two papers, user comments were coded along the two binary variables—anti-elitism and people-centrism—operationalizing the populist key messages introduced in *Chapter 2.2.3* and building on the instructions of Blassnig et al. (2016). A comment was considered populist if at least one of these dimensions was present, thereby accounting for the fragmentary nature of populist online-communication (Engesser et al. 2017). This binary indicator was then used to evaluate the validity of the computational measurements, as described in the papers.

In *Paper III*, we aimed to disentangle the role of populist and right-winged content. Conceptionally, the crucial dimension of the latter is nativism (Mudde 2004, 19), which was operationalized here by the proxy *anti-immigrant* content, which is arguably the most salient aspect of nativism, particularly in the context of the so-called ‘refugee crisis’ (Betz 1994; 2019). I drew on Callens and Meuleman’s (2017) concept in constructing a coding instrument. Anti-immigrant statements were operationalized by ten key messages in which immigration was either portrayed as a threat to the security, culture, or economy of the nation or Europe; which ascribed negative attributes to migrants; or which called for limiting, stopping, or reversing immigration.

*Paper III* also inspected the deliberative quality of user comments and replies, which was operationalized along four dimensions—argumentation, sourcing, civility, and politeness—drawing on Friess et al. (2020). Arguments were considered present when a comment provided reasons for its claims (Friess, Ziegele, and Heinbach 2020, 11); sourcing was coded when comments referenced external sources, such as hyperlinks (Marzinkowski and Engelmann 2022, 441); incivility, following the understanding of Papacharissi (2004), was coded if a comment included dehumanization, stereotypes, sexism, racism, support of violence (Friess, Ziegele, and Heinbach 2020, 11), or silencing of others (Oz, Zheng, and Chen 2018, 3407); while impoliteness was operationalized to include name-calling, vulgarity, depreciation, or shouting (Friess, Ziegele, and Heinbach 2020, 11). We also coded whether replies were neutral, supporting, or opposing the parent comment (similar to Marzinkowski and Engelmann 2022, 441). We constructed a binary variable for *countering* populist or anti-immigrant comments, indicating for each reply whether any of the preceding replies opposed a populist, respectively anti-immigrant, comment without referring to such ideological statements itself. At the post-level, I instructed coders to annotate mentions of a range of topics and actors: COVID-19, the government, and scientific experts in *Papers I and II*. *Paper I* additionally captured coverage on the economy, borders and migration, and party politics, while *Paper II* captured mentions of *restrictive COVID-19 policies*, using a composite coding. The topic borders and migration was also coded in *Paper III*.

The coding instructions are explained further in the individual papers and documented in Appendices A, E, and J. For *Paper I*, the manual coding was done by a student and the author; for *Paper II* by five student coders and the author; and for *Paper III* by the two co-authors. As reported in the papers, the reliability of all manually coded variables was assessed by Krippendorff's alpha, ranging in *Paper I* from 0.69 to 0.97 (n=80), in *Paper II* from 0.73 to 0.96 (n=150), and in *Paper III* from 0.71 to 0.90 (n=234, respectively n=138).

### 3.3.3. Other Variables

Additional explanatory variables considered in the *Papers I and II* include a rating of the *stringency* of governments' COVID-19 restrictions, obtained from the *Oxford COVID Response Tracker (OxCRT)* (Hale et al. 2021) and variables that operationalized the temporal progression of the pandemic, such as a *day count* since March 11,

2020 when the World Health Organization (WHO) declared the outbreak of a pandemic and an indicator of the *first wave* of COVID-19.

Media-related factors beyond the content-analytical variables were examined in *Paper II*, including *media type*, which was created on the basis of a classification by Wettstein et al. (2019, 525) and adapted relying on expert knowledge, and *visible moderation*. I operationalized the latter as comments that were authored by the Facebook page operators, which were the only data points that were not made fully anonymous by the Facebook API. To clarify, I did not unpack the content of those media-authored comments, but assumed that in most cases such comments reflect moderating attempts. This operationalization can be clearly improved in future research, as discussed in the concluding section of *Paper II* and the overall discussion.

As control variables, *Papers I and II* included the seven day rolling incidence rate of new COVID-19 cases, varying per day and country, which were calculated using infection data from the OxCRT (Hale et al. 2021) and population data from the Worldbank API (Piburn 2020). Additionally, *Paper I* controlled for other post-level issues that could have influenced populism in comments, including the issues of economy, borders, and party politics. In *Paper III*, we controlled for a salience effect of the topic of migration. Furthermore, I included a variable that indicated the time that had passed between publication and downloading an observation in all three papers, a fan count variable in *Paper II*, and controlled for the number of comments per post in both *Papers I and II*.

### 3.4. Analysis

Regression analyses were employed for hypothesis testing. In each paper, I selected a regression model that accounts for the scale of the dependent variable(s): In *Paper I*, I regressed on a count variable—the number of populist comments found in the comments section of each post. After checking for overdispersion, I opted for negative binomial regression (Hilbe 2011). In *Paper II*, the dependent variable was continuous, thereby representing the mean of the continuous populism scores of the comments observed under each post. Consequently, I chose linear regression. In *Paper III*, we inspected two different kinds of dependent variables: Step 1 focused on the number of reply comments, which was analyzed using negative

binomial regression. Step 2 focused on four different binary indicators of deliberative quality in replies, which we inspected using logistic regression.

The commonality in all the data analyzed in the three papers is that they are nested—that is, hierarchically structured (Gelman and Hill 2007, 2). Comments are clustered in posts, posts are clustered in Facebook pages, and pages are clustered in countries. I accounted for nesting using different strategies: In *Paper I*, I used a fixed-effects model and included binary indicators for each Facebook page as independent variables, which cancels out between-group effects and focuses on within-group effects (Bell, Fairbrother, and Jones 2019; Bell and Jones 2015, 139). Nesting on post-level was accounted for in *Paper I* by focusing on measures aggregated at the post level. Similarly, in *Paper II*, I analyzed a dependent variable that was aggregated to the post level. In that paper, I accounted for nesting using multi-level “random effects” models (Gelman and Hill 2007, 1–2) with varying intercepts on page and country levels, as well as varying slopes to model the country-specific effects of COVID-19 policies. Explicitly modelling variation on the grouping levels is arguably preferable over fixed effects (Gelman and Hill 2007, 246), but it can cause problems when the number of higher-level clusters is low (Stegmüller 2013). For such cases, methodologists advice using Bayesian inference instead of a frequentist approach (Chan and Rauchfleisch 2023). This is what I implemented in *Paper II*, using the *brms* (Bürkner et al. 2022) package. The downside of Bayesian regression models is that they become computationally rather expensive with growing numbers of observations and complexity of the model. A simpler solution was used in *Paper III*, which was published before *Paper II*: relying on a frequentist framework, we fitted multilevel models with varying intercepts on post and page levels for Step 1 of the analysis, and fixed-effects models in Step 2.

## 4 Paper I: Pandemic Populism? How Covid-19 Triggered Populist Facebook User Comments in Germany and Austria

**Table 8.** Publication Details of Paper I

| Reference                                                                                                                                                                                                                                                                   | Accepted   | Status    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|
| Thiele, Daniel. 2022. "Pandemic Populism? How Covid-19 Triggered Populist Facebook User Comments in Germany and Austria." <i>Politics and Governance</i> 10 (1): 185–96.<br><a href="https://doi.org/10.17645/pag.v10i1.4712">https://doi.org/10.17645/pag.v10i1.4712</a> . | 2021-10-15 | Published |

**Abstract:** COVID-19 and the government measures taken to combat the pandemic have fueled populist protests in Germany and Austria. Social media played a key role in the emergence of these protests. This study argues that the topic of COVID-19 has triggered populist user comments on Facebook pages of German and Austrian mass media. Drawing on media psychology, this article theorizes populist comments as an expression of “reactance,” sparked by repeated “fear appeals” in posts about COVID-19. Several hypotheses are derived from this claim and tested on a dataset of  $N = 25,121$  Facebook posts, posted between January 2020 and May 2021 on nine pages of German and Austrian mass media, and 1.4 million corresponding user comments. To measure content-based variables automatically, this study develops, validates, and applies dictionaries. The study finds that the topic of COVID-19 did trigger populist user comments and that this effect grew over time. Surprisingly, neither the stringency of government measures nor mentions of elitist actors were found to have the expected amplifying effect. The study discusses the findings against the background of governing the ongoing crisis and worrisome developments in the online public sphere.

**Keywords:** COVID-19; fear appeals; populism; social media; user comments

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## **4.1. Introduction**

In the course of the COVID-19 crisis, the government measures taken to combat the pandemic have been increasingly met with protests in several European countries. In Germany and Austria, these protests by ‘coronasceptics’ have been particularly visible as large-scale demonstrations and on social media. Initial research has linked these protests to populist ideology, highlighting that both populists and coronasceptics deeply distrust elites and reject restrictions of ‘the people’s’ will (Brubaker 2021; Eberl, Huber, and Greussing 2021; Nachtwey, Schäfer, and Frei 2020). Although other scholars have stressed that there is no uniform response of populists to COVID-19 (Wondreys and Mudde 2022), empirical studies remain scarce.

This study focuses on populist responses of ordinary citizens to COVID-19 on social media. More specifically, this article analyzes how the topic of COVID-19 and aspects of the crisis management affected the scope of populist user commenting on Facebook pages of German and Austrian news media outlets. Facebook has proven to be a preferred medium of populist citizens (Schulz 2019) and gained importance for expressing protest during lockdowns when much of public life has shifted online (Pressman and Choi-Fitzpatrick 2020). Boberg et al. (2020) argued that a ‘pandemic populism’ is unfolding on Facebook. The aim of this study is to contribute to our understanding of the conditions that give rise to citizen engagement in populist grassroots politics on social media. Understanding these conditions is vital in the ongoing COVID-19 crisis because this helps to assess problems of the crisis communication and to find political strategies for countering a trend toward post-truth politics (Waisbord 2018a).

Populist communication research so far has been focused on communication by political elites (e.g., Blassnig and Wirz 2019; N. Ernst, Blassnig, et al. 2019) or by the media (e.g., Wettstein et al. 2018), or on its effects (e.g., Rooduijn et al. 2017). Few studies, however, have focused on populist messages generated by regular users of online platforms (Blassnig, Engesser, et al. 2019; Galpin and Trenz 2019). None of these studies has focused on Facebook comments or researched the impact of news topics on populist user comments. This study asks how the topic of COVID-19 and certain aspects of the crisis management affected populist user comments on Facebook pages of German and Austrian mass media outlets.

Discussing the news in user comments on social media has the potential to foster public deliberation (Dahlberg 2011). However, reality often looks different. In the ‘participatory populism’ scenario, a small but active group of users engages in writing comments that demonize elites, undermine the institutions of representative democracy, and counter the news or expert knowledge with ‘common sense’ (Galpin and Trenz 2019). This article expects that during the crisis, the topic of COVID-19 has attracted more such populist user comments than other topics. Repeated ‘fear appeals’ (Witte 1992) to comply with the restrictive government measures taken to fight the pandemic may have sparked populist commenting behavior as an expression of what media psychology calls ‘reactance’ (Dillard and Shen 2005). Elaborating on this argument in the theory section, this study hypothesizes that this effect grew over time, increased with the stringency of COVID measures, and was amplified by mentioning elite actors.

To test these hypotheses, this study uses an original dataset of N=25,121 Facebook posts and 1.4M corresponding user comments, collected from nine popular Facebook pages of German and Austrian mass media outlets. The data cover a time frame from January 2020 to May 2021. The dependent variable, the number of populist Facebook comments per post, and central explanatory variables are measured by automated content analyses, using and validating Gründl’s (2022) populism dictionary and self-constructed dictionaries. Hypotheses are tested in negative binomial regression models. The findings show that posts about the topic of COVID-19 did attract more populist user comments and that this effect grew over time. The study did not find the hypothesized amplifying effects of government measure stringency and mentions of elite actors. The findings are discussed against the background of governing the ongoing crisis.

## **4.2. User Comments as Participatory Populism**

Over the past decade, social media has fundamentally changed the way political news is produced, distributed, and consumed (Klinger and Svensson 2015). Crucially, social media has turned the audience from receivers of content into producers themselves (Klinger and Svensson 2015, 1246). This becomes evident in the comments feature of the most popular social media platform, Facebook (Newman et al. 2020, 29). Most news outlets today maintain a Facebook page where they dis-

seminate news items in posts. Facebook users can respond directly to these posts in comments. Such comments allow users to react on specific news items (Galpin and Trenz 2019), engage in discussions with others (Macafee 2013), and influence others' perceptions and behavior (Zerback and Fawzi 2017). Unlike anonymous user comments on media websites, Facebook comments disclose the opinion expressed by users to their network of Facebook friends (Rowe 2015b, 542) and increase the visibility of the post (Klinger and Svensson 2015). This study focuses on user comments on Facebook pages of news media outlets. Here, commenting on the news on Facebook is understood as a low-effort form of citizen engagement and political participation (Knoll, Matthes, and Heiss 2018).

From a normative perspective, user comments have the potential to contribute to a plural, participatory public sphere (Galpin and Trenz 2019, 783). Deliberative democratic theory has welcomed user comments as facilitating citizens' engagement in debates that guide informed opinion formation—given the debates meet criteria, such as reciprocity, civility, or rationality (Dahlberg 2011; Friess and Eilders 2015). Comments can also give marginalized voices access to the public or foster counter-publics (Dahlberg 2011, 861). Although such interactive technologies raised high hopes at the turn of the millennium, scholars paint a less positive picture of the online public sphere today. Comments sections may function as 'echo chambers' that reinforce previously held beliefs and aggravate polarization among the audience (e.g., Jamieson and Cappella 2008). Comments are also notorious for a brusque tone and incivility, rendering the deliberative quality of online discourses questionable (e.g., Coe, Kenski, and Rains 2014). Facebook comments have been found to exhibit even lower levels of deliberative quality than comments on news websites (Rowe 2015b). Pfetsch (2018, 60) argued that today's online public sphere is increasingly characterized by a discordance of citizens "up to the level of plain populism". Populist user comments on Facebook and the conditions that give rise to them are the focus of this study.

According to Mudde (2004, 543), *populism* is an ideology that clings to the idea that a 'corrupt elite' rules and deceives 'the people', and favors the unrestricted sovereignty of the people. At its core, populism entails the dimensions *anti-elitism*, *people-centrism*, and *popular sovereignty* (e.g., N. Ernst, Blassnig, et al. 2019, 3). This ideology can manifest itself in messages from politicians and citizens alike (de Vreese et al. 2018a, 427). Theorists have noted the ambivalent relationship between

populism and democracy (e.g., Canovan 1999; Mudde and Rovira Kaltwasser 2012a). Although populism's demand for popular sovereignty supports a core feature of democracy, its crude majoritarianism and anti-pluralism brings it into conflict with liberal democracy (Canovan 1999, 7; Mudde and Rovira Kaltwasser 2012a, 17). This ambivalence is reflected in attitudes and participatory behavior of populist citizens (Zaslove et al. 2021). Populist citizens have been found to embrace "expressive non-institutionalized modes of participation" (Anduiza, Guinjoan, and Rico 2019, 109) and hence are likely to express their views in user comments online. Galpin and Trenz (2019) introduced the term 'participatory populism' for populist user comments that respond to online news and have pointed out negative consequences of this form of citizen engagement. This study follows this critical normative assessment, and suspects that populist user comments deteriorate the quality of online deliberation because their anti-pluralism, Manichaeism, and devaluation of expert knowledge constitute obstacles to civil, reciprocal, and informed online debates (Galpin and Trenz 2019, 784; Waisbord 2018b).

Citizens and social media users have been repeatedly theorized as originators of populist messages (Engesser, Fawzi, and Larsson 2017, 1284; Esser, Stępińska, and Hopmann 2017, 371; Krämer 2017, 1294). The bulk of empirical research on populist communication, however, has been focused on political elites (e.g., N. Ernst, Blassnig, et al. 2019) or the media (e.g., Wettstein et al. 2018). Few studies have investigated populism in user comments empirically (Blassnig, Engesser, et al. 2019; Galpin and Trenz 2019). Galpin and Trenz (2019) focused on populist user comments on media websites during the 2019 European Parliamentary elections and found a clear anti-representative attitude in the user comments. Blassnig et al. (2019) analyzed comments reacting to news articles about immigration on media websites from three West European countries and found that populism in articles triggers populism in comments (Blassnig, Engesser, et al. 2019, 643). This paper exceeds several limitations of these studies. First it broadens the sample size, given previous studies have analyzed only the first 10 to 20 comments per article (Blassnig, Engesser, et al. 2019, 636; Galpin and Trenz 2019, 797). Second, this study shifts the focus from news websites to comments on Facebook, which has proved to be highly popular among populist citizens (Schulz 2019). Finally, the study asks a previously unasked question: How do news topics, and COVID-19 in particular, affect the scope of populist commenting?

### 4.3. The Pandemic and Populist User Comments

The pandemic has been accompanied by protests of ‘coronasceptics’ and a proliferation of conspiracy myths online (Stephens 2020). Scholars quickly linked these phenomena to populist ideology (Boberg et al. 2020; Brubaker 2021; Eberl, Huber, and Greussing 2021; Nachtwey, Schäfer, and Frei 2020). Following Brubaker (2021), these protests pick up anti-elitist and people-centric narratives because they challenge expert knowledge and juxtapose it with ‘common sense’. Preliminary findings from a survey among German-speaking coronasceptics substantiated these claims (Nachtwey, Schäfer, and Frei 2020). Additionally, coronasceptics’ calls to defy COVID measures can be understood as attempts to restore popular sovereignty. Yet, it is not self-evident that populists profited from this crisis as they did from previous crises (Buštíková and Baboš 2020, 505; Wondreys and Mudde 2022). In fact, at the beginning of the crisis, the Austrian and German population was highly supportive of the government measures (Kittel et al. 2020; Naumann et al. 2020).

Against this backdrop, populist political parties in Germany and Austria initially struggled to find a position on COVID crisis management. In Austria, the Freedom Party (*Freiheitliche Partei Österreichs*, FPÖ), a “prototypical” populist radical right party that has been successful since the 1980s (Mudde and Rovira Kaltwasser 2013, 155), first pursued a discourse of ‘national unity’ and supported the government measures, only to shift to a ‘coronasceptic’ stance in April 2020 (Opratko 2021). From then on, party representatives repeatedly questioned the credibility of public health experts and demonized the government measures as threats to freedom and democracy (Opratko 2021). In Germany, the relatively young, populist radical right party Alternative for Germany (*Alternative für Deutschland*, AfD) (Fawzi, Obermaier, and Reinemann 2017) initially demanded even stricter measures to combat the pandemic (AfD 2020), only to speak of a “Corona-Dictatorship” in a speech by Alexander Gauland (Deutscher Bundestag 2020, 23358, translated) in October 2020. The German left-wing populist party The Left (*Die Linke*), however, countered ‘coronasceptic’ discourses (Die Linke 2021). This study speculates that the shifts in the positions of populist (radical right) parties were in no small part driven by the emergence of a ‘coronasceptic’, populist grassroots movement, which became increasingly vocal on social media. Instead of analyzing the consequences of such grassroots populism, the present study focuses on the conditions that shape popu-

list grassroots engagement of ordinary citizens on social media. Specifically, this study aims to answer the question of how the news topic COVID-19, and aspects of the crisis management, have affected the scope of populist commenting on Facebook in Germany and Austria.

Drawing on psychological literature and public health communication research, this study expects that the topic COVID-19 strongly attracts populist comments. Facebook posts about COVID-19 arguably contain ‘fear appeals’ (e.g., Witte 1992). Fear appeals are, in a nutshell, “persuasive messages designed to scare people by describing the terrible things that will happen to them if they do not do what the message recommends” (Witte 1992, 329). Reports about a global pandemic do convey a frightening message. Moreover, such reports frequently include behavioral recommendations about how to avoid an infection. Though journalists may not be the initiators of such persuasive attempts, this article assumes that Facebook posts about COVID-19 frequently reiterate persuasive messages issued by government officials or public health experts. Following the ‘indexing’ hypothesis, such reiteration is particularly likely in times of crisis (Bennett, Lawrence, and Livingston 2007).

Fear appeals, like any persuasive messages, can fail. One form of failure that is observed when the recommended behavior entails restrictions on personal freedoms is called ‘reactance’ (S. S. Brehm and Brehm 1981; Dillard and Shen 2005). Reactance is “the motivational state that is hypothesized to occur when a freedom is eliminated or threatened” (S. S. Brehm and Brehm 1981, 37), which is arguably the case with restrictive COVID-19 measures. Though reactance is difficult to observe directly, it has been associated with rejective attitudes and behaviors, such as denying the existence of the threat, committing forbidden acts, or exercising a different freedom (Dillard and Shen 2005, 146). This article argues that populist user comments can be understood as a symptom of reactance. Populist comments undermine the credibility of the sender and the content of the message, for example by suggesting that the media is lying (Krämer 2017, 1293). In the case of COVID, this questions the very existence of the threat (Brubaker 2021, 6). Furthermore, populist comments may call to reestablish lost freedoms by breaking COVID rules or may themselves constitute a compensatory behavior that provides a feeling of

control (Dillard and Shen 2005, 146). This study argues that posts about COVID-19 trigger populist comments as a symptom of reactance:

**H1:** Posts about COVID-19 attract more populist comments than other posts.

Frequent repetitions of persuasive messages have been found to undermine persuasive attempts, decrease statement credibility, and trigger reactance (Koch and Zerback 2013). Ernst et al. (2017) showed that this is particularly the case for highly negative messages. Posts about COVID-19 address a highly negative topic and have been repeated frequently since the outbreak of the pandemic. In our data, 36% of all posts featured this topic. Following these considerations, this study expects that the effect hypothesized in H1 increases over time:

**H2:** The attraction of COVID-19 posts for populist comments grows over time.

Third, given reactance is understood as a reaction to impending restrictions to personal freedom (S. S. Brehm and Brehm 1981), this paper expects a moderating effect of the stringency of COVID measures. Growing stringency of the measures implies greater restrictions on personal freedoms, and—if the reasoning here is correct—a larger tendency to respond with reactance-related behavior. Understanding the connection between government measures and populist citizen engagement on social media also helps us fathom possibilities to counter populist online behavior politically.

**H3:** The attraction of COVID-19 posts for populist comments grows with the stringency of government measures.

Following a different line of thought, populist user comments can be understood as expressions of preexisting populist attitudes that are activated by a priming effect (Blassnig, Engesser, et al. 2019, 634). Priming, in communication research, refers to the effect that media content has on recipients' subsequent judgments and behavior (Roskos-Ewoldsen, Roskos-Ewoldsen, and Carpentier 2002, 97). Priming activates specific concepts and cognitive schemata by increasing their accessibility in the recipient's memory (Blassnig, Engesser, et al. 2019, 634; Roskos-Ewoldsen, Roskos-Ewoldsen, and Carpentier 2002). According to Krämer (2014, 55–56), populist attitudes constitute such a schema that can be activated by specific message characteristics. This study argues that mentioning elite actors, especially government representatives and public health experts, may activate preexisting 'populism schemata' (Krämer 2014) and consequently increase the readiness of

populist-minded users to express their views in user comments. Governmental representatives and public health experts have been the most visible actors in navigating the COVID-19 crisis (Brubaker 2021, 2). Both actor groups are well established enemy images in populist communication and function as elitist scapegoats in populist blame attributions (Hameleers 2018). This populist blame game should be particularly relevant in complex crisis situations because it creates a sense of security (Hameleers 2018, 2180). Understanding how the visibility of public health experts affects populist citizen engagement online also helps us assess problems of crisis communication in the ongoing crisis. This lies in difficult terrain in which we face both an increased demand for expert knowledge and challenges from post-truth politics (Brubaker 2021; Mede and Schäfer 2020; Waisbord 2018a). This study expects that mentioning government representatives and experts amplifies the positive effect of the topic of COVID-19 on populist commenting:

**H4a:** The attraction of COVID-19 posts for populist comments grows with mentioning government representatives.

**H4b:** The attraction of COVID-19 posts for populist comments grows with mentioning experts.

#### **4.4. Methods**

To test these hypotheses, this study used data collected from the Facebook Graph API. Using digital trace data enhances external validity, compared to experimental designs, where populist expressions might be held back (Blassnig, Engesser, et al. 2019, 630). By selecting the cases of Germany and Austria, this study followed a most-likely research design (Levy 2008, 12): If the hypothesized relations could not be found in these countries, where ‘coronasceptic’ protests have taken on the proportions of a civic movement, they were unlikely to be found elsewhere. In Germany, the largest demonstrations of coronasceptics happened in summer 2020, and they gained traction in Austria in winter 2020-2021. Both countries are characterized by a similar political, historical, and economic background and faced similar challenges from the pandemic. Additionally, the common language allowed a consistent application of the content analysis tools.

#### 4.4.1. Data

This study selected nine highly popular Facebook pages from media outlets, covering quality press (AT: *Der Standard*, *Die Presse*; DE: *Der Spiegel*, *Die Zeit*), tabloid press (AT: *Kronen Zeitung*, *Ö24*, DE: *Bild*), and public broadcasting news shows (AT: *Zeit im Bild*, DE: *Tagesschau*) in both countries. The selection followed a two-stage process. First, accounting for a hybrid media system (Chadwick 2013), this study selected online news websites that are backed by traditional media brands and ranked them by their weekly reach in 2020 (Newman et al. 2020, 63, 71). Then the corresponding Facebook pages were identified and ranked by the number of Facebook fans (Feb 2020). The aim was to pick two Facebook pages per country for each category for quality press and tabloid press, and one page from a public broadcaster. For this study, Facebook pages that maximized the number of Facebook fans and the weekly reach of the associated website were selected. For Germany, this procedure resulted in preferring Facebook pages of weekly quality press (*Der Spiegel*, *Die Zeit*) over daily quality press because the former reached a larger online audience. Apart from *Bild*, there is no nationwide tabloid newspaper in Germany. For each Facebook page, the maximum number of publicly accessible Facebook posts, posted between 1 January 2020 and 30 May 2021, was downloaded from the Facebook API using *Facepager* (Jünger and Keyling 2020), resulting in N=25,121 posts. For each Facebook post, up to 200 user comments were downloaded. This upper limit is considerably larger than the average number of Facebook comments per post, 134. In total, this study considered 1,443,273 Facebook user comments. The API returns user comments in anonymized form. Because the API returned data that were skewed toward recent posts, the study controlled for the posts' age at time of downloading.

#### 4.4.2. Dependent Variable

The dependent variable here is the *number of populist user comments* per Facebook post, reflecting the scope of a collective populist voice in the Facebook comments section (Galpin and Trenz 2019, 782). To classify user comments as populist, this study applied an automated content analysis, employing Gründl's (2022) populism dictionary. Dictionary measurements count the occurrence of keywords in texts. Gründl's (2022) dictionary is tailored to social media content in the German language and covers all three conceptual dimensions of populism as defined earlier:

*anti-elitism*, *people-centrism*, and *popular sovereignty*. Previous dictionary measurements of populist communication have been focused on anti-elitism alone (Rooduijn and Pauwels 2011), ignoring people-centric messages and demands for popular sovereignty. This study suspects that these two dimensions play a vital role in populist user comments, where ‘the people’ arguably make themselves heard (Hameleers 2018, 2179). Additionally to this improved conceptual fit, Gründl’s (2022) dictionary is technically superior to previous attempts because it covers a wide range of multiword expressions and outperformed other populism dictionaries in validity tests (Gründl 2022, 13). In this study, a user comment was considered populist when at least one populist keyword was found. This accounts for the brevity of the comments (20 words avg.) and has been found sufficiently discriminating judged by face validity (see Appendix C). Because automated content analyses raise questions of validity (Grimmer and Stewart 2013), this study validated all measurements thoroughly, as reported in the next section. The dependent variable is the aggregated count of populist Facebook comments per post.

#### 4.4.3. Explanatory Variables

Three central explanatory variables are dichotomous indicators of a post’s message characteristics: mentioning the topic of COVID-19, government figures, or experts. To measure these variables, this study developed, applied, and validated original dictionaries. Appendix B documents the dictionaries and their development. Additionally, this study captured whether a post mentioned the topics of party politics, economy, or border/migration, which might well have attracted populist comments (Betz 1994; Burscher, van Spanje, and de Vreese 2015). This study tested validity of all dictionary measures against human coding of 450 posts and 450 comments. Both random samples were stratified to ensure sufficient coverage of the coded categories. Two coders, a student and the author, followed a codebook<sup>6</sup> (see Appendix A) and reached satisfactory reliability scores when parallel-coding 80 posts and comments (see Table 9). Along with Krippendorff’s alpha for reliability,

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<sup>6</sup> *Addendum* to the published article: *Populism* was coded as a compound of the two binary variables *anti-elitism* and *people-centrism*. The coding instructions are designed to capture references to *popular sovereignty* by one of the two dimensions. After coding, a comment was considered populist if at least one of the two indicators were present. Appendix A in this dissertation documents the instructions at greater detail than in the originally published online supplementary material.

Table 9 reports the validity scores Precision, Recall, and F1. Recall indicates how well a dictionary captures all relevant documents, precision how well it captures only relevant documents, and F1 is a harmonic mean of both. All measurements reached satisfactory scores, especially when compared to dictionaries in other tasks (Atteveldt, Velden, and Boukes 2021, 128).

To operationalize time, this study computed the difference in days between the date of the post and the date when the WHO declared a global pandemic (March 11, 2020). Stringency of COVID-19 measures was operationalized as the stringency index coded by the *Oxford COVID-19 Government Response Tracker* (Hale et al. 2021).

**Table 9.** Reliability and Validity Test

| Concept                       | Krippendorff's $\alpha$ | Recall | Precision | F1   |
|-------------------------------|-------------------------|--------|-----------|------|
| Populism <sup>1</sup>         | 0.81 (n=80)             | 0.79   | 0.72      | 0.75 |
| COVID <sup>2</sup>            | 0.97 (n=80)             | 0.91   | 0.96      | 0.93 |
| Government <sup>2</sup>       | 0.90 (n=80)             | 0.86   | 0.80      | 0.83 |
| Experts <sup>2</sup>          | 0.76 (n=80)             | 0.84   | 0.74      | 0.79 |
| Party politics <sup>2</sup>   | 0.69 (n=80)             | 0.77   | 0.85      | 0.81 |
| Economy <sup>2</sup>          | 0.80 (n=80)             | 0.70   | 0.77      | 0.73 |
| Border/Migration <sup>2</sup> | 0.92 (n=80)             | 0.71   | 0.85      | 0.77 |

Notes: 1: in comments, 2: in posts

#### 4.4.4. Control Variables

In addition to controlling for other topics and the download age as mentioned previously, this study controlled for the severity of the crisis, using the rolling 7-day mean of daily new infections per 100,000 inhabitants of each country, based on data included in the Oxford tracker (Hale et al. 2021). To model the number of times a populist comment could have been observed, all models included the logged number of downloaded comments per post plus 0.1 as an offset (Hilbe 2011, 134). All continuous independent variables but the offset were standardized and centered on population mean, while 'stringency' and 'new cases' were centered to their country mean. Table 10 reports summary statistics of all variables prior to transformation.

**Table 10.** Summary Statistics

| Variables                                           | Min. | Max.   | Mean/n        | (SD)/(%) |
|-----------------------------------------------------|------|--------|---------------|----------|
| <i>Dependent variable:</i>                          |      |        |               |          |
| Populist comments per post (count)                  | 0    | 165    | 1.5           | (3.3)    |
| <i>Explanatory variables:</i>                       |      |        |               |          |
| COVID                                               | 0    | 1      | 8,924         | (36%)    |
| Government                                          | 0    | 1      | 3,522         | (14%)    |
| Experts                                             | 0    | 1      | 1,717         | (6.8%)   |
| Day count to/since March 11, 2020                   | -70  | 445    | 257.4         | (143.1)  |
| Stringency of government measures <sup>3</sup>      | 0    | 85.2   | 64.1          | (20.1)   |
| <i>Controls:</i>                                    |      |        |               |          |
| Economy                                             | 0    | 1      | 2,628         | (10%)    |
| Borders/migration                                   | 0    | 1      | 904           | (3.6%)   |
| Party politics                                      | 0    | 1      | 1,869         | (7.4%)   |
| New COVID-19 cases p. 100k inhabitants <sup>3</sup> | 0    | 83.6   | 17.3          | (19.2)   |
| Download age <sup>2</sup>                           | 0    | 395    | 75.2          | (74.9)   |
| <i>Facebook accounts (grouping variable)</i>        |      |        |               |          |
| DER SPIEGEL (DE)                                    | 0    | 1      | 2,253         | (9.0%)   |
| DIE ZEIT (DE)                                       | 0    | 1      | 2,243         | (8.9%)   |
| Bild (DE)                                           | 0    | 1      | 2,243         | (8.9%)   |
| tagesschau (DE)                                     | 0    | 1      | 2,216         | (8.8%)   |
| Kronen Zeitung (AT)                                 | 0    | 1      | 4,514         | (18%)    |
| oe24.at (AT)                                        | 0    | 1      | 4,045         | (16%)    |
| DER STANDARD (AT)                                   | 0    | 1      | 3,054         | (12%)    |
| Die Presse (AT)                                     | 0    | 1      | 3,739         | (15%)    |
| Zeit im Bild (AT)                                   | 0    | 1      | 814           | (3.2%)   |
| <i>Offset:</i>                                      |      |        |               |          |
| Downloaded comments per post                        | 0    | 200    | 57.3          | (70.7)   |
| Total comments per post <sup>1</sup>                | 0    | 13,257 | 134.4         | (389.5)  |
| <b>Total (N posts)</b>                              |      |        | <b>25,121</b> |          |

Notes: 1: not in model; 2: z-standardized; 3: standardized and centered at country mean

#### 4.4.5. Model Specification

Because the dependent variable was a count variable and overdispersed, this study used negative binomial regression models to test the hypotheses (Hilbe 2011). To account for the clustering of the data on Facebook page level, this study ran fixed-effect models, which cancel out effects between accounts and focus on the effects on post level (Bell and Jones 2015, 139). Random-effects models confirmed the robustness of the findings, as documented in Appendix D.

## 4.5. Results

The descriptive statistics reported in Table 10 show that populist comments were a rather rare event in our data, with a mean of 1.5 populist comments per post. The results of the negative binomial regression models illuminate the factors that influenced the frequency of populist comments (see Table 11). Model 1 includes all basic variables, while model 2 adds the interaction terms. Hypothesis 1 posited that posts about COVID-19 would attract more populist comments than other posts, which is supported by the positive, significant coefficient for ‘COVID’ in both models. Because the coefficients are not directly interpretable, this study computed average marginal effects (AME). These tell us that mentioning COVID increased the predicted count of populist comments by .14, holding all other variables at their observed values and then averaging across predictions for the whole sample. The only message characteristics that reached larger AMEs were mentioning the government (.28) and political parties (.71).

Hypothesis 2 posited that the effect of the topic of COVID would grow over time. This is supported by the significant, positive interaction term ‘COVID\*Day count’. The plot on the left in Figure 5 visualizes this effect, plotting the average predicted count of populist comments, conditional on ‘COVID’ and ‘Day count’. The standardized day count variable on the x-axis has a mean of zero, which corresponds to November 23, 2020, while one unit (SD) change represents 143 days. The solid line indicates the average predicted count for posts that mentioned the topic of COVID-19, while the dotted line relates to posts that did not. The distance between both lines on the y-axis indicates the AME of ‘COVID,’ conditional to time, with the gray area indicating the 95% confidence interval. The plot shows that the AME of ‘COVID’ grew from a negative effect in summer 2020 to .27 in mid-April 2021, moving from -1 to +1 on the x-axis. The slope of the dotted line, however, indicates that the number of populist comments grew over time for other posts as well, an effect that is difficult to interpret.

**Table 11.** Results of Negative Binomial Regression Models

| Predictors                   | Model 1         | Model 2         |
|------------------------------|-----------------|-----------------|
| <i>Explanatory variables</i> |                 |                 |
| COVID                        | 0.09 (0.02)***  | 0.10 (0.02)***  |
| Government                   | 0.17 (0.02)***  | 0.28 (0.03)***  |
| Experts                      | -0.05 (0.03)    | -0.18 (0.07)**  |
| Day count                    | 0.25 (0.01)***  | 0.20 (0.02)***  |
| Stringency                   | -0.05 (0.01)*** | -0.06 (0.02)*** |
| <i>Interaction terms</i>     |                 |                 |
| COVID*Government             |                 | -0.20 (0.04)*** |
| COVID*Experts                |                 | 0.15 (0.08)     |
| COVID*Day Count              |                 | 0.10 (0.02)***  |
| COVID*Stringency             |                 | 0.08 (0.02)***  |
| <i>Controls</i>              |                 |                 |
| New COVID-19 cases           | 0.01 (0.01)     | 0.00 (0.01)     |
| Download age                 | -0.06 (0.01)*** | -0.06 (0.01)*** |
| Economy                      | 0.03 (0.03)     | 0.04 (0.03)     |
| Borders/Migration            | 0.11 (0.04)**   | 0.08 (0.04)*    |
| Party politics               | 0.43 (0.03)***  | 0.42 (0.03)***  |
| <i>Accounts</i>              |                 |                 |
| DER SPIEGEL (GER)            | -0.13 (0.03)*** | -0.13 (0.03)*** |
| DIE ZEIT (GER)               | 0.11 (0.04)**   | 0.11 (0.04)**   |
| Bild (GER)                   | -0.58 (0.03)*** | -0.56 (0.03)*** |
| Der Standard (AT)            | -0.28 (0.05)*** | -0.30 (0.05)*** |
| Die Presse (AT)              | -0.07 (0.04)    | -0.08 (0.04)*   |
| Kronen Zeitung (AT)          | -0.46 (0.03)*** | -0.48 (0.03)*** |
| oe24.at (AT)                 | -0.25 (0.03)*** | -0.26 (0.03)*** |
| Zeit im Bild (AT)            | -0.11 (0.04)**  | -0.11 (0.04)**  |
| Observations                 | 25,121          | 25,121          |
| AIC                          | 57,068.08       | 56,975.54       |
| BIC                          | 57,230.71       | 57,170.69       |

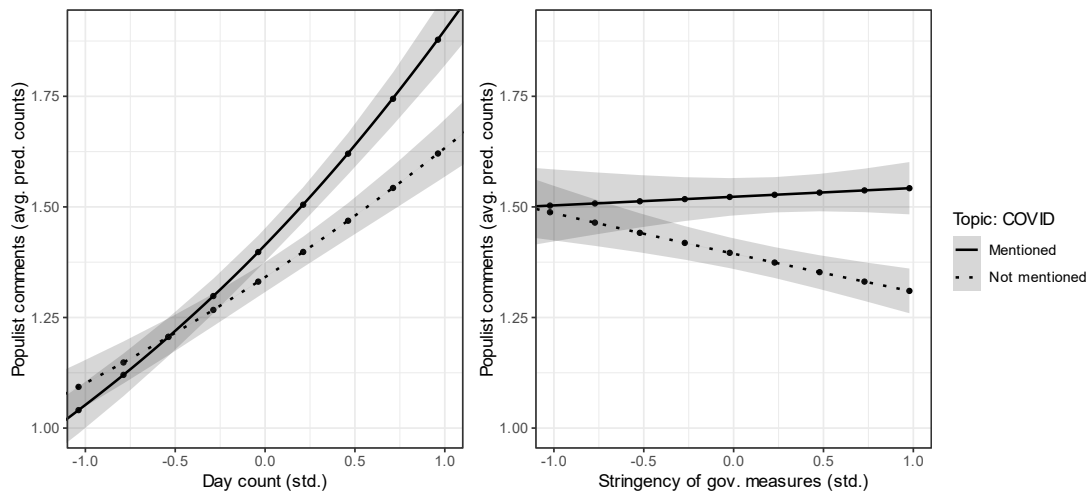
Notes: \*\*\*p < 0.001; \*\*p < 0.01; \*p < 0.05; Dependent Variable: Number of populist comments per post; Off-set: Number of downloaded comments (n + 0.1, logged)

Hypothesis 3 suggested an analogous interaction effect of the topic of COVID and measure stringency. Surprisingly, the overall effect of stringency was negative. With COVID measures getting stricter, fewer populist comments were observed overall. This negative relationship was driven particularly by posts that did not mention COVID-19, as indicated by the dotted line in the plot on the right side of Figure 5. Surprisingly, this relation was not reversed but muted for posts that mentioned 'COVID', as indicated by the low slope of the solid line. Although the conditional effect of government stringency for posts that mentioned COVID-19 was tendentially positive, increasing the average predicted count of populist comments by .04 when moving from -1 SD to +1 SD, this effect did not surpass the 5% signifi-

cance threshold. Based on these findings, this study discarded hypothesis 3 and discusses implications in the concluding section.

Hypotheses 4a and 4b posited an amplification of the effect of COVID posts by mentioning the government and experts. Mentioning the government had an independent, positive effect on the number of populist comments. Surprisingly, mentioning experts did not and even had a negative effect in model 2. The expected interaction effects (H4a & H4b) were not confirmed by the models. Instead, model 2 estimated a significant, negative coefficient for ‘COVID\*Government’. In this case, the negative sign indicates that the positive effect of ‘Government’ shrank when COVID was mentioned but not that COVID posts attracted fewer populist comments if they mentioned the government.

**Figure 5.** Interaction Effects of COVID with Time and with Stringency (Avg. Pred. Counts, 95% Confidence Intervals)



The control variables indicate that the topics of migration and political parties attracted populist comments and that the download age affected the outcome. The dummy variables for the Facebook pages, which account for clustering of the data, suggest that the page of the baseline category, *tagesschau*, was only surpassed by *Die Zeit* in attracting populist comments. The concluding section interprets the findings substantially.

## 4.6. Conclusions

This article set out to study a problematic form of citizen engagement in the context of the COVID-19 crisis: populist commenting on news reports on Facebook.

The study focused on Germany and Austria, where protests by ‘coronasceptics’ grew into a civic movement that exhibited an affinity toward populist ideology (Nachtwey, Schäfer, and Frei 2020). Using a dataset of N=25,121 Facebook posts and 1.4 million comments, posted between January 2020 and May 2021, and a validated, dictionary-based content analysis, this study analyzed how the topic of COVID-19 has attracted populist user comments on nine Facebook pages of German and Austrian mass media outlets.

The findings show that the topic COVID-19 has attracted more populist user comments than other posts and that this effect has grown over time. Apparently, the Facebook audience became increasingly annoyed by this topic and expressed this discontent by writing a growing number of populist comments. This article suggested interpreting these comments as expressions of ‘reactance’ (Dillard and Shen 2005) and as a consequence of failed ‘fear appeals’ (Witte 1992) that are arguably contained in posts about COVID-19. The growing effect of COVID posts over time supports this interpretation because previous studies have shown that repeating appeals increases reactance (Koch and Zerback 2013). This finding confirms the well-established argument that crisis situations provide favorable conditions for populism (Hameleers 2018, 2180), at least for the grassroots-like, populist citizen engagement on social media analyzed here. However, the finding that this effect only unfolded over time and the discussed initial struggles of populist political parties to find a coherent stance toward the crisis management indicate that this relationship might be more complex than in previous crises (Brubaker 2021; Wondreys and Mudde 2022). Future research should explore the interplay between populist citizen engagement online and the positioning of populist parties in the context of the COVID-19 crisis further.

This study analyzed additional conditions under which citizens engage in populist commenting on social media. Surprisingly, the analysis did not find that the stringency of government measures triggered populist user comments or amplified the effect of the topic of COVID-19. An ad hoc explanation of this finding is that subjectively perceived restrictions of freedom might be more relevant for ‘coronasceptic’ populists than objective restrictions (similarly, see Nachtwey, Schäfer, and Frei 2020, 60). This result also has implications for policy makers. Based on this finding, one cannot hope that relaxing the COVID-19 measures would considerably appease

populists online. Decision makers may also be relieved that this study did not find that mentioning government representatives or public health experts amplified the attractiveness of COVID posts for populist comments. However, this study did find independent, positive effects for mentioning the government and political parties. Inspecting the content of the populist comments more thoroughly shows that mass media became a main target of populist attacks and was frequently decried as conformist propaganda (see Appendix C). Unfortunately, this finding takes its place in a growing list of worrisome developments in the online public sphere (e.g., Coe, Kenski, and Rains 2014; Pfetsch 2018). If social media users increasingly defame mass media reports as outright lies, the very basis for debates in the comments section gets lost. Although this development might be countered by moderating practices, more research on such counterstrategies is needed.

This study was not without limitations. Owing to its primary focus on populism and COVID, this study did not measure ‘reactance’ and ‘fear appeals’ directly and provided only circumstantial evidence for the psychological explanation suggested here. Appendices B and D report an attempt to measure fear appeals, which was discarded because it did not fully meet validity requirements. Future research is encouraged to test the psychological arguments presented in this study more directly in experimental designs. Further limitations stem from the applied automated content analysis. Although the dictionary approach used here enabled an efficient analysis of a large corpus of text and performed well in the validity tests, the depth of the resulting insights is limited. For example, it would be desirable to learn more about the actors who are attacked in populist comments; about related concepts, such as the spread of misinformation; or about comments that are critical toward the COVID measures but not necessarily populist. Future research may approach these questions using a nuanced, manual coding scheme. The study is also limited by its country selection. Extending this research to a comparative study of other European countries might provide more robust findings about the relationship between COVID-19 government measures and populist commenting.

Finally, contributing to a broader theme of this special issue, I want to address challenges for academic research that arise from working with the Facebook API. Accessing the Facebook API has become more and more difficult for researchers in the past few years. Many social media scholars today are dependent on endeavors like *Facepager* (Jünger and Keyling 2020). Such programs, however,

have a precarious status themselves and constantly run the risk of losing the access granted by Facebook. A different problem is the lack of transparency and constant changes of the Facebook API. The data returned sometimes exhibit gaps or skewness for unclear reasons. This study included a download age control variable in the models to account for such biases. Recently, the Facebook API discontinued returning comment IDs, which renders the analysis of interactive user comments difficult. The anonymization of the comments is welcome for privacy reasons but certainly poses challenges for testing sociological and psychological explanations. The research community should clearly provide more institutional support for critical infrastructure such as *Facepager* in the medium term and establish free and reliable access to social media APIs in the long term.

## 5 Paper II: How COVID-19 and the News Shaped Populism in Comments Sections in Seven European Countries

**Table 12.** Publication Details of Paper II

| Reference                                                                                                                                                                                                                                                                                           | Accepted   | Status    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|
| Thiele, Daniel. 2024. "How COVID-19 and the News Shaped Populism in Facebook Comments in Seven European Countries.: A Computational Analysis." <i>Computational Communication Research</i> 6 (1). <a href="https://doi.org/10.5117/CCR2024.1.2.THIE">https://doi.org/10.5117/CCR2024.1.2.THIE</a> . | 2023-10-24 | Published |

**Abstract.** Citizen-generated populism is flourishing in the comments sections of online news. The factors that shape the extent of such populist communication from below are still under-researched. This study focuses on the COVID-19 crisis to examine how contextual and media-related factors are related to the extent of populism in comment sections on Facebook pages of news outlets from seven European countries (AT, DE, FR, IT, NL, SE and UK). Computational text analysis, machine translation and Bayesian multilevel regression were used to analyze digital trace data from 65,258 posts and 3.4 million comments published between February 2020 and June 2021. The computational measurements - multilingual dictionaries for posts and distributed dictionary representation to capture populism in comments - were rigorously validated. The results show that posts referring to the government, experts, COVID-19, and restrictions exhibit higher levels of populism in the comments sections. The stringency of containment policies was positively associated with populism in Germany, Austria, and the Netherlands when COVID-19 was mentioned. Lower levels of populism were observed for tabloid media and when news outlets engaged in visible moderation. The implications of these findings beyond the pandemic context and methodological challenges are discussed.

**Keywords:** populism; COVID-19; social media; user comments; word embeddings; multilingual; automated text analysis

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## 5.1. Introduction

Populist messages travel well on social media (N. Ernst, Blassnig, et al. 2019; Gerbaudo 2018). Politicians employ populist communication to stimulate user interactions (Jost, Maurer, and Hassler 2020). The participatory logic of social media also allows ordinary citizens to express their populist views (de Vreese et al. 2018a). Comments sections below news are bursting with citizen-generated populism, whether on websites (Blassnig, Engesser, et al. 2019) or on Facebook pages operated by news media (Thiele 2022b). In parallel to a growing interest in populist attitudes (Marcos-Marne, Gil de Zúñiga, and Borah 2023), researchers have begun to investigate populism in user comments (e.g., Blassnig, Engesser, et al. 2019; Galpin and Trenz 2019). These studies have focused on election periods (Blassnig, Engesser, et al. 2019; Galpin and Trenz 2019) or relied on narrow country selections (Thiele 2022b). What is lacking are cross-national studies that provide a comprehensive understanding of how “populism in reader comments is influenced by characteristics of the article or other context factors” (Blassnig, Ernst, et al. 2019, 1124). This study narrows this research gap by examining populism in user comments (henceforth “comments”) on news media Facebook pages from seven European countries—Austria, France, Germany, Italy, Netherlands, Sweden, and the United Kingdom—in the context of COVID-19.

COVID-19 provides a unique opportunity for studying contextual influences on citizen-generated populism. Government containment policies drastically restricted personal freedoms, triggering psychological reactance in some citizens (Dillard et al. 2023). In many European countries, containment policies were met with protests (Kriesi and Oana 2023; Neumayer, Pfaff, and Plümper 2023) that resonated with populist ideology (Brubaker 2021; Stecula and Pickup 2021). Expressing discontent online became increasingly important during lockdowns (Kriesi and Oana 2023). Online, COVID-19 was accompanied by an “infodemic”, which is particularly well researched with regard to the spread of conspiracy theories (Righetti, Rossi, and Marino 2022). Less is known about the crisis’s impact on the proliferation of populist content in comments sections, which is unfortunate as comments can, for instance, influence other readers’ attitudes toward vaccinations (Sun and Lu 2023). Previously, I found that populist comments in Germany and Austria are linked to media coverage of COVID-19 (Thiele 2022b). The limited country selection of that

study prevented an adequate investigation of the impact of containment policies and media-related factors. Addressing these shortcomings, the present study aims to answer the following research question: How did the COVID-19 crisis and media-related factors influence populism in user comments on news media Facebook pages in seven Western European countries?

Here, seven hypotheses and three research questions are examined using digital trace data. This data source warrants high external validity (Blassnig, Engesser, et al. 2019) but does not allow the direct testing of psychological mechanisms. Therefore, the analysis focuses on the contextual correlates of populism in user comments. A total of 65,258 posts and 3.4 million comments posted during the first three waves of COVID-19 (February 2020 – June 2021) on 21 news media Facebook pages from seven European countries (AT, DE, FR, IT, NL, SE, UK) was analyzed. Comments were machine-translated (de Vries, Schoonvelde, and Schumacher 2018) into German. To measure populism, a computational text analysis technique called “distributed dictionary representation” (Garten et al. 2018) was implemented (Thiele 2022a), applied, and validated. Post characteristics were captured using validated multilingual dictionaries. Real-world data were obtained from the Oxford COVID-19 government response tracker (OxCGRT) (Hale et al. 2021). Hypotheses were tested using Bayesian multilevel linear regression models (Bürkner et al. 2022).

The results show that Facebook posts mentioning the government, experts, COVID-19, and restrictions were associated with higher levels of populism in comments. The stringency of COVID-19 policies affected populism differently in the analyzed countries. I found a limited, positive association in Germany, Austria, and the Netherlands when posts mentioned COVID-19. Moderating comments by the media and, surprisingly, the media-type tabloid press were associated with lower levels of populism. The study concludes by discussing the implications of the findings beyond the pandemic and methodological limitations.

## 5.2. Theory

### 5.2.1. Populism in User Comments

Social media has changed the logic of political communication, integrating ordinary citizens into producing and distributing the news (Klinger and Svensson 2015). Most news media outlets operate pages on social media, where they share links to articles on their websites. Facebook remains the most widely used social media platform for news consumption in all countries studied here, although its heyday has passed (Newman et al. 2022). On Facebook, users can comment under posts to express their opinions and engage in discussions and deliberation (Dahlberg 2011) or for less constructive purposes (Quandt 2018). Negative aspects, such as high levels of incivility, often prevail in these spaces (Coe, Kenski, and Rains 2014). Populist content is one of those negative aspects (Waisbord 2018b) and can have detrimental implications for the quality of the user discussion (Thiele and Turnšek 2022a).

Following Mudde (2004, 543), populism is a thin-centered ideology which holds that ‘the people’ are ruled by a ‘corrupt elite’ and which demands unrestricted popular sovereignty. Populists imagine the people as a “homogenous and virtuous community” (Hawkins and Rovira Kaltwasser 2018, 3) that is only divided and deprived of its sovereignty at the instigation of a treacherous elite (Mudde 2004). The concept entails at least two dimensions: *anti-elitism* and *people-centrism* (Rooduijn 2019). Popular sovereignty, which is sometimes considered a third dimension, is here considered as the point of contention between the people and the elite (Aslanidis 2018, 1255). Following a communication-centered approach, I focus on expressions of populist ideas in text (de Vreese et al. 2018a). Online, populist ideology is often communicated in fragments (Engesser et al. 2017). Messages can be therefore more or less populist on a continuous scale (Aslanidis 2018). Different actors can disseminate populist messages. Populism from politicians (N. Ernst, Blassnig, et al. 2019) and journalists (Wettstein et al. 2019) has received most scholarly attention. Although populism revolves around the idea of making the people’s voice heard (Canovan 1999), only a handful of studies have focused on populist content disseminated by ordinary citizens (Blassnig, Engesser, et al. 2019; Blassnig, Ernst, et al. 2019; Galpin and Trenz 2019; Hameleers 2019b; Thiele 2022b; Thiele and Turnšek 2022a). These studies have mostly analyzed comments on news

websites (Blassnig, Engesser, et al. 2019; Galpin and Trenz 2019). Here, I focus on comments below news media posts on Facebook, which is a preferred social media platform among populists (Schulz 2019). Facebook comments also exhibit a particularly low deliberative quality (Esau, Friess, and Eilders 2017).

To explain the occurrence of populist comments, Blassnig et al. (2019, 634) have suggested to consider them as expressions of populist attitudes. Following Hawkins et al. (2020), populist attitudes require activation through the political context. Krämer (2014, 55) argued that messages, such as media coverage, can activate a cognitive “populism schema” through priming. Hameleers et al. (2021) showed that fragments of populist communication can activate larger clusters of populist attitudes. Here, I argue that mentioning representatives of the elite in media posts works as an activating cue that eventually triggers populist comments. The elite is the key antagonist for populists (Hameleers et al. 2021). Governments and experts are frequent targets of populist rhetoric (Jagers and Walgrave 2007; Mede and Schäfer 2020) and were omnipresent in media coverage as managers of the COVID-19 crisis (Brubaker 2021). Mentioning these groups may activate populist attitudes and motivate populist citizens to express these views, possibly by an emotional mechanism (Rico, Guinjoan, and Anduiza 2017). Previous findings support this argument (Thiele 2022b). Therefore, I hypothesize the following:

**H1:** Facebook posts from news media mentioning the government are associated with increased levels of populism in the comments section.

**H2:** Facebook posts from news media mentioning experts are associated with increased levels of populism in the comments section.

Second, newsrooms’ practices in moderating comments might affect opinion expression (Gibson 2019). Some moderation practices are visible to other users, for example, when news media accounts comment below their own posts to remind users about conversational rules (Wintterlin et al. 2020). Populist users, known for breaching such norms (Hameleers 2019b), may react to such moderation by turning silent, as they sense a hostile opinion climate (Matthes, Knoll, and von Sikorski 2018). Conversely, moderation might also backfire if it is perceived as censorship (Sherrick and Hoewe 2018). Against this backdrop, I pose the following open research question regarding comments authored by the news media accounts themselves:

**RQ1:** How are comments from news media moderating discussions on Facebook associated with the level of populism in comments sections?

Third, the level of populism in comments sections may vary across the type of news media operating the Facebook page. Theorists have often claimed complicity between the tabloid press and populism (Krämer 2014; Mazzoleni 2008), but content analyses have struggled to corroborate this claim (e.g., Bos and Brants 2014). Readers of tabloid newspapers, however, support populist attitudes more strongly than audiences of public television or quality press (Schulz 2019). The implications of these findings for populism in comments remain unclear. Hence, I pose a second open research question:

**RQ2:** How is the type of news media operating a Facebook page associated with the level of populism in comments sections?

### **5.2.2. The Pandemic and Populism**

One main objective of this study is to examine how the context of COVID-19 has affected populism in comments. COVID-19 yielded a range of political consequences. While the first wave saw increased support for governments (Schraff 2021), later stages were characterized by growing polarization and protests against containment policies (Kriesi and Oana 2023; Neumayer, Pfaff, and Plümper 2023). Scholars have linked those protests to populist ideology (Brubaker 2021; Flew 2021; Stecula and Pickup 2021). Both, protestors against COVID-19 containment policies and populists exhibit a fundamental distrust in elites, an appetite for conspiracy theories, and a preference for common-sensical over expert knowledge (Brubaker 2021; Stecula and Pickup 2021). Populist parties in Europe did not respond uniformly to the outbreak of the pandemic (Wondreys and Mudde 2022) but tried to later capitalize on the protests. Previous research has explained these protest events by strategic considerations of the organizers (Neumayer, Pfaff, and Plümper 2023). This explanation is convincing for offline events but offers little to explain expressions of discontent online, where little collective organization is required. The argument proposed here instead draws on a psychological mechanism.

*Psychological reactance* (J. W. Brehm 1966) provides a conceptual framework to link the COVID-19 crisis and expressions of populism. Reactance “is the motivational state that is hypothesized to occur when a freedom is eliminated or threatened” (S.

S. Brehm and Brehm 1981, 37). It involves anger and negative cognitions motivating people to restore the threatened freedom or, if this option is blocked, to engage in aggressive or compensatory behavior (Dillard and Shen 2005; Rosenberg and Siegel 2018). Cumulative evidence shows that the severity of a restriction tends to increase reactance (Rosenberg and Siegel 2018). While individuals react differently to experiencing reactance, commonly observed responses are expressing hostility toward, and derogating the source of, the restriction (Rosenberg and Siegel 2018, 3). COVID-19 containment policies triggered such reactance reactions in some individuals (Dillard et al. 2023).

I argue that experiencing reactance can activate populist attitudes (Hawkins, Rovira Kaltwasser, and Andreadis 2020) because of the anger involved in it (Dillard and Shen 2005). Anger has been linked to the support of populist ideas (Rico, Guinjoan, and Anduiza 2017), and experiencing reactance during COVID-19 is associated with anti-government attitudes (Hajek and Häfner 2021). Moreover, populist expressions by opponents of containment policies reflect what reactance researchers call derogating the source of the restriction (Rosenberg and Siegel 2018). For example, the government, scientists, and the media are denounced for having fabricated the crisis to impose a dictatorship (Brubaker 2021). While examining individual motivations for such statements is beyond the scope of this study, the theoretical framework sketched here is useful for deriving hypotheses regarding the impact of contextual (Hawkins, Rovira Kaltwasser, and Andreadis 2020) and content-based (Krämer 2014) factors on populism in comments.

First, reactance occurs more frequently when people believe they are being targeted by persuasion (Rosenberg and Siegel 2018). Media coverage of COVID-19 arguably included fear appeals (Sun and Lu 2023; Thiele 2022b) that is "persuasive messages designed to scare people by describing the terrible things that will happen to them if they do not do what the message recommends" (Witte 1992, 329). Opponents of COVID-19 policies often suspect COVID-19 coverage to be propaganda (Flew 2021). Those citizens believe themselves to be targeted by a persuasion campaign. Such beliefs should spark reactance and could motivate citizens to express their anger in comments. Previous findings linked COVID-19 coverage in Germany and Austria to populist comments (Thiele 2022b). News posts that explicitly mention restrictive COVID-19 policies may provoke even stronger reactions, as they

prime freedom-threatening aspects. Following these considerations, I hypothesize the following:

**H3:** Facebook posts from news media mentioning COVID-19 are associated with increased levels of populism in the comments section.

**H4:** Facebook posts from news media mentioning restrictive COVID-19 containment policies are associated with increased levels of populism in the comments section.

Second, the magnitude of the threat to personal freedoms has been repeatedly found to be positively related to the level of reactance (Organ 1974; Rosenberg and Siegel 2018). In the context of COVID-19, the magnitude of restrictions can be determined as the “stringency” of COVID-19 containment policies, which included lockdowns, closing public venues, travel restrictions, or obligations to wear masks. To be clear, stringency denotes the severity of COVID-19 containment policies varying by day and country (Hale et al. 2021), *not* the logical consistency of policies. Additionally, I expect that the stringency of COVID-19 policies affects populism in comments sections only if the news post mentions the topic of COVID-19. Therefore, I hypothesize:

**H5:** For Facebook posts from news media mentioning COVID-19, the stringency of COVID-19 containment policies is associated with increased levels of populism in the comments section.

Third, the *stringency* of containment policies varied considerably in the countries studied here (Gordon, Grafton, and Steinshamn 2021). Italy, for example, was hit early and hard by the pandemic and imposed tough restrictions, while Sweden followed a *laissez-faire* approach. The restrictions in Germany and France were comparable but the protests differed widely (Kriesi and Oana 2023). How these patterns translate to populist expressions online remains unclear. Hence, I pose the explorative research question:

**RQ3:** How does the association between stringency of COVID-19 containment policies and the level of populism in comments sections vary by country?

Finally, drawing on previous findings (Jørgensen et al. 2022), I expect that a “pandemic fatigue” increased levels of political discontent and expressions of populist attitudes over time. One reason could be that repeating persuasive messages can increase reactance (Koch and Zerback 2013). Similarly, message novelty has been linked to less reactance (Rosenberg and Siegel 2018). The former implies an effect that gradually increases over time, while the latter suggests considerably lower

levels of populism during the first wave of COVID-19. Similar associations were observed previously (Thiele 2022b). As a result, I hypothesize the following:

**H6:** Throughout the COVID-19 crisis, the level of populism in comments sections increased.

**H7:** During the first wave of the COVID-19 crisis, the level of populism in comments sections was lower, compared to later stages.

## 5.3. Data and Methods

### 5.3.1. Data

This study analyzes digital trace data, downloaded via Facebook API using Facepager (Jünger and Keyling 2020) and R. These data warrant high external validity, as they trace behavior that is likely to be suppressed in experiments due to social desirability (Blassnig, Engesser, et al. 2019, 630). Anonymization through the API, however, limits individual-level analysis. Hence, this study analyzes the correlates of populism in comments but cannot test psychological or causal mechanisms directly.

The country selection aimed at maximizing variance in the stringency of containment policies and the scope of protests (Neumayer, Pfaff, and Plümper 2023). Seven European countries were selected: Austria (AT), Germany (DE), France (FR), Italy (IT), Netherlands (NL), Sweden (SE), and United Kingdom (UK). These countries varied considerably regarding the stringency of COVID-19 containment policies and the level of protests against them (Neumayer, Pfaff, and Plümper 2023).

These countries also represent different (legacy) media systems (Hallin and Mancini 2004). What all seven countries have in common is that they are liberal, Western European democracies that have a record of successful mobilization by populist parties, mostly from the right (Mudde 2007). Per country, I selected one news media outlet for each of the three media types quality press, tabloid press, and public broadcaster, based on the weekly reach of the corresponding news website (Newman et al. 2022). For each outlet, I identified the corresponding Facebook page. Data were only collected from Facebook. Table 13 reports the selected outlets by country and media type, along with the number of Facebook followers, and the number of posts considered in the analysis.

From each Facebook page, all accessible posts published in the first three waves of COVID-19 (1 February 2020 – 30 June 2021) were downloaded. For each of the  $n=65,258$  posts, the first 100 comments were downloaded, resulting in a dataset of  $n=3,424,691$  comments. Capping the number of comments aimed to limit the number of API calls, as the access is shared with all Facepacer users (Jünger and Keyling 2020). The cap is ten times larger than in previous studies (Blassnig, Engesser, et al. 2019, 636), and higher than the median number of comments per post ( $n=58$ ).

**Table 13.** Selected Facebook News Media Accounts

| Country      | Account        | Type               | Follower (n) | Posts (n)     |
|--------------|----------------|--------------------|--------------|---------------|
| AT           | Der Standard   | Quality            | 316,613      | 4,094         |
|              | Kronen Zeitung | Tabloid            | 360,190      | 5,334         |
|              | Zeit im Bild   | Public broadcaster | 807,049      | 2,917         |
| DE           | Der Spiegel    | Quality            | 1,922,150    | 3,010         |
|              | Bild           | Tabloid            | 2,545,380    | 3,598         |
|              | Tagesschau     | Public broadcaster | 1,966,320    | 3,458         |
| FR           | Le Monde       | Quality            | 4,661,594    | 2,873         |
|              | 20 Minutes     | Tabloid            | 2,968,467    | 2,891         |
|              | Franceinfo     | Public broadcaster | 1,987,567    | 3,054         |
| IT           | La Repubblica  | Quality            | 3,969,463    | 2,891         |
|              | Tgcom24        | Tabloid            | 2,344,620    | 2,693         |
|              | Rainews.it     | Public broadcaster | 528,740      | 2,963         |
| NL           | De Telegraaf   | Quality            | 512,635      | 3,037         |
|              | AD.nl          | Tabloid            | 557,329      | 3,743         |
|              | NOS            | Public broadcaster | 935,907      | 3,133         |
| SE           | Aftonbladet    | Quality            | 505,268      | 2,721         |
|              | Dagens Nyheter | Tabloid            | 216,073      | 3,194         |
|              | SVT Nyheter    | Public broadcaster | 204,169      | 3,208         |
| UK           | The Guardian   | Quality            | 8,469,271    | 2,889         |
|              | Daily Mail     | Tabloid            | 16,643,114   | 1,848         |
|              | BBC News       | Public broadcaster | 53,516,028   | 1,709         |
| <b>Total</b> |                |                    |              | <b>65,258</b> |

### 5.3.2. Validation Data

For validation, 2,040 posts and 2,040 comments were randomly sampled with equal distribution across countries for annotation by six native-speaking, trained coders (five students and the author); 150 units each were machine-translated for parallel coding. Reliability is reported as Krippendorff's alpha. Occurrences of *anti-elitism* ( $\alpha=.80$ ) and *people-centrism* ( $\alpha=.73$ ) were coded binarily in comments. Considering the fragmentary nature of populist online communication (Engesser et al. 2017), a

comment was considered populist if either people-centrism or anti-elitism was coded. Posts were coded for references to *COVID-19* ( $\alpha=.96$ ), *restrictive containment policies* ( $\alpha=.75$ ), the *government* ( $\alpha=.78$ ), and scientific *experts* ( $\alpha=.76$ ). The instructions align with Blassnig, Engesser, et al. (2019) and a previously used codebook (Thiele 2022b) and are documented in Appendix A and E.

### 5.3.3. Multilingual Data

Computational analyses of multilingual texts face the challenge of ensuring measurement equivalence and context-sensitivity across countries, while maintaining cost-efficiency (Licht and Lind 2023). Formal criteria for the first two aspects have yet to be established (Licht and Lind 2023). Here, several strategies were used to approach these goals. Relying on native speakers to annotate the validation data was a first step. The further procedure differed for posts and comments.

Multilingual dictionaries were used to capture topics and actors mentioned in posts. Dictionaries count the occurrence of keywords. Pretests suggested that high levels of recall, indicating performance in capturing all relevant documents, and precision, indicating performance in capturing only relevant documents, could be achieved by translating an existing German dictionary (Thiele 2022b). This was the most cost-effective solution. The dictionary was translated using in-context translation websites (context.reverso.net; linguee.de). The country-specific dictionaries were expanded by nearest neighbors from word embeddings (*fastText*), trained on post data. Word embeddings represent semantic relations of words in a vector space and result from machine learning algorithms, trained on large corpora (e.g., Bojanowski et al. 2017). With the help of the mentioned translation websites, I identified and removed terms that tapped into unintended contexts. Validation is reported in the section on explanatory variables.

For capturing populism in comments, translating an existing German dictionary (Gründl 2022) was deemed not feasible, as it contains 13k regular expressions. To find a “common denominator” for comparison, comments were machine-translated (Licht and Lind 2023, 9). Following findings of Vries et al. (2018), I opted for the Google Translate API. German was chosen as the lingua franca, as this limited the costs most efficiently and matched my expertise in capturing populism in German text (Thiele and Turnšek 2022a). For economic reasons, comments were

truncated to 540 characters before translation, which affected 1.8% of all comments.

Two further measures aimed at facilitating context-sensitivity and equivalence. First, the translated corpus was used to train a custom word embedding model, which underpins the populism measurement described below. This model thus provides a common reference point, but also accounts for country-specific uses of words that may persist even after translation (Licht and Lind 2023, 23). Second, during optimization, I selected the measurement that most coherently maximized the output-validity score across countries. Despite these precautions, the achieved level of equivalence is not perfect, as discussed in the next and the concluding section.

#### 5.3.4. Dependent Variable

Populism in comments was measured using the automated text analysis technique “distributed dictionary representation” (DDR) (Garten et al. 2018). DDR combines dictionaries with word embeddings to measure how strongly a concept is represented in a text (Garten et al. 2018). Conventional dictionary approaches suffer from low recall (Rauh 2018). DDR is similarly theory-driven as a dictionary, since it captures a concept by researcher-defined keywords. However, it circumvents the need to provide exhaustive lists of words by leveraging word embeddings. The conceptual dictionary and each document are represented as average vectors of the embeddings that represent the meaning of each word in them. DDR then computes the cosine similarity between these vectors, which can range from -1 to +1. This provides a crude indicator for how strongly the concept is reflected in each document (Garten et al. 2018). This technique works best with short, clear-cut dictionaries (Garten et al. 2018, 348). The *dictvectorR* (Thiele 2022a) R-package implements DDR using *fastText* word embeddings, which are tailored to social media texts, and account for misspellings, out-of-vocabulary words, and morphological rich languages, like German (Bojanowski et al. 2017). A custom *fastText* model was trained on the translated and originally German corpus of comments, and all German-speaking posts. The model has 200 dimensions and a vocabulary of 89k words.

The populism measurement was optimized using 70% of the annotated comments, keeping 30% as test sample. For evaluation, DDR scores were transformed into binary predictors using logistic regression and compared to the annotation. This is not a gold standard test but circumvents the problem of producing granular manual annotations reliably (Grimmer and Stewart 2013, 275). Evaluation focused on F1, a harmonic mean of recall and precision. The optimization aimed to arrive at a short, expressive dictionary that is *inductive* (i.e. reflects the content of observed comments), *theory-driven* (i.e. covers key dimensions of populism), and *comparable* (i.e. maximizes F1 consistently across all countries). The process, documented in Appendix H, followed the following steps: (a) identifying words from the *fastText* model’s vocabulary that semantically resemble the corpus annotated as populist; (b) adding multiword-expressions; (c) manually selecting words on theoretical grounds; (d) generating 2.9 million keyword combinations of different lengths from these words; and (e) evaluating these dictionaries across countries.

The dictionary that maximized F1 best across all countries is presented in Table 14, along with translation and performance scores for the test and train data. This dictionary was deemed theoretically convincing as it features words that represent “the elite” from different areas of society (“*politics and media*”, “*government*”, “*nepotism*”, and “*so-called experts*”, “*state media*”), words that invoke “the people” as an in-group (“*people*”, “*taxpayers*”, “*our system*”, and “*our tax money*”), and words that characterize the struggle over sovereignty between these antagonists (“*dictatorship*”, “*muzzled*”, and “*obfuscate*”). Although these words are not necessarily populist in isolation, their combined meaning cuts through a broad range of populist key messages (e.g., Blassnig, Engesser, et al. 2019, 638). This short dictionary is sensitive to the context of COVID-19 but should be able to capture populism in other contexts as well.

The DDR measurement performs well overall (F1=.74) and is relatively consistent across countries. It outperforms Gründl’s (2022) dictionary, which reached a low F1 of .19. Against this backdrop, I consider this measurement a satisfactory proxy for populism. However, the output-validity scores vary across countries, with the lowest test-performance for the Netherlands (F1=.66), indicating a lack of equivalence and measurement error differential to language. I account for this by centering the populism scores on the country-level means. In the concluding section I discuss the limitations of this approach.

The DDR measure was applied to the dataset of translated comments. Titles of hyperlinks were used when comments contained no other text. Text cleaning is documented in Appendix G. I replaced  $n=19,047$  missing values (0.6%) by the mean populism score per page and week to not lose observations. The comment-level scores were aggregated per post as mean, reflecting the manifestation of a collective populist voice (Galpin and Trenz 2019), standardized, and centered to country-mean.

**Table 14.** Short Dictionary and Performance of DDR Measurement of Populism

| Dictionary                                                                                                                                                                                           | Translation                                                                                                                                                                      | Country    | n            |            | F1                     |                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|------------|------------------------|------------------------|
|                                                                                                                                                                                                      |                                                                                                                                                                                  |            | Train        | Test       | Train                  | Test                   |
| 'diktatur', 'mundtot', 'politik und medien', 'regierung', 'sogenannten experten', 'staatsmedien', 'steuerzahler', 'unser system', 'unsere steuergelder', 'verschleiern', 'vetternwirtschaft', 'volk' | 'dictatorship', 'muzzled', 'politics and media', 'government', 'so-called experts', 'state media', 'taxpayers', 'our system', 'our tax money', 'obfuscate', 'nepotism', 'people' | AT         | 207          | 88         | .80                    | .77                    |
|                                                                                                                                                                                                      |                                                                                                                                                                                  | DE         | 213          | 90         | .76                    | .80                    |
|                                                                                                                                                                                                      |                                                                                                                                                                                  | FR         | 205          | 87         | .69                    | .76                    |
|                                                                                                                                                                                                      |                                                                                                                                                                                  | IT         | 199          | 84         | .71                    | .71                    |
|                                                                                                                                                                                                      |                                                                                                                                                                                  | NL         | 202          | 86         | .71                    | .66                    |
|                                                                                                                                                                                                      |                                                                                                                                                                                  | SE         | 200          | 85         | .70                    | .74                    |
|                                                                                                                                                                                                      |                                                                                                                                                                                  | UK         | 206          | 88         | .68                    | .72                    |
|                                                                                                                                                                                                      |                                                                                                                                                                                  | <b>All</b> | <b>1,432</b> | <b>608</b> | <b>.73<sup>a</sup></b> | <b>.74<sup>b</sup></b> |

Notes: a: Train Recall: .73, Precision: .72; b: Test Recall: .76, Precision: .72

### 5.3.5. Explanatory Variables

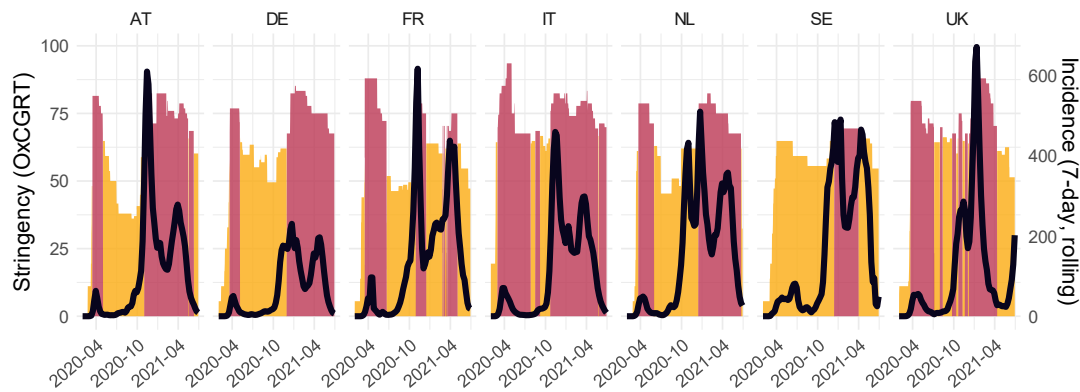
A German dictionary (Thiele 2022b) was translated and expanded for all countries to capture mentions of *COVID-19*, *restrictive policies*, the *government*, and *experts* in posts, as documented in the section on multilingualism. The case-sensitive government dictionaries were expanded by the names of the national government members, scraped from Wikipedia. Validity was tested against the full annotated sample of  $n=2,036$  posts. Table 15 reports the results. Appendix F documents the dictionaries.

*Moderation* was operationalized as a binary variable, indicating if a post's comments section included a comment from the news media account operating the Facebook page, which was not anonymized by the API. *Media type* is indicated by a categorical variable.

For the *stringency* of COVID-19 policies, this study uses the index from the *Oxford COVID Response Tracker (OxCRT)* (Hale et al. 2021), which is provided in country-day format. The index is composed of nine ordinal indicators and ranges from 0 to 100, indicating restrictive policies by larger values. In Figure 6, the stringency level

for each country throughout the observed time frame is plotted as a colored histogram and the 7-day incidence rate as a line. The red bars mark phases when containment policies were stricter than the overall median, and the yellow bar indicate below-median phases. Expecting that policies affect comments with some delay, this study lagged the stringency variable by 14 days. The lag was chosen based on its somewhat stronger correlation with populism (.07), compared to other lags. Time was operationalized by a variable counting the days since the World Health Organization declared the pandemic on March 11, 2020, and by a dummy indicating if the post was published during the *first wave* of COVID-19.

**Figure 6.** COVID-19 Incidences and Policy Stringency Over Time by Country



**Table 15.** Reliability and Validation Scores for Post Dictionaries

| Variable     | Reliability (K.'s $\alpha$ ) <sup>1</sup> | Validation (F1) <sup>2</sup> |     |     |     |     |     |     |
|--------------|-------------------------------------------|------------------------------|-----|-----|-----|-----|-----|-----|
|              |                                           | DE                           | AT  | FR  | IT  | NL  | SE  | UK  |
| COVID-19     | .96                                       | .94                          | .97 | .94 | .94 | .86 | .93 | .93 |
| Restrictions | .75                                       | .83                          | .84 | .76 | .75 | .75 | .81 | .74 |
| Government   | .78                                       | .86                          | .79 | .81 | .78 | .83 | .85 | .80 |
| Experts      | .76                                       | .82                          | .88 | .86 | .85 | .81 | .86 | .87 |

Notes: 1: n=150 parallel-coded posts; n=2,036 hand-coded posts in total.

### 5.3.6. Control Variables

Controls include the 14-day lagged *incidence rate* (i.e., the weekly rolling number of new infections per 100.000 inhabitants in a country-day format, retrieved from the OxCRT). Additional controls are the number of *comments* per post, *download age* (i.e., days passed between post and download), and the logged number of Facebook *fans*. Table 16 presents the summary statistics. Continuous independent variables were standardized and centered on the population mean before being included in the models.

### 5.3.7. Model Specifications

Linear regression was used for hypothesis testing, as the dependent variable is continuous. Accounting for the nested structure of the data, with posts nested in pages, and pages nested in countries, multilevel models were fitted (Gelman and Hill 2007). The small number of country-level clusters and the non-randomness of the sample create problems for frequentist inference (Chan and Rauchfleisch 2023).

**Table 16.** Summary Statistics

| Variables                                  | Min.  | Max.     | Mean/n        | (SD)/(%) |
|--------------------------------------------|-------|----------|---------------|----------|
| <i>Dependent variable</i>                  |       |          |               |          |
| Populism <sup>a</sup>                      | -7.9  | 4.4      | 0.0           | (1.0)    |
| <i>Explanatory variables</i>               |       |          |               |          |
| COVID-19                                   | 0     | 1        | 24,378        | (37%)    |
| Restrictions                               | 0     | 1        | 11,204        | (17%)    |
| Government                                 | 0     | 1        | 8,681         | (13%)    |
| Experts                                    | 0     | 1        | 7,271         | (11%)    |
| Moderation                                 | 0     | 1        | 3,184         | (4.9%)   |
| Days since outbreak <sup>b,c</sup>         | -38.7 | 476.0    | 244.9         | (148.6)  |
| First wave <sup>d</sup>                    | 0     | 1        | 17,177        | (26%)    |
| Stringency (14-day lag) <sup>b</sup>       | 0     | 93.5     | 61.3          | (21.3)   |
| <i>Controls</i>                            |       |          |               |          |
| Incidence rate (14-day lag) <sup>b,c</sup> | 0     | 631.6    | 114.9         | (117.3)  |
| Download age <sup>b</sup>                  | 0     | 416.2    | 127.0         | (120.1)  |
| Comments count <sup>b</sup>                | 0     | 23,829.0 | 197.2         | (544.5)  |
| Fan count (log) <sup>b</sup>               | 12.2  | 17.8     | 14.0          | (1.3)    |
| <i>Media type</i>                          |       |          |               |          |
| Quality                                    |       |          | 22,694        | (35%)    |
| Tabloid                                    |       |          | 22,122        | (34%)    |
| Public broadcaster                         |       |          | 20,442        | (31%)    |
| <i>Country</i>                             |       |          |               |          |
| Austria (AT)                               |       |          | 12,345        | (19%)    |
| Germany (DE)                               |       |          | 10,066        | (15%)    |
| France (FR)                                |       |          | 8,818         | (13%)    |
| Italy (IT)                                 |       |          | 8,547         | (13%)    |
| Netherlands (NL)                           |       |          | 9,913         | (15%)    |
| Sweden (SE)                                |       |          | 9,123         | (14%)    |
| United Kingdom (UK)                        |       |          | 6,446         | (9.9%)   |
| <b>N</b>                                   |       |          | <b>65,258</b> |          |

Notes: (a) Post-level mean, standardized and centered on country mean; (b) Standardized and centered at population mean in models; (c) WHO declared pandemic on March 11, 2021; (d) Published before 6 July, 2020 (incidences low); (e) New infections per 100,000 inhabitants in 7 days, rolling.

Accounting for both, the models were fitted in a Bayesian framework, using the *brms* package (Bürkner et al. 2022). Media type could be considered an additional level but was included as a fixed effect, as it has only three categories. Model 1 accounts for random intercepts for countries and pages. Model 2 drops four variables

to avoid over-parameterization and adds two interaction terms. Model 3 fits random slopes for COVID-19, stringency, and their interaction across all countries. The models were fitted using non-informative priors, and 3000 iterations of three chains that converged.

## 5.4. Results

Table 17 reports the results from the linear multilevel Bayesian regression models with the mean populism score per post as the dependent variable. H1 proposed that posts mentioning the *government* are associated with higher levels of populism in the comments section. The parameter .49 for *government* in Model 1 marks the median of the estimated posterior distribution. All else being equal, the aggregated populism score is estimated to increase by .49 standard deviations when a post mentions the government. The credible interval (CI) indicates that 95% of the posterior draws for that parameter lie between 0.47 and 0.51. Figure 7 plots the posterior distributions of the variables in Model 1, showing that *government* has the strongest positive effect. As its 95% highest density interval (HDI), here identical with the CI, excludes zero, the null hypothesis is rejected and H1 supported. Similarly, in support of H2, mentioning *experts* has a large (.13), positive effect, with a CI excluding zero [.11–.15].

RQ1 asked for the impact of *moderating comments* on user-generated populism. Model 1 shows that this relationship is negative (-.13, [-.16 – -.09]). Comments sections including comments from the media outlet itself were less populist. Somewhat surprisingly, *media type tabloid* is negatively associated with populism (RQ2). Compared to the reference category, *quality media*, comments sections on Facebook pages of tabloids received -.37 [-.55 – -.17] less populist comments. Public broadcasters did not receive significantly more populist comments than the quality press, as the CI [-.09–.29] includes zero.

The COVID-19 specific predictors in Model 1 show that posts mentioning *COVID-19* were associated with .17 [.15 – .19] higher levels of populism in comments than other posts. This was the second-largest positive effect in the model, as shown in Figure 7. Posts explicitly mentioning *restrictions*, a sub-category of COVID-19 posts, were associated with .06 [.04 – .09] more populist comments. These findings support H3 and H4.

The effects of time were in accordance with expectations (H6 and H7). With each *day since the outbreak*, the level of populism in comments increased by .02 [.00 – .04]. The negative effect of the predictor *first wave* was pronounced, indicating that comments sections below posts published during the first wave of COVID-19 were .17 [-.20 – -.14] SD less populist than comments sections of later posts.

The main effect of *stringency* in COVID-19 policies was positive but very small (.03). Its credible interval [.02-.04] in Model 1 excludes zero but barely so. In Model 2 and Model 3, the CI includes zero. These models explore the conditions under which stringency had a positive impact more closely.

Before moving on, the random effects of Model 1 should be noted. The within-group variance ( $\sigma^2=.84$ ) is large, while the between-group variance for pages is small ( $\tau_{00}=.03$ ), and zero for countries, which is also reflected in the small intra-class correlation coefficient (ICC) of .04. Zero variance between countries is unsurprising, as the dependent variable was centered on country mean. Fitting random intercepts for the level country would not have been necessary. I kept this grouping variable, as Model 3 introduces random slopes on this level.

Model 2 functions as intermediate step and adds the interaction term *COVID-19\*Stringency*. To reduce model complexity, the insignificant control variables *fan count*, *incidence*, and *download age* were dropped, as well as the variable *restrictions*, which is not independent of *COVID-19*. The positive and significant coefficient for the interaction term *COVID-19\*Stringency* suggests an interplay between mentioning COVID-19 and the restrictiveness of policies, as expected in H5. However, the main effect of stringency diminished.

To explore this pattern from a comparative perspective across countries, and to answer RQ3, Model 3 estimates random slopes (i.e., varying effects) for *COVID-19*, *stringency*, and their interaction *COVID-19\*Stringency* by *country*. The random slopes variance ( $\tau_{11}=.01$ ) of Model 3 is larger than zero. While the CI of both *stringency* and the term *COVID-19\*Stringency* now include zero, a substantive effect of stringency can be found for specific countries. Figure 8 plots the distribution of the posterior predictions of populism on the y-axis, conditional on the level of stringency (x-axis and color) for each country. For this prediction, mentioning *COVID-19* was set to “true,” *media type* was set to “quality” and all other variables were held at mean, respectively zero. Uncertainty from the page level was accounted for.

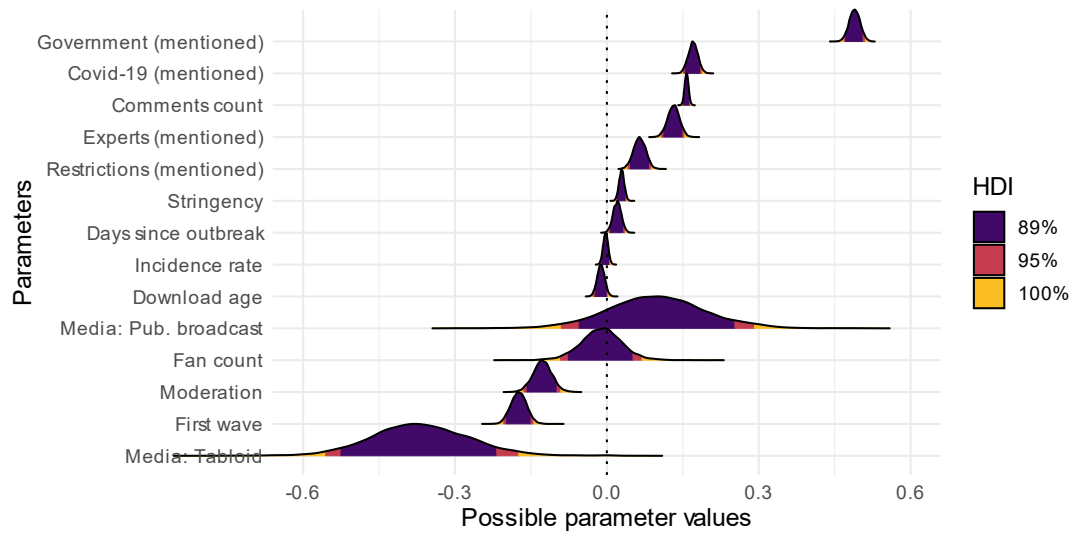
**Table 17.** Results of the Bayesian Multilevel Linear Regression Models

| <i>Predictors</i>                | <b>Model 1</b> |                 | <b>Model 2</b> |                 | <b>Model 3</b>                  |                 |
|----------------------------------|----------------|-----------------|----------------|-----------------|---------------------------------|-----------------|
|                                  | <i>Est.</i>    | <i>CI (95%)</i> | <i>Est.</i>    | <i>CI (95%)</i> | <i>Est.</i>                     | <i>CI (95%)</i> |
| Intercept                        | -.01           | -.15 – .13      | -.01           | -.13 – .13      | -.00                            | -.14 – .13      |
| COVID-19<br>(mentioned)          | .17            | .15 – .19       | .20            | .19 – .22       | .20                             | .12 – .28       |
| Restrictions<br>(mentioned)      | .06            | .04 – .09       |                |                 |                                 |                 |
| Government<br>(mentioned)        | .49            | .47 – .51       | .49            | .47 – .51       | .49                             | .47 – .51       |
| Experts<br>(mentioned)           | .13            | .11 – .15       | .13            | .11 – .15       | .13                             | .11 – .15       |
| Moderation                       | -.13           | -.16 – -.09     | -.13           | -.16 – -.09     | -.12                            | -.15 – -.08     |
| Media type<br>(tabloid)          | -.37           | -.55 – -.17     | -.37           | -.55 – -.19     | -.37                            | -.55 – -.18     |
| Media type<br>(pub. broadcaster) | .10            | -.09 – .29      | .09            | -.09 – .27      | .09                             | -.10 – .27      |
| Stringency<br>(lagged)           | .03            | .02 – .04       | -.00           | -.01 – .01      | -.00                            | -.07 – .07      |
| Days since outbreak              | .02            | .00 – .04       | .03            | .02 – .04       | .02                             | .01 – .03       |
| First wave                       | -.17           | -.20 – -.14     | -.18           | -.21 – -.15     | -.19                            | -.22 – -.16     |
| Comments count                   | .16            | .15 – .16       | .16            | .15 – .17       | .16                             | .15 – .17       |
| Download age                     | -.01           | -.03 – .00      |                |                 |                                 |                 |
| Fan count (log)                  | -.01           | -.09 – .07      |                |                 |                                 |                 |
| Incidence (lagged)               | -.00           | -.01 – .01      |                |                 |                                 |                 |
| COVID-19*Stringency              |                |                 | .07            | .06 – .09       | .05                             | -.02 – .12      |
| <i>Random Effects</i>            |                |                 |                |                 |                                 |                 |
| $\sigma^2$                       | .84            |                 | .84            |                 | .83                             |                 |
| $\tau_{00}$                      | .03 Page       |                 | .03 Page       |                 | .03 Page                        |                 |
|                                  | .00 Country    |                 | .00 Country    |                 | .01 Country                     |                 |
| $\tau_{11}$                      |                |                 |                |                 | .01 Country.COVID-19            |                 |
|                                  |                |                 |                |                 | .01 Country.Stringency          |                 |
|                                  |                |                 |                |                 | .01 Country.COVID-19:Stringency |                 |
| ICC                              | .04            |                 | .03            |                 | .06                             |                 |
| Levels                           | 7 Country      |                 | 7 Country      |                 | 7 Country                       |                 |
|                                  | 21 Page        |                 | 21 Page        |                 | 21 Page                         |                 |
| Bayes $R^2$                      | .162           | .158 – .167     | .164           | .159 – .168     | .168                            | .163 – .172     |
| N                                | 65,258         |                 | 65,258         |                 | 65,258                          |                 |

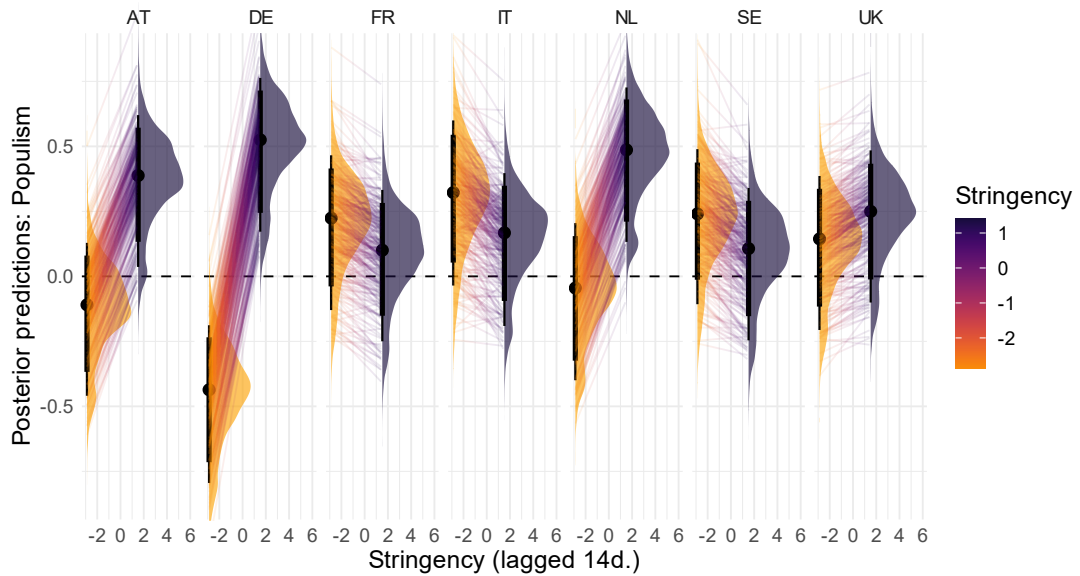
Notes: Priors: intercept (normal 0, 10), b (normal 0, 10),  $\sigma$  (Cauchy 0, .5). Bayes  $R^2$  estimated on 2,000 draws.

Figure 8 visualizes three things: The colored half-eye plots show the distribution of the predicted level of populism when stringency is at its minimum (yellow) and its maximum (purple) per country. The black dot marks the median, the thick bar the 80% CI, and the thin bar the 89% CI of this distribution. The layering thin lines illustrate the estimated relationship on 300 draws.

**Figure 7.** Highest-Density-Intervals (HDI) of Predictors in Model 1



**Figure 8.** Posterior Predictions of Populism by Stringency Across Countries – Model 3



The plot shows that *stringency* had a positive effect in Austria, Germany, and the Netherlands, when *COVID-19* was mentioned. For these countries, the thick 80% CI bars for the stringency at minimum and at maximum conditions do not overlap; the draws illustrate the positive estimated relationship. However, for Austria and Netherlands, this relationship is only credible when accepting an 80% CI. For Germany, this finding also holds on a 95% CI. In the other countries, the relationship is diffuse, insignificant, and even slightly reversed. This illustrates why the effect is cancelled out on the population level. This pattern also emerges when fitting separate models per country (Appendix I). Overall, the evidence for H5 is

mixed. Of the control variables, only *comments count* had a significant positive effect on the level of populism. The Bayes- $R^2$  indicates that the models explain 16.2-16.8% of the variance.

## 5.5. Discussion and Conclusions

This study analyzed how the COVID-19 crisis and media-related factors shaped the levels of populism in user comments on news media Facebook pages in seven European countries. It revealed several noteworthy findings. First, Facebook posts mentioning *COVID-19* and *restrictive containment policies* were associated with higher levels of populism in comments, compared to other posts. These findings provide circumstantial evidence for the argument that media coverage on COVID-19 motivated some users to express populist ideas by triggering reactance and activating populist attitudes. COVID-19 was an issue that mobilized populist protests not only on the streets (Brubaker 2021) but also online. Populism in comments also increased considerably after the first wave of COVID-19, adding behavioral evidence to the finding of a “pandemic fatigue” which has fueled populist attitudes over time (Jørgensen et al. 2022). The findings largely confirm previous findings for Germany and Austria (Thiele 2022b) and align with psychological research showing that novel messages spark less reactance (Rosenberg and Siegel 2018).

Second, this study found that the *stringency* of COVID-19 policies had a varying impact on populism in comments across countries. At the population level, the effect was mainly cancelled out by diverging effects across countries. A comparative analysis found a limited positive effect of containment policy stringency for Austria, Germany, and the Netherlands. In these countries, stricter COVID-19 containment policies were echoed by more populism in comments, when the post mentioned COVID-19. The question is why this relationship was not observed in all countries. In Sweden, the *laissez-faire* containment policies may have prevented populist discontent (Gordon, Grafton, and Steinshamn 2021). In Italy, the shock of the devastating first wave might have increased acceptance of stringent policies. Finding ad-hoc explanations for France and the United Kingdom is difficult. Future research should investigate these differences by taking governmental communication strategies and strategies of grassroots mobilization (Neumayer, Pfaff, and Plümper 2023) into account.

Third, mentioning elite representatives was found to have triggered populism. Mentioning the government had the strongest effect on populism in comments, replicating a previous finding (Thiele 2022b). Different from my previous findings (Thiele 2022b), posts mentioning experts were here found to be associated with more populism. These different findings can be driven by differences in the sample as well as by different operationalizations. This finding also shows that science-related populism (Mede and Schäfer 2020) is an important aspect of user-generated populism. Overall, the study shows that the level of populism in comments is highly responsive to the content and context of posts. This finding contributes to the plausibility of the argument that populist comments are expressions of populist attitudes (Blassnig, Engesser, et al. 2019), that are activated by message characteristics (Krämer 2014) and context (Hawkins, Rovira Kaltwasser, and Andreadis 2020). Additional research is needed, however, to investigate the presumed mechanisms directly.

Fourth, my findings did not corroborate the existence of a “complicity” between the tabloid press and populism (Mazzoleni 2008, 50) on the level of user comments. Tabloid outlets received the lowest levels of populism in comments. However, this does not necessarily imply that readers of tabloids are less populist (Schulz 2019). Populist users may deliberately visit the pages of quality press and public service broadcasters to express discontent because they regard these to be part of the establishment (Engesser et al. 2017). Fifth, this study found that comments authored by the media page itself lowered the levels of populism. This finding is indirect support for the effectiveness of visible moderation (Gibson 2019).

This study has implications beyond the context of COVID-19. Contributing to a more comprehensive understanding of citizen-generated populist communication, the study identified factors influencing populism in comments that may hold in other contexts—mentioning elites, moderation, and media type. Moreover, the lessons learned during COVID-19 can be projected onto other contexts concerning science-related populism (Mede and Schäfer 2020). The debates surrounding climate change resemble the COVID-19 crisis in crucial aspects: Climate change communication tries to convince people to comply with restrictive policies that are necessary to avert a global threat (Nabi, Gustafson, and Jensen 2018). This aim is similarly challenged by citizens’ reactance (Ma, Dixon, and Hmielowski 2019) and

populist online behavior (Yan, Schroeder, and Stier 2022). Drawing on the findings here, one could expect that climate change coverage similarly attracts populist comments. Building on the country-specific relation between policy stringency and populism found here, policymakers could be cautiously optimistic that governance can shape the level of populist discontent expressed online. More research is needed, however, to substantiate these claims and investigate the role of governmental communication more thoroughly. Finally, newsrooms worried about the harmful effects of populist user comments can feel encouraged that visibly moderating their comments sections can have a beneficial impact.

Methodologically, this study contributed to the field of computational communication science by demonstrating the usefulness of the DDR technique (Garten et al. 2018) for capturing ideological content. The strengths of this method are that it provides a theory-driven, and interpretable measurement (Garten et al. 2018, 351), as the core of the measured concept can be gleaned from keywords. At the same time, it is more flexible than conventional dictionaries by leveraging the potential of word embeddings. The advantage of word embeddings over transformers and large language models is that training on a custom corpus can be performed on a local machine and is computationally relatively inexpensive. This study has also contributed to the growing field of multilingual computational text analysis (Licht and Lind 2023) by demonstrating the usefulness – and limitations – of a full-text machine translation approach. Future research can build on these experiences.

## **5.6. Limitations**

This study has limitations. First, validating the populism score revealed imperfect measurement equivalence and potential measurement error differential to language. Such error can cause bias in regressions (TeBlunthuis, Hase, and Chan 2024) and is of particular concern for the cross-country comparison. TeBlunthuis et al. (2024) recently introduced a correction for misclassification error in regression analyses. Here, implementing this correction was not possible as the manually annotated data only provides a binary indicator of populism, not its “true” continuous value. The problem was approached here by centering the populism score on the country mean, assuming that focusing on within-country variance improves comparability. As this builds on strong assumptions, the results of the country

comparison must be taken with a grain of salt. Another problem is that measurement error inflicted by translation could not be discerned from error induced by country-specific discourse. Future computational text analyses should annotate validation data on the same scale as the automated measurement to enable error correction. Continuous measurements could be validated against aggregated scores of multiple annotators, to circumvent the challenge of producing reliable continuous annotations (Grimmer and Stewart 2013, 275) could be. Second, machine translation is one strategy for aligning the input of multilingual computational text analyses (Licht and Lind 2023) that is not free of problems. In addition to the imperfect measurement equivalence observed discussed above, commercial translation APIs pose challenges for replicating findings, as they change, are non-transparent, and are expensive. Local implementations or multilingual embeddings are alternatives that should be considered. Finally, this study did not test individual-level mechanisms directly, as the anonymized digital trace data does not provide observations on this level. Future research is encouraged to test the claims of this study using experimental research designs.

## **Additional Materials**

The *dictvectorsR* package (Thiele 2022a) is available on GitHub. Comprehensive replication material is provided here: <https://osf.io/d4qng/>

## 6 Paper III: How Right-Wing Populist Comments Affect Online Deliberation on News Media Facebook Pages

**Table 18.** Publication Details of Paper III

| Reference                                                                                                                                                                                                                                                                              | Accepted   | Status    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|
| Thiele, Daniel, and Tjaša Turnšek. 2022. "How Right-Wing Populist Comments Affect Online Deliberation on News Media Facebook Pages." <i>Media and Communication</i> 10 (4): 141–54.<br><a href="https://doi.org/10.17645/mac.v10i4.5690">https://doi.org/10.17645/mac.v10i4.5690</a> . | 2022-11-08 | Published |

**Abstract.** Right-wing populist user comments on social media are said to impair online deliberation. Right-wing populism’s anti-pluralist and conflict-centered message might hinder deliberative debates, which are characterized by reciprocity, arguments, sourcing, politeness, and civility. Although right-wing populism has been found to foster user interaction on social media, few empirical studies have examined its impact on the scope and deliberative quality of user debates. This study focuses on debates on 10 Facebook pages of Austrian and Slovenian mass media during the so-called “refugee crisis” of 2015–2016. Proceeding in two steps, we first analyze how right-wing populist user comments affect the number of reply comments using a dataset of  $N = 281,115$  Facebook comments and a validated, automated content analysis. In a second step, we use a manual, quantitative content analysis to investigate how right-wing populist comments affect the deliberative quality of  $N = 1,413$  reply comments. We test five hypotheses in carefully modeled regression analyses. Our findings show that right-wing populist comments trigger replies but impair their deliberative quality. People-centric comments decrease the probability of arguments in replies, and anti-immigrant comments spark incivility. Countering populism further increases impoliteness. We discuss our findings against the backdrop of an increasingly uncivil online public sphere and populism’s ambivalent relationship with democracy.

**Keywords:** deliberation; immigration; incivility; online news; populist communication; political communication; reciprocity; social media; user comments

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## **6.1. Introduction**

Right-wing populism has shaped Europe's political landscape in recent decades (Mudde 2013). To understand its success, researchers increasingly focus on populism as a communication phenomenon (de Vreese et al. 2018a). Social media has been found to be the preferred channel for populist communication (N. Ernst, Esser, et al. 2019; Gerbaudo 2018). A different, growing branch of research is concerned with citizens' populist attitudes (e.g., Zaslove et al. 2021). However, only few studies have examined ordinary citizens' expressions of populist views in online public spheres. Initial findings show that user-generated populism flourishes in comments sections below news stories (Blassnig, Engesser, et al. 2019; Galpin and Trenz 2019; Thiele 2022b) and breaches norms of democratic communication (Hameleers 2019b). What we do not know is how these comments affect other users and discussions among them. This study narrows this research gap by asking: How do right-wing populist comments affect the number and deliberative quality of reply comments on Facebook?

Deliberation is the respectful exchange of reasons in public and is considered vital for democracy (e.g., Friess and Eilders 2015; Habermas 1996). At the beginning of the millennium, user comments were expected to enhance deliberation (Dahlberg 2011). Repeated findings of incivility in comments (e.g., Coe, Kenski, and Rains 2014; Rowe 2015a) have left little of that hope (Quandt 2018). Scholars have argued that populism may further impair deliberation (Abts and Rummens 2007; Waisbord 2018b). Populism is a "thin" ideology that holds that a "corrupt elite" deprives "the people" of their sovereignty (Mudde 2004, 543). Its anti-pluralism and Manicheanism, so the argument goes, run contrary to an exchange of reasons (Abts and Rummens 2007; Waisbord 2018b). Other authors have argued that populism's conflictive message could revitalize democratic debates (Laclau 2005; Mudde and Rovira Kaltwasser 2012a). Connecting the separate strands of populist communication and online deliberation research, this study aims to contribute empirically to this normative debate.

Furthermore, we aim to disentangle the relation between different dimensions of right-wing populism and deliberation. The right-wing variant of populism clings to the nativist idea that foreigners are threatening (Mudde 2007, 156), which renders it even more problematic for liberal democracy (Sauer, Krasteva, and Saarinen

2018). Hameleers' (2019b) qualitative content analysis of user-generated, right-wing populist content on Facebook illustrates this threat but leaves open the question of whether populism per se or right-wing ideology is the problem. Here, we differentiate between right-wing, *anti-immigrant* messages and populist messages that involve *anti-elitism* or *people-centrism*. Likewise, to grapple with the presumably ambivalent impact of right-wing populism on democratic debates (Canovan 1999; Mudde and Rovira Kaltwasser 2012a), we differentiate five key aspects of deliberation, namely *reciprocity*, *argumentation*, *sourcing*, *politeness*, and *civility* (Friess, Ziegele, and Heinbach 2020). Using a quantitative content analysis allows us to untangle the relations between those dimensions.

We focus on user debates during the so-called "refugee crisis" in 2015–2016 on Facebook pages of news media from Austria and Slovenia. The neighboring countries Austria and Slovenia faced similar challenges during the crisis but diverge markedly in terms of the commenting behavior of their citizenry (European Commission 2016, 452). The crisis was accompanied by a growing polarization among citizens (van der Brug and Harteveld 2021) and a shift of public discourse towards right-wing populism (Krzyżanowski 2018), which also influenced the positions of competing political parties (Gessler and Hunger 2022). Focusing on the impact of right-wing populist comments on user debates complements our understanding of this crisis, as heated debates below news stories have been found to fuel audience polarization (Asker and Dinas 2019).

Facebook is a popular tool used by media houses to publish news stories and to invite the audience to comment (Humprecht, Hellmueller, and Lischka 2020). The platform allows users to *reply* to other users' comments, which promotes reciprocal discussions among users (Esau, Friess, and Eilders 2017). This structure allows us to study the impact of right-wing populism in higher-level comments on the number and quality of replies.

The empirical analysis of this study was carried out in two steps. In the first step, we conducted an automated content analysis of 281,115 Facebook comments found below posts on 10 popular Facebook pages of Austrian and Slovenian news media, analyzing the impact of right-wing populist comments on the *number* of replies. In the second step, we sampled 535 comments from this population, downloaded up to five replying comments, and conducted a manual, quantitative content analysis

of 1,413 replies to investigate the impact of right-wing populism on deliberative quality. Our findings show that right-wing populist comments triggered an increase in the number of replies but induced a deterioration of their deliberative quality. Countering populism further increased levels of impoliteness in replies. Our findings substantiate the theorized ambivalent relationship between right-wing populism and democracy (Mudde and Rovira Kaltwasser 2012a) at the level of user debates.

## 6.2. Theory

### 6.2.1. Right-Wing Populist User Comments

Right-wing populism is here defined as a compound of two ideologies. On the one hand, populism is a “thin” ideology that asserts that “the people” are ruled by a “corrupt elite” and demands the restoration the people’s sovereignty (Mudde 2004, 543). This ideology is “thin”, in the sense that its focus is limited to these core ideas (Freeden 1996). At the core of right-wing populism is, additionally, the nativist idea that foreign, “nonnative elements [...] are fundamentally threatening” (Mudde 2007, 19). This additional dimension makes right-wing populism a “thicker” ideology (Krämer 2017). Nativism is frequently articulated as opposition towards immigration (Mudde 2007, 19). We focus on the expression of these ideas in texts as right-wing populist *content* (de Vreese et al. 2018a). Following previous operationalizations (Aslanidis 2018; Wirz et al. 2018), we capture three dimensions of right-wing populist content: *anti-elitist*, *people-centrist*, and *anti-immigration* messages.

Various actors can disseminate right-wing populist messages (de Vreese et al. 2018a). Scholars have focused on the populist communication of politicians (e.g., N. Ernst, Esser, et al. 2019; van Kessel and Castelein 2016) and the media (e.g., Wirz et al. 2018). This research has found that social media provides favorable opportunity structures for populism (e.g., Blassnig and Wirz 2019; N. Ernst, Esser, et al. 2019). Although “the people” play a crucial role in populist thought, few studies have investigated populist content from ordinary citizens. Galpin and Trenz (2019) analyzed user comments on media websites and found evidence for “participatory populism.” This content analysis, however, was limited to negativity (Galpin and Trenz 2019, 788). Using a more sophisticated coding scheme, Blassnig et al. (2019)

analyzed news coverage of immigration and user comments on media websites and found that populist reporting stirs populist comments.

To our best knowledge, only Hameleers (2019b) analyzed populist user content against the backdrop of democratic communication. Conducting a qualitative analysis of right-wing populist Facebook community pages, Hameleers (2019b) showed how this user content infringed upon democratic norms through extreme hostility and avoidance of argumentative debates. However, these findings are limited to a niche public of users who actively engage with right-wing populist community pages (Hameleers 2019b). Secondly, the qualitative approach of that study does not allow sufficient differentiation between populist and right-wing elements, as suggested by populism scholars (Rooduijn 2019). Finally, that study did not investigate effects of right-wing populist messages on other users. We aim to overcome these limitations by distinguishing between right-wing and populist content, by investigating its impact on replies from other users, and by analyzing comments sections on Facebook pages of news media organization that reach a broad public.

### **6.2.2. Online Deliberation**

Comments sections, as other interactive innovations, have changed today's media logics (Klinger and Svensson 2015). Converging the roles of content producer and consumer, user comments allow ordinary citizens to reach similar audiences as professional journalistic output (Springer, Engelmann, and Pfaffinger 2015). Commenting on the news allows users to engage in discussions and deliberative interaction (Springer, Engelmann, and Pfaffinger 2015), to influence the perceived public opinion (e.g., Eilders and Porten-Che   2022), and to counter-frame news stories (Liu and McLeod 2019). Initially, this potential raised scholars' hopes that user comments may contribute to a more inclusive, participatory, and deliberative public sphere (Dahlberg 2011; Ruiz et al. 2011). However, comments sections have been repeatedly found to be plagued by incivility (e.g., Coe, Kenski, and Rains 2014), and little of this optimism remains (Quandt 2018).

Most news media organizations run pages on Facebook, which continues to be the social medium with the highest number of users (Newman et al. 2016, 10). On these pages, media houses post news stories and invite users to comment, hoping

to increase the visibility of their stories (J. B. Singer 2014) and guide traffic to their websites (Humprecht, Hellmueller, and Lischka 2020). Facebook allows commenters to reply directly to each other, which fosters reciprocal discussions (Esau, Friess, and Eilders 2017). However, the deliberative quality of Facebook comments has been found to be lower than on news websites (Rowe 2015b).<sup>7</sup> Here, we analyze both the scope and quality of such reciprocal discussions on Facebook.

To assess the democratic quality of online discussions, scholars have turned to the concept of deliberation. Deliberation denotes “a rational, constructive, reciprocal, and respectful exchange of reasons among equal participants” (Friess, Ziegele, and Heinbach 2020, 3). Its proponents argue that deliberation yields desirable outcomes for democratic societies (Friess, Ziegele, and Heinbach 2020; Habermas 1996). However, there is little consensus about the criteria that render a debate or statement deliberative (Mutz 2008). To arrive at a set of operationalizable criteria, we conducted a literature review of 18 recent empirical studies (see Appendix R). Drawing on this review, we distilled five key dimensions of deliberation, *reciprocity*, *argumentation*, *sourcing*, *civility*, and *politeness*, similar to Friess et al. (2020).

*Reciprocity* is an interactive process in which participants listen and respond to each other (Friess and Eilders 2015). Here, we consider the number of reply comments under a Facebook comment to reflect the scope of reciprocity. The other four criteria of deliberative communication characterize the content of a comment. *Argumentation* involves the provision of reasons for one’s claims (Friess, Ziegele, and Heinbach 2020). These reasons can be backed up with verifiable information by making *sources* transparent (Stromer-Galley 2007). *Politeness* and *civility* both characterize respectful communication (Friess, Ziegele, and Heinbach 2020). While many authors use both terms interchangeably (e.g., Coe, Kenski, and Rains 2014), we follow Papacharissi’s (2004) argument to conceptualize politeness as a matter of tone and incivility as discourse that substantially violates democratic values. *Politeness* can be grasped then as the absence of impoliteness, understood as an “unnecessarily disrespectful tone” (Coe, Kenski, and Rains 2014, 660). *Civility*, by contrast, denotes messages that do not entail stereotypes, racism, violent speech or silence others (Papacharissi 2004, 274). While uncivil comments can

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<sup>7</sup> *Erratum:* The published article mistakenly refers to Rowe (2015a), instead of Rowe (2015b).

hardly be polite, impolite comments may serve the democratic function of exposing others to different views, as shown by Rossini (2022), using different labels. Kalch and Naab (2018) demonstrate that impoliteness and incivility have a different impact on the responses of others. Such differences might be particularly relevant in a context where users confront extremely right-wing positions.

While we expect an overall low level of deliberative quality of Facebook comments, the debate surrounding the democratic implications of populism (e.g., Mudde and Rovira Kaltwasser 2012a) raises the question of its empirical impact on online deliberation.

### 6.2.3. The Impact of Right-Wing Populist Comments on Online Deliberation

Populism has an ambivalent relationship with democracy (Mudde and Rovira Kaltwasser 2012a). On the one hand, demanding the implementation of the people's will is inherently democratic (e.g. Canovan 1999) and may mobilize parts of the society that feel misrepresented by mainstream politics (Mudde and Rovira Kaltwasser 2012a, 21). However, populism's crude majoritarianism and anti-pluralism threatens liberal democracy (Canovan 1999; Mudde and Rovira Kaltwasser 2012a, 21). This threat, stemming from a neglect of minority rights, is arguably even more severe in populism's right-wing variant (Mudde 2007, 156; Sauer, Krasteva, and Saarinen 2018). Democratic debates are likely to suffer from expressions of this Manichean worldview, often voiced aggressively by populists (Waisbord 2018b). We expect that this democratic ambivalence is reflected in the impact that right-wing populist user comments have on online deliberation.

Regarding the scope of *reciprocity*, we expect a mobilizing effect of right-wing populist comments. Previous research has found that right-wing populist messages on Facebook trigger user interactions (Bobba 2018; Jost, Maurer, and Hassler 2020). Blassnig and Wirz (2019) found that this effect is driven by activating a populist schema in like-minded users. At the same time, we expect that the conflict-centered messages of right-wing populism might provoke objections from opposing users. These effects should hold for populist and right-wing content alike.

**H1:** Right-wing populist user comments receive more reply comments than other comments.

Regarding the *quality* of deliberation in reply comments, we expect a deteriorating impact of right-wing populism. Populism's construction of "the people" as a homogeneous group that is oppressed by a "corrupt elite" is moralistic (Mudde 2004, 544). Moralization makes argument-based objections rather pointless (Hameleers 2019b; Mudde and Rovira Kaltwasser 2012a). Additionally, populist messages claim to be an immediate expression of the "*vox populi*" (Canovan 1999, 14). Within the populist logic, this makes further arguments from supporters unnecessary (Abts and Rummens 2007; Krämer 2017). If this reasoning is correct, we should find this impeding effect for populist messages and less so for anti-immigration messages.

**H2:** Populist user comments decrease the probability of arguments in reply comments.

Populism delegitimizes not only political elites, but also journalists (Egelhofer, Aaldering, and Lecheler 2021) and scientific experts (Mede and Schäfer 2020). This aversion to expert knowledge aligns it with a sprawling post-truth politics (Waisbord 2018b). We argue that the rejection of established sources of knowledge may discourage replying users from referring to such sources.

**H3:** Populist user comments decrease the probability of the provision of sources in reply comments.

Hypotheses 2 and 3 have focused on effects of populist messages. Both anti-immigrant and anti-elitist messages, however, might raise levels of *incivility* among reply comments. Survey research has shown that socially undesirable statements are withheld if the respondent fears being sanctioned (Krumpal 2013). Uncivil statements, such as stereotypes, racism, or approval of violence (Papacharissi 2004), fall into this category. We argue that right-wing populist comments may signal to like-minded users that the risk of sanctions is low, thus raising their readiness to express uncivil opinions (Keum and Miller 2018).

**H4:** Right-wing populist user comments increase the probability of uncivil reply comments.

Similar contagion effects have been observed for *impolite* user comments (Song et al. 2022). Right-wing populist comments are characterized by their harsh tone (Hameleers 2019b). We expect that this rudeness might spill over to reply comments.

**H5:** Right-wing populist user comments increase the probability of impolite reply comments.

In addition to these hypotheses, we want to know what happens when users *counter* populist or anti-immigrant comments. Friess et al. (2020) have shown that civic interventions against hate speech in online comments can improve the deliberative quality of debates. On the other hand, disagreement in comments sections has been linked to increased levels of impoliteness (Rossini 2021). Since these findings do not suggest a clear hypothesis in either direction, we ask the following additional research question:

**RQ:** How does countering right-wing populism affect the deliberative quality of reply comments?

## 6.3. Methods

### 6.3.1. Research Design

To test our claims, we conducted two content analyses of user comments on Facebook pages of Austrian and Slovenian news media. We chose the timeframe of July 2015 to August 2016, which covers the so-called “refugee crisis,” as we expected many right-wing populist comments and heated debates in this context (Blassnig, Engesser, et al. 2019). The arrival of millions of refugees in the wake of the Syrian war attracted enormous media attention (Greussing and Boomgaarden 2017). After an initial phase of welcoming by volunteers, especially in Austria, the right-wing demand for stricter border controls became increasingly prevalent. This culminated in the closure of the “Balkan route” in 2016, in which Austria and Slovenia took the lead (O. Gruber 2017; Vezovnik 2018). In both neighboring countries, right-wing populist mobilization surged in the aftermath of the crisis (Bodlos and Plescia 2018; Pajnik and Šori 2021; Thiele, Sauer, and Penz 2021).

The two countries have similar media systems (Herrero et al. 2017). However, in a European-wide comparison in 2015, Austrians were the most active online commenters (52%), while Slovenes (20%) exhibit low levels of commenting activity (European Commission 2016, 452). In 2015, Facebook was the most widely used social medium (Newman et al. 2016, 10).

The Facebook data analyzed here has a nested structure. Mass media outlets operate Facebook pages and share news items as posts. Users can comment on these posts. We call this first level of comments *parent comments*. On a second level, users can respond to comments in *reply comments*. Our analysis proceeds in two

steps. In Step 1, we analyze the effect of right-wing populism in parent comments on the *number* of replies using a large-N design and a computational content analysis. In Step 2, we analyze the deliberative quality of the *content* of replies to a small subsample of parent comments using a quantitative, manual content analysis.

### 6.3.2. Data

For each country, we selected five popular Facebook pages of news media, covering quality newspapers (AT: *Der Standard*, *Die Presse*; SI: *Delo*, *Dnevnik*), tabloid press (AT: *Kronen Zeitung*, *oe24.at*; SI: *Slovenske Novice*), public broadcasting (AT: *Zeit im Bild*, SI: *RTVSLO.si*), and mixed-media outlets associated with private broadcasters (AT: *oe24.at*; SI: *24ur.com*).<sup>8</sup>

We downloaded all publicly accessible Facebook posts from each page in the timeframe of July 2015 to August 2016 using the Facebook Graph API and Facepager (Jünger and Keyling 2020). For each of the 7,658 posts, we downloaded up to 500 anonymized user comments, resulting in a sample of  $N = 281,115$  parent comments, which constitutes our sample for Step 1 of our analysis.

For Step 2, we narrowed down the population of parent comments to comments on posts about migration that received at least one reply. To detect the topic of migration, we used two validated dictionaries (Appendix K). Next, we applied a preliminary version of our automated measurements described below to ensure a sufficient representation of right-wing populist comments. We drew two stratified random samples of 300 parent comments per country, oversampling highly populist and anti-immigrant comments. For each parent comment, we then downloaded up to five replies, following Ziegele et al. (2020, 874). After dropping empty observations,  $N = 1,413$  replies and 535 parent comments were analyzed in Step 2.

### 6.3.3. Variables

The *dependent variable* in Step 1 is the *number of replies* attracted by each analyzed parent comment, as returned from the Facebook API. By this number, we operationalize the scope of reciprocal discussion among users.

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<sup>8</sup> Note: The latter two outlets were considered as ‘tabloid’ outlets in Chapter 3.2 of this dissertation.

The *explanatory variables* in Step 1 are *populist* and *anti-immigration* content in parent comments. Following Aslanidis' (2018) argument that expressions of populism are best understood as a matter of degree, we measure both as continuous variables, applying a computational content analysis called distributed dictionary representation (DDR) (Garten et al. 2018). This method combines dictionaries with word vectors. Dictionaries measure concepts by counting keywords, but struggle to arrive at exhaustive word lists (Rauh 2018). The DDR method circumvents this problem by representing a short list of expressive keywords as word vectors (Garten et al. 2018). Word vectors are learned by neural networks and claim to represent the semantic similarity of words (e.g., Bojanowski et al. 2017). The vector representations of all words in a dictionary are averaged into one dictionary representation. The same is done for each document. The DDR method then computes the cosine similarity between the average dictionary vector and each document vector. This results in a measure ranging from -1 to +1 that provides a crude indicator for how strongly the concept is represented in each document (Garten et al. 2018).

We used our R-package *dictvector* (Thiele 2022a) to apply the DDR method and to systematically develop concept dictionaries. The development process is documented in detail in Appendix L. Two language-specific *fasttext* word-vector models (Bojanowski et al. 2017) were trained on our corpora. To optimize and validate our measurements, we tested how well they predicted the binary, human coding obtained in Step 2. Two-thirds of the sample coded for Step 2 were used for optimization, the remaining third for validation. Table 19 reports the validation scores *Recall*, indicating the proportion of relevant documents predicted correctly, *Precision*, the share of correct hits in all predictions, and their harmonic mean *F1* (Stryker et al. 2006). The concepts of anti-immigration and populism were measured separately for each language. The short dictionaries align with the authentic language used in user-generated content and reflect equivalent dimensions. However, they also reflect country-specific discourses (see Appendix L). In the DDR method, the average representation of all dictionary words is decisive. Therefore, it is not necessary that all terms be in themselves anti-immigrant or populist (e.g., *politicians*). Moreover, the method captures documents that resemble the combined meaning of the dictionary words without matching them exactly. Given the satisfactory F1 scores between .69 and .76, we consider the measurements good approximations for

right-wing populist content. All DDR measures were standardized and mean-centered at the country level.

**Table 19.** Short Dictionaries and Performance of DDR Measures

| Concept          | Ctry. | Dictionary                                                                                         | Translation                                                                                            | P <sup>a</sup> | R <sup>b</sup> | F1  |
|------------------|-------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------|----------------|-----|
| Anti-immigration | AT    | abschieben, asylanten, kulturbereicherer, sofort abschieben, terroristen kommen, zurückschicken    | deport, asylum seekers [pej.], culture enrichers, deport immediately, terrorists are coming, send back | .75            | .64            | .69 |
|                  | SI    | ekonomski migranti, migranti, nazaj sirijo, poslat nazaj, tisoce beguncev, tisoce vsi islamisti    | economic migrants, migrants, back to syria, send back, thousands of refugees, thousands of islamists   | .71            | .81            | .76 |
| Populism         | AT    | inkompetenten, korrupten, politiker, sauhaufen, unser land, verarschen uns, volk, wir steuerzahler | incompetent, corrupt, politicians, bunch of pigs, our country, screw with us, people, we taxpayers     | .73            | .70            | .72 |
|                  | SI    | banda pokvarjena, državljani slovenije, nas slovence, naša slovenija, naša vlada, nesposobno       | a bunch of corrupt, slovenian citizens, us slovenes, our slovenia, our government, incompetent         | .67            | .75            | .72 |

Notes: a: Precision (P); b: Recall (R); Test sample size AT: n = 312, SI: n = 291

As a *control* in Step 1, we included a variable indicating whether a post addressed *migration* to account for an effect of issue salience. We also controlled for the *number of comments* per post and the parent comment characteristics *length*, *tagging users*, *download age*, and *days passed* between post and comment. Download age is the time elapsed between the comment being published and being downloaded for this research. Appendix O reports summary statistics.

In Step 2, we conducted a manual, quantitative content analysis. One author constructed a codebook (Appendix J) inspired by previous research (Blassnig, Engesser, et al. 2019; Friess, Ziegele, and Heinbach 2020). Two authors conducted the coding. Extensive training ensured reliable coding, which was tested on 234 translated comments and measured by Krippendorff's alpha. All categories but “positioning” were coded for parent and reply comments.

The *dependent variables* in Step 2 are four binary indicators for the quality of deliberation in responses. *Argumentation* ( $\alpha = .75$ ,  $n = 234$ ) was coded if the comment provided reasons for its claims (Friess, Ziegele, and Heinbach 2020). *Sourcing* ( $\alpha = .90$ ) was coded if the comment referred to hyperlinks or external sources of knowledge (Marzinkowski and Engelmann 2022). *Incivility* ( $\alpha = .71$ ) was coded if a comment dehumanized others, used stereotypes, sexism, or racism, supported violence (Friess, Ziegele, and Heinbach 2020), or silenced others (Oz, Zheng, and Chen 2018). We considered a comment *impolite* ( $\alpha = .81$ ) if it included name-calling, vulgarity, sarcasm, depreciation, or shouting (Friess, Ziegele, and Heinbach 2020).

The main *explanatory variables* indicate three dimensions of right-wing populism in parent comments. *People-centric* ( $\alpha = .74$ ) messages invoke the people as a virtuous, homogeneous, or victimized group or stress the people's will (Aslanidis 2018; Blassnig, Engesser, et al. 2019). *Anti-elitism* ( $\alpha = .73$ ) was coded if a comment discredited or blamed power holders (Aslanidis 2018; Blassnig, Engesser, et al. 2019). *Anti-immigration* ( $\alpha = .81$ ) was coded when comments opposed immigration or considered it a threat to security, economy, or culture (Callens and Meuleman 2017).

To answer the question regarding the effect of *countering* right-wing populism, we coded if the reply comment agreed, disagreed, or was neutral towards the parent comment (*positioning*  $\alpha = .74$ ,  $n = 138$ ) (Marzinkowski and Engelmann 2022). We then constructed a binary variable for *countering populism*, indicating for each reply whether any of the preceding replies disagreed with a people-centric or anti-elitist parent comment without using these discourses itself. *Countering anti-immigration* was constructed analogously. As *control variables*, we included the respective indicator for deliberative quality on the parent comment level and the length of the parent comment in characters. Summary statistics are reported in Appendix O.

### 6.3.4. Model Specifications

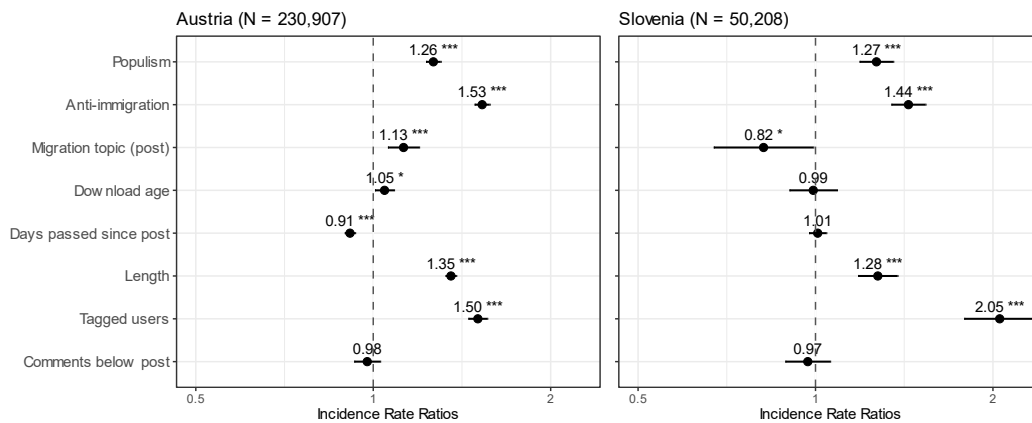
We tested our hypotheses in carefully constructed regression models. In Step 1, the dependent variables are count variables, so we fitted negative binomial regression models. As our automated measurements of *populism* and *anti-immigration* are language-specific, we fitted separate models for each country. The data have a nested structure, with comments nested in posts and posts nested in accounts. We accounted for the two levels (post and accounts) using multilevel models (Appendix Q).

For Step 2, we ran four logistic regression models, one for each binary indicator of deliberative quality in reply comments. As the number of observations per level was very limited, we accounted for the nested structure of the data on the Facebook page level by including dummy variables for each page-account. This cancels out between-group effects on this level (Bell, Fairbrother, and Jones 2019).

## 6.4. Results

Right-wing populism was found in the comments of all analyzed media Facebook pages. Differences across media types were small, but mostly significant (see Appendix P). Comments on public broadcasters' pages were the most strongly populist and anti-immigrant in both countries. Surprisingly, we found that tabloid newspapers attracted the least populist and anti-immigrant comments in Slovenia and scored only second in Austria.

**Figure 9.** Incidence rate ratios of Model 1 (Austria) and Model 2 (Slovenia)<sup>9</sup>



In Step 1, we focused on the number of replies per parent comment. Parent comments received 0.7 ( $SD = 3.4$ ,  $Max = 248$ ) replies on average in Austria and 0.5 ( $SD = 2.4$ ,  $Max = 127$ ) in Slovenia. The results from two multilevel, negative binomial regression models show that the degree of both *anti-immigration* and *populism* increased the number of reply comments significantly. These effects were significant in both countries. The regression tables are documented in Appendix Q.

Figure 9 visualizes the effects as incidence rate ratios (IRR), which are the exponentialized  $\beta$ -coefficients. Positive effects are indicated by IRR values above 1 and negative effects by values below 1. An increase in *anti-immigration* in parent comments by 1 SD increased the expected count of reply comments by a factor of 1.5 in Austria and by 1.4 in Slovenia (Blassnig, Engesser, et al. 2019, 640). *Populism* had a similar, significant positive impact. These findings support Hypothesis 1 and indicate that right-wing populist content triggers user discussions. These effects are

<sup>9</sup> Note: Multilevel negative binomial regression on the number of replies per comment for each country. Varying intercepts on post and account levels.

significant, even when controlling for a salience effect of the topic of migration. Interestingly, the topic of migration was associated with an increased number of replies in Austria but a decreased number of replies in Slovenia. Looking at the other control variables, we see that *tagging users* and *comment length* were associated with an increased number of responses. Comments that reacted to dated posts received less responses in Austria.

In the second step of our analysis, we focused on the *deliberative quality* in reply comments. In all analyzed parent and reply comments, right-wing populist messages were significantly more often impolite (90%) and uncivil (38%) than other comments (54%/3%). Surprisingly, right-wing populist comments coincided more often with arguments (32% vs. 17%). Sourcing was equally rare (3%) in both categories. We ran four logistic regression models using the binary indicators for deliberative quality in replies as dependent variables (Table 20).

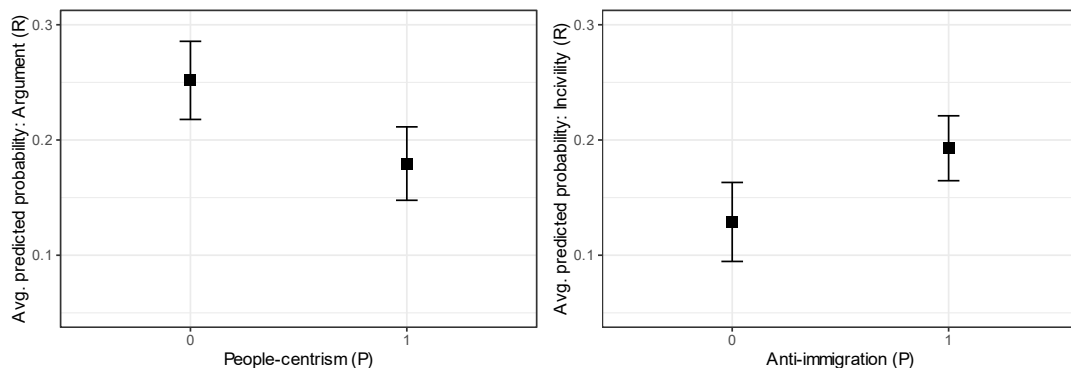
We found a significant negative effect of *people-centric* parent comments on *argumentation* (Model 3) and a weakly significant positive influence of *anti-immigration* on *incivility* (Model 5). The effects are visualized as average predicted probabilities in Figure 10. A people-centric parent comment decreased the probability of a response including an argument from 25% to 18%, holding all other variables at their observed values and averaging across all predictions. Anti-immigrant parent comments, in turn, increased the probability of uncivil responses from 13% to 19%. These findings support Hypotheses 2 and 4. However, the effect of anti-immigration on incivility disappears when controlling for anti-immigration in the reply, as a closer analysis shows, which is not presented here. We discuss this finding in the conclusion. Contrary to our expectations, we found a weakly significant, negative effect of *anti-elitism* on *incivility*.

Model 5 did not find any meaningful predictors for *sourcing*. *Impoliteness* in responses (Model 6) was best predicted by *impoliteness* in the parent comment. We found analogous contagion effects for argumentation and incivility in Models 3 and 5. None of these findings let us reject the null hypotheses against H3 and H5.

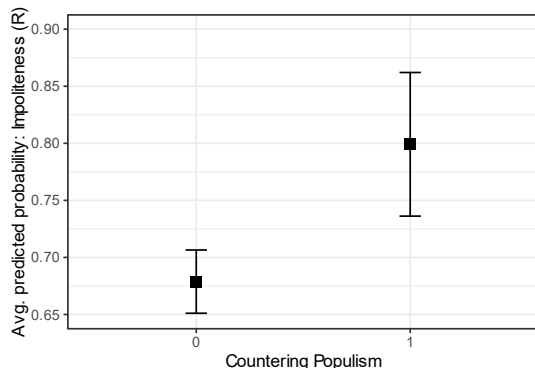
**Table 20.** Logistic Regression Results

|                                  | <b>Model 3</b>  | <b>Model 4</b>  | <b>Model 5</b>   | <b>Model 6</b>  |
|----------------------------------|-----------------|-----------------|------------------|-----------------|
| Dependent Variable               | Argument (R)    | Sourcing (R)    | Incivility (R)   | Impoliteness(R) |
| Intercept                        | -1.72 (0.19)*** | -3.56 (0.43)*** | -1.66 (0.19)***  | 0.78 (0.20)***  |
| <i>Explanatory Variables (P)</i> |                 |                 |                  |                 |
| People-centrism                  | -0.44 (0.16)**  | -0.06 (0.36)    | -0.21 (0.17)     | -0.01 (0.15)    |
| Anti-elitism                     | -0.21 (0.16)    | -0.04 (0.35)    | -0.39 (0.18)*    | -0.29 (0.15)    |
| Anti-immigration                 | -0.03 (0.17)    | -0.44 (0.38)    | 0.50 (0.21)*     | 0.02 (0.16)     |
| <i>Countering</i>                |                 |                 |                  |                 |
| Countering Anti-imm.             | 0.15 (0.25)     | 0.09 (0.61)     | -0.11 (0.29)     | -0.13 (0.25)    |
| Countering Populism              | 0.23 (0.26)     | -0.15 (0.59)    | 0.26 (0.30)      | 0.71 (0.26)**   |
| <i>Controls (P)</i>              |                 |                 |                  |                 |
| Argumentation                    | 0.58 (0.15)***  |                 |                  |                 |
| Sourcing                         |                 | -0.06 (0.82)    |                  |                 |
| Incivility                       |                 |                 | 0.42 (0.18)*     |                 |
| Impoliteness                     |                 |                 |                  | 0.82 (0.17)***  |
| Length                           | -0.05 (0.08)    | 0.14 (0.13)     | -0.23 (0.10)*    | 0.07 (0.09)     |
| <i>Accounts</i>                  |                 |                 |                  |                 |
| Der Standard (AT)                | 0.95 (0.35)**   | -0.12 (1.09)    | -16.08 (573.89)  | -2.42 (0.38)*** |
| Die Presse (AT)                  | 0.69 (0.33)*    | 0.77 (0.72)     | -0.40 (0.41)     | -1.37 (0.30)*** |
| Kronen Zeitung (AT)              | 0.53 (0.21)*    | 0.65 (0.48)     | -0.18 (0.20)     | -0.97 (0.18)*** |
| oe24.at (AT)                     | 0.46 (0.32)     | 0.62 (0.71)     | -0.88 (0.42)*    | -0.65 (0.29)*   |
| Zeit im Bild (AT)                | 0.68 (0.20)***  | 0.83 (0.48)     | -0.76 (0.25)**   | -0.93 (0.19)*** |
| Delo (SI)                        | 0.48 (0.35)     | -14.66 (854.11) | -0.88 (0.45)     | -0.24 (0.35)    |
| Dnevnik (SI)                     | 0.55 (1.14)     | 2.62 (1.19)*    | -16.17 (1753.88) | 0.04 (1.14)     |
| RTVSLO.si (SI)                   | -13.79 (458.35) | 1.61 (1.12)     | -16.22 (1244.41) | 0.01 (0.81)     |
| Slovenske Novice (SI)            | 0.47 (0.22)*    | 0.39 (0.56)     | 0.27 (0.21)      | 0.27 (0.25)     |
| AIC                              | 1,460.25        | 431.22          | 1,231.65         | 1,590.08        |
| Num. obs.                        | 1,413           | 1,413           | 1,413            | 1,413           |

Notes: \*\*\*p &lt; 0.001; \*\*p &lt; 0.01; \*p &lt; 0.05, (R) reply, (P) parent comments

**Figure 10.** Average Predicted Probabilities of Argumentation and Incivility in Reply Comments (95% Confidence Intervals)

**Figure 11.** Average Predicted Probabilities of Impoliteness in Replies (95% Confidence Intervals)



We included two variables to answer our research question regarding the impact of *countering* right-wing populism on deliberation. Interestingly, we found that countering populist content significantly increased the probability of impoliteness in subsequent replies (Model 6). Figure 11 visualizes this effect, showing that previous countering increased the predicted probability of impoliteness in replies from 68% to 80%.

## 6.5. Discussion and Conclusion

This study set out to investigate the impact of right-wing populist user comments on online deliberation. Proceeding in two steps using a computational and a manual content analysis, we analyzed the impact of right-wing populist comments on Facebook pages of Austrian and Slovenian news media during the “refugee crisis” of 2015–2016 on the *number* and *deliberative quality* of replies. Our findings show that populist and anti-immigrant comments increased the scope of replies but impaired their deliberative quality. This evidence empirically underlines the ambivalent relationship between right-wing populism and democracy (Mudde and Rovira Kaltwasser 2012a) at the level of user debates and points to differential effects of right-wing populist communication.

Both *populist* and *anti-immigrant* messages sparked discussions among users in our sample. This confirms previously identified mobilization effects of right-wing populist content on social media (Blassnig and Wirz 2019; Jost, Maurer, and Hasler 2020). This might be driven by activating a cognitive schema in like-minded users (Blassnig and Wirz 2019) or by provoking replies from opponents. High levels of reciprocal user discussions seem desirable from the viewpoint of deliberation theorists (e.g., Friess and Eilders 2015). At the same time, this engagement

increases the visibility of right-wing populist content (J. B. Singer 2014). According to the spiral-of-silence theory (Eilders and Porten-Cheé 2022), this can lead to an overestimation in perceived public opinion with subsequent consequences for the statements of others.

Indeed, we found some worrisome consequences. *People-centric* comments decreased the readiness of users to present arguments in replies. This effect might be caused by populism's claim to be an immediate expression of the people's will (Canovan 1999; Waisbord 2018b), which renders any supporting arguments unnecessary (Krämer 2017) and counter-arguments pointless (Hameleers 2019b).

*Anti-immigrant* comments more often entailed uncivil replies. Arguably, these messages lowered the bar for like-minded users to express racist or violent views (Keum and Miller 2018). Anecdotal evidence supports this view. One Austrian commenter demanded to "castrate this scum with a vise," responding to a comment that called for the deportation of an asylum-seeker and alleged sex offender. We found a similar example in the Slovenian corpus. This shows that right-wing populism can "normalize" (Wodak 2021) incivility and racism also in online debates. However, we note that this is primarily a contagion effect of anti-immigrant content and partly driven by our overlapping operationalization of anti-immigrant and uncivil statements, which followed Papacharissi's (2004) concept. Regardless of this, the effect seems problematic for democratic debates. Future studies, however, should aim to delineate the two concepts more clearly.

We did not find an impact of right-wing populist content on sourcing or impoliteness in replies. What our findings show, however, is that debates in which one reply *countered* populism escalated in terms of impoliteness. This is illustrated by the case of a commenter who countered the populist claim that the "clowns in government" would not care about "Austrians who cannot afford heating" by hinting soberly at the public "heating cost allowance"; this comment then faced a variety of insults, ranging from "do-gooder" to "bullshit." This finding adds to previous evidence that disagreement in online discussions fosters impoliteness (Rossini 2021). Unfortunately, we did not find that civic interventions improve deliberative quality, as Friess et al. (2020) did.

Media organizations face conflicting incentives to restrict right-wing populist comments. On the one hand, media houses profit commercially from high levels

of user interaction on Facebook, as this increases the visibility of news stories (J. B. Singer 2014). Accepting right-wing populism as a driving force for user engagement, however, might come at a cost. It may not only diminish the quality of online debates, as shown here, but could even backfire commercially, as low standards of online debates have shown to inhibit users from commenting (Springer, Engelmann, and Pfaffinger 2015). Here, we did not find evidence that right-wing populist comments were given preferential treatment from media houses for commercial reasons. Instead, we found that populists commenters are particularly attracted by publicly funded broadcasters. This is remarkable, since public broadcasters are a noted foe of populist politicians (Egelhofer, Aaldering, and Lecheler 2021), and populist communication is often associated with tabloid journalism (Hameleers, Bos, and de Vreese 2019; Mazzoleni 2008). Future research should inspect the media preferences of populist commenters more systematically.

Our study comes with several limitations. Firstly, the focus on the highly polarized context of the “refugee crisis” is likely to have affected our findings. In particular, the finding that countering populism fueled impoliteness should be scrutinized in a less-polarized setting. We advise future research to broaden the thematic focus and to consider a coding scheme that better captures the complexity of positions and references in comments. Secondly, our findings are limited to the two countries Austria and Slovenia. Furthermore, the language differences constitute hurdles for our computational content analyses, both for capturing right-wing populism and the topic of migration, which could not be overcome satisfactorily. Future research is encouraged to tackle such methodological challenges in comparative studies of a larger scale. The same holds, thirdly, for our focus on the platform Facebook. Fourthly, the samples used in Step 2 served a primarily exploratory objective and cannot claim representativeness. Our findings should be substantiated using a more systematic sample. Finally, we suggest that the mechanisms underlying these observed relations be more fully explored in experimental studies.

In sum, this study connected the separate strands of research on populist communication and online deliberation, substantiating the *ambivalent* impact of right-wing populism on democratic debates, and contributed methodologically to the growing interest in computational content analysis.

## 7 Summary of Findings

This dissertation set out to provide answers to two overarching research questions:

**RQ-I:** *Which contextual factors shape the level of populism in user comments on social media?*

**RQ-II:** *What are the consequences of populist comments for democratic discussions among users?*

*Papers I and II* addressed RQ-I. Table 21 provides an overview of the evidence collected with regard to the hypotheses and research questions investigated in these two papers. An overview of the findings of *Paper III*, which addressed RQ-II, are provided in Table 22. The main findings of the three papers can be summarized as follows:

*Paper I* explored how the COVID-19 pandemic catalyzed populist discourse in the comments sections on Facebook pages operated by German and Austrian news media. It investigated the relationship between the media coverage of the pandemic, government policies, and user-generated populist communication, yielding three main results. *First*, posts on COVID-19 attracted more populist user comments than other posts (I.H1), with a notable increase over time (I.H2). I suggested the interpretation of populist comments as expressions of psychological reactance (J. W. Brehm 1966; S. S. Brehm and Brehm 1981), which react to repeated “fear appeals” (Witte 1992) included in media posts. *Second*, I found in this study that media posts mentioning the government received more populist comments, but I did not observe this connection for posts mentioning experts. Further, contrary to my expectations, I did not find that mentioning elite actors amplified or interacted with the effect of COVID-19 coverage (I.H4a & I.H4b). *Third*, I found only a limited association between the stringency of COVID-19 containment policies and the number of populist comments. Contrary to my expectations, the restrictiveness of COVID-19 policies was not associated with more but fewer populist comments. However, this relationship held only for posts that covered topics other than COVID-19 (I.H3). For posts on COVID-19, this relationship was not clearly pointing in any direction. In *Paper II*, I investigated this puzzling finding in a broader comparative study.

*Paper II* expanded the scope of analysis to seven European countries (Austria, Germany, France, Italy, the Netherlands, Sweden, and the United Kingdom). In this paper, I examined how aspects related to the COVID-19 crisis and media-related factors were associated with the level of populism in Facebook comments sections. This study utilized advanced computational methods to analyze posts and comments across a multilingual dataset. To that end, I developed the computational text analysis tool *dictvectors* (Thiele 2022a), which is freely available on GitHub and is also used in *Paper III*. I demonstrated in that paper that this tool provides an efficient, interpretable, flexible, and valid method of measuring populist discourse in text, which—in combination with machine-translation—offered a reasonably coherent, although not flawless, cross-lingual measurement.

The empirical findings of *Paper II* can be summarized as follows. *First*, replicating the findings of *Paper I* on a broader sample and employing a more nuanced operationalization, I found that news media posts on COVID-19 were associated with higher levels of populism in comments sections (II.H3). The same was true for posts mentioning COVID-19 restrictions (II.H4). I also found pronounced effects of time (II.H6 & II.H7), with posts published during the first wave receiving considerably less populist user comments. I interpreted these findings as supportive, albeit circumstantial evidence for the argument that psychological reactance and anger play a crucial role in spawning populist comments. *Second*, however, the association between policy stringency, mentioning COVID-19, and populism in comments sections was uneven across countries (II.RQ3). Stricter COVID-19 policies were associated with more strongly populist comments below COVID-19-related posts only in Germany, Austria, and the Netherlands. This finding raises questions for future research, which I highlight in the discussion section of this dissertation.

*Third*, I observed a more pronounced association between the mention of elitist out-groups—that is, the government (II.H1) and scientific experts (II.H2)—and populism in the comments than I did in *Paper I*. Mentioning the government in a post was the strongest predictor of populism in comments and mentioning experts similarly had a substantial positive effect. These findings indicate that social identity constructions play a crucial role in sparking citizen-generated populist online communication. *Fourth*, focusing on media-related factors, I found no evidence for a “complicity” (Mazzoleni 2008, 63) between tabloid media and populist bottom-up communication in *Paper II*. Instead, I found that posts from tabloid media were

associated with significantly lower levels of populism in comments compared to quality media (II.RQ2). With regard to counter-strategies, I found significantly reduced levels of populism in comments when media outlets engaged in their own comments sections, which I interpreted as evidence of successful visible moderation (II.RQ1).

*Paper III*, co-authored with Tjaša Turnšek, shifted the focus from how user-generated populism emerges to how populist comments influence online deliberation and addressed the second overarching research question of this dissertation. The study examined the impact of right-wing populist comments during the so-called ‘refugee crisis’ in 2015–16 on the number and deliberative quality of replies on Facebook pages of news outlets from Austria and Slovenia. Proceeding in two steps, the paper revealed three key findings. *First*, we found a *mobilizing* impact of populist and anti-immigrant comments on participation in user discussions, which was measured by the number of reply comments. Both correlations were robust and substantial even after controlling for a salience effect by the topic of migration, for tagging users, and other control variables. In both countries, this connection was stronger for anti-immigrant content in both countries. *Second*, we found limited evidence for a deteriorating impact of populist and anti-immigrant comments on the deliberative quality of replies. Only a few of the investigated connections were significant. The clearest correlation was found between people-centric comments and a reduced probability to observe arguments in the replies. This association held even after controlling for the presence of arguments in the parent comment. Anti-immigrant comments were associated with a higher probability of observing uncivil replies. Further, the finding of a weakly negative connection between anti-elitist comments and uncivil replies was not in line with our expectations.

*Third*, we explored how replies that countered populist and anti-immigrant comments affected the deliberative quality of the subsequent discussion. We found a substantial and significant effect of countering populist comments on impoliteness: whenever a reply countered a populist comment, the predicted probability that a subsequent reply would be impolite increased from 68% [0.65–0.70] to 80% [0.73–0.86], independently of the politeness of the parent comment. Engaged disagreement further heated up the debate (Rossini 2021) instead of calming it down.

The three papers collectively emphasize the crucial role of comment sections on social media in disseminating citizen-generated populist communication. They reveal how emotionally charged contexts, crisis-situations, and media coverage can increase the prevalence of populist content in comments sections on news media Facebook pages, which are highly visible online publics. Media coverage—examined here through the content of news outlets’ Facebook posts—proved to be the decisive contextual factor in shaping this dynamic among all analyzed factors and exerted more influence than governmental policies themselves. Populist commenters reacted most strongly to references in media posts to the government, political parties, and, to a lesser extent, the COVID-19 crisis. Moreover, populist content affected online deliberation in two distinct ways: Populist comments significantly increased the volume of user discussions, measured by the number of replies. However, those replies were less likely to provide arguments and justifications for their claims when responding to people-centric comments. Moreover, the findings suggest that a proactive moderation strategy by media outlets can reduce the levels of populism in comment sections, while citizen-initiated moderation—here analyzed as engaged disagreement with populist comments—was found to backfire, thereby leading to more impolite replies. I discuss these findings in the final chapter.

**Table 21.** Findings Pertaining to the Contextual Factors of Populist Comments

| Hypotheses <sup>1</sup>                                                                                                                                                                                                                | No.                    | Evidence         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------|
| <b>Mentioning COVID-19 (+)<sup>2</sup></b><br>Facebook posts from news media mentioning COVID-19 are associated with increased levels of populism in the comments section.                                                             | <b>I.H1,<br/>II.H3</b> | <i>Supported</i> |
| <b>Mentioning restrictions (+)</b><br>Facebook posts from news media mentioning restrictive COVID-19 containment policies are associated with increased levels of populism in the comments section.                                    | <b>II.H4</b>           | <i>Supported</i> |
| <b>Mentioning COVID-19 * Policy stringency (+)</b><br>For Facebook posts from news media mentioning COVID-19, the stringency of COVID-19 containment policies is associated with increased levels of populism in the comments section. | <b>I.H3,<br/>II.H5</b> | <i>Mixed</i>     |
| <b>First wave (-)</b><br>During the first wave of the COVID-19 crisis, the level of populism in comments sections was lower, compared to later stages.                                                                                 | <b>II.H7</b>           | <i>Supported</i> |
| <b>Time (+)</b><br>Throughout the COVID-19 crisis, the level of populism in comments sections increased.                                                                                                                               | <b>II.H6</b>           | <i>Supported</i> |
| <b>Time * Mentioning COVID-19 (+)</b><br>The attraction of COVID-19 posts for populist comments grows over time.                                                                                                                       | <b>I.H2</b>            | <i>Supported</i> |

|                                                                                                                                                                            |               |                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------|
| <b>Countries</b><br>How does the association between stringency of COVID-19 containment policies and the level of populism in comments sections vary by country?           | <b>I.RQ3</b>  | <i>DE, AT, NL:<br/>Substantial correlation</i> |
| <b>Mentioning the government (+)</b><br>Facebook posts from news media mentioning the government are associated with increased levels of populism in the comments section. | <b>II.H1</b>  | <i>Supported</i>                               |
| <b>Mentioning experts (+)</b><br>Facebook posts from news media mentioning experts are associated with increased levels of populism in the comments section.               | <b>II.H2</b>  | <i>Supported</i>                               |
| <b>Mentioning government * Mentioning COVID-19 (+)</b><br>The attraction of COVID-19 posts for populist comments grows with mentioning government representatives.         | <b>I.H4a</b>  | <i>Rejected</i>                                |
| <b>Mentioning experts * Mentioning COVID-19 (+)</b><br>The attraction of COVID -19 posts for populist comments grows with mentioning experts.                              | <b>I.H4b</b>  | <i>Rejected</i>                                |
| <b>Media type</b><br>How is the type of news media operating a Facebook page associated with the level of populism in comments sections?                                   | <b>II.RQ2</b> | <i>Tabloids:<br/>Less populist comments</i>    |
| <b>Moderation</b><br>How are comments from news media moderating discussions on Facebook associated with the level of populism in comments sections?                       | <b>II.RQ1</b> | <i>Reduces populism</i>                        |

Notes: 1: If equivalent hypotheses were tested in both papers, I used the wording from Paper II in this table.  
2: (+) indicates a hypothesized positive correlation; (-) indicates a hypothesized negative correlation.

**Table 22.** Findings Pertaining to Populist Comments and Deliberation

| Hypotheses <sup>1</sup>                                                                                               | No.           | Evidence                                                             |
|-----------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------|
| <b>Participation (+)</b><br>Right-wing populist user comments receive more reply comments than other comments.        | <b>III.H1</b> | <i>Supported</i>                                                     |
| <b>Reasoning (-)</b><br>Populist user comments decrease the probability of arguments in reply comments.               | <b>III.H2</b> | <i>Partially supported<br/>(for people-centrism)</i>                 |
| Populist user comments decrease the probability of the provision of sources in reply comments.                        | <b>III.H3</b> | <i>Rejected</i>                                                      |
| <b>Respect (-)</b><br>Right-wing populist user comments increase the probability of uncivil reply comments.           | <b>III.H4</b> | <i>Partially supported<br/>(for anti-immigration)</i>                |
| Right-wing populist user comments increase the probability of impolite reply comments.                                | <b>III.H5</b> | <i>Rejected</i>                                                      |
| <b>Civic moderation</b><br>How does countering right-wing populism affect the deliberative quality of reply comments? | <b>III.RQ</b> | <i>Countering populism<br/>increases subsequent<br/>impoliteness</i> |

## 8 Discussion

This dissertation made a significant contribution to populism research by focusing on a previously under-researched subject—citizen-generated populist communication in online public spheres. In three large-scale studies, this dissertation provided a comprehensive analysis of how ordinary citizens engage in populist discourse in comment sections on news media Facebook pages. In *Papers I and II*, I analyzed the contextual factors that shape the level of populism in comment sections (RQ-I), focusing on the case of the COVID-19 crisis. In, *Paper III*, we analyzed the consequences of populist comments for the scope and democratic quality of user discussions (RQ-II) by focusing on the so-called ‘refugee crisis’ in the period 2015–16.

These contributions bridge the gap between populist communication research, which has primarily focused on the content (e.g., Bos and Brants 2014; N. Ernst, Blassnig, et al. 2019; Wettstein et al. 2019) or effects (e.g., Hameleers, Bos, and de Vreese 2017b; Heiss and Matthes 2020; Jost, Maurer, and Hassler 2020; Wirz et al. 2018) of elite discourse, and research on citizens’ populist attitudes, which has mostly relied on survey and experimental data (e.g., A. Akkerman, Mudde, and Zaslove 2014; Hameleers et al. 2021; Hawkins, Rovira Kaltwasser, and Andreadis 2020; Marcos-Marne, Gil de Zúñiga, and Borah 2023). This dissertation shifts the focus to the populist “vox populi” (Abts and Rummens 2007, 408; Canovan 1999, 10), as it organically occurs (Shah, Cappella, and Neuman 2015, 7) in online publics, placing digital traces of citizen expressions of populist attitudes at the center of analysis. I conceptualized populist comments on an individual level as expressions of populist attitudes (Blassnig, Engesser, et al. 2019, 634) and on an aggregated level as expressions of populist counterpublics (Toepfl and Piwoni 2015; Galpin and Trenz 2019, 794). Citizen-generated populist communication, termed “*populism from below*” in the title of this dissertation, has been conceptually recognized for some time now (de Vreese et al. 2018a, 430; Engesser, Fawzi, and Larsson 2017, 1284; Esser, Stępińska, and Hopmann 2017, 371), but has only recently attracted the attention of empirical research (Blassnig, Engesser, et al. 2019; Blassnig, Ernst, et al. 2019; Galpin and Trenz 2019; Hameleers 2019b). The three papers included in this dissertation go beyond previous explorations by considerably expanding our understanding of the contexts and consequences of populist user comments.

First, this dissertation provided circumstantial but ecologically highly valid evidence in support of the hypothesis that *anger-inducing contexts* activate populist attitudes, as proposed by Hawkins et al. (2020, 286), and trigger the expression of these attitudes in comments (Blassnig, Engesser, et al. 2019, 634). I analyzed several implications of this claim in *Papers I and II* by focusing on such contextual factors of the COVID-19 crisis that arguably might have triggered reactance. Reactance is the motivation to restore restricted freedoms (S. S. Brehm and Brehm 1981, 37), involves experiencing anger (Dillard and Shen 2005, 160), and can manifest itself in verbal attacks against the source of a restriction (Rosenberg and Siegel 2018, 3). The COVID-19 crisis and the restrictive containment policies were considered a most-likely scenario to observe the expected connections (Levy 2008). Drawing on the analyses of digital trace data (Howison, Wiggins, and Crowston 2011) of news media Facebook pages from Germany and Austria (*Paper I*) and from seven Western-European countries (*Paper II*)—Austria, Germany, France, Italy, the Netherlands, Sweden, and the UK—I found that media posts about COVID-19 were consistently linked to increased levels of populism in comment sections and that the level of citizen-generated populism grew over the course of the crisis.

The observed connections plausibly align with psychological reactance research, which has linked reactance to messages that are perceived as attempts to persuade individuals to comply with restrictions and to the repetition of such messages (e.g., Rosenberg and Siegel 2018; Koch and Zerback 2013). This strand of research has also observed reactance in the context of COVID-19 (Ball and Wozniak 2022; Díaz and Cova 2022; Dillard et al. 2023; Taylor and Asmundson 2021). These findings are consistent with populism research, which has linked anger to populist attitudes (Rhodes-Purdy, Navarre, and Utych 2021; Rico, Guinjoan, and Anduiza 2017) and to populist communication (Wirz 2018). Moreover, the observed connection between anger-inducing contexts and increased levels of a specific participation *behavior*—writing populist user comments—is in line with findings from political psychology that has identified anger as the prime mobilizer of political behavior (Lerner and Tiedens 2006; Magni 2017; Valentino et al. 2011; C. Weber 2013) among all discrete emotions (e.g., Ellsworth and Scherer 2003; Frijda 1986; Lazarus 2001; Lerner and Keltner 2000). A key limitation of my research is that no mechanisms at the individual level were directly observed as I will discuss below. Before addressing theoretical and practical implications, I highlight an additional finding.

*Second*, my analysis revealed that populist comments flourish when posts mention elite groups. Mentioning the government yielded among the strongest responses from populist commenters, throughout *Papers I and II*. The effect of mentioning scientific experts was less clear cut and was linked to significantly increased levels of populism in comments only in *Paper II*. I could not confirm an amplification of the effect of the COVID-19 topic by mentioning elite groups, as expected in *Paper I*. Nevertheless, these findings indicate that commenters react strongly to elite-group references in media coverage and suggest that such references might activate previously held populist attitudes. Krämer (2014, 55) suggested that fragments of populist communication may activate through priming (Roskos-Ewoldsen, Roskos-Ewoldsen, and Carpentier 2002) a “populism schema”—that is, larger clusters of cognitions related to populist ideas. Empirical research has substantiated this claim (Hameleers et al. 2021) and demonstrated that individual’s previously held populist attitudes moderate this link (Hameleers, Bos, and de Vreese 2017b; Hameleers et al. 2021; Hameleers and Schmuck 2017; Heiss and Matthes 2020; Müller et al. 2017). Drawing on populism research informed by social identity theory (Busby, Gubler, and Hawkins 2019; Hameleers, Bos, and de Vreese 2017b; Hameleers et al. 2021) it could be assumed that references to elite groups work as a strong priming stimulus because they make available negative cognitions regarding the key out-group of populist ideology—“the corrupt elite” (Mudde 2004, 543).

These two findings have theoretical implications for the understanding of citizens’ expressions of populist attitudes. They reveal that this bottom-up form of populist communication is highly responsive to contextual factors, particularly to the message characteristics of the news media posts and coverage. These findings lend indirect support to Hawkins et al.’s (2020, 285) argument that populist attitudes are latent and “must be activated by context.” My aggregate-level evidence also supports Hawkins et al.’s (2020, 286) expectation that anger plays a crucial role in this process. Moreover, the findings indirectly support Krämer’s (2014, 55) suggestion that messages can activate larger clusters of populist cognitions, particularly such that contain fragments of populist ideology, captured by references to elitist out-groups here. Although the evidence provided by this dissertation is only circumstantial as only aggregate correlations and no individual-level mechanisms were investigated, these observational findings align with, and complement, a growing body of experimental evidence (e.g., Hameleers, Bos, and de Vreese 2017b;

Hameleers et al. 2021; Hameleers and Schmuck 2017; Heiss and Matthes 2020; Müller et al. 2017). Moreover, the findings presented in this dissertation suggest that activated populist attitudes lead to political behavior, as hypothesized by Blassnig et al. (2019, 634). Future research on populist attitudes should place greater attention on exploring behavioral implications (Jeroense et al. 2022) and account for their dynamical nature.

*Third*, this dissertation contributes to the literature on crisis communication and science related populism (Mede, Schäfer, and Metag 2023; Mede and Schäfer 2020), from which practical implications can be derived. The findings of the analysis of the COVID-19 crisis suggest that crises not only provide opportunities for professional political actors to mobilize around populist ideology (Caiani and Graziano 2022; Moffitt 2015) but also provide fertile ground for ‘bottom-up’ populism (Galpin and Trenz 2019). In this sense, populism can indeed be characterized as a “crisis movement,” as coined by Kriesi (1995, 16). The COVID-19 crisis was echoed by populist protests not only offline (Brubaker 2021; Brunner et al. 2021; Nachtwey, Schäfer, and Frei 2020; Neumayer, Pfaff, and Plümper 2023) but notably also online in the comment sections on Facebook. Populism in comments surged after the first wave of COVID-19, which adds to the finding of a “pandemic fatigue” (Jørgensen et al. 2022). However, the connection between crisis and populism is not an automatism, as revealed in the comparative analysis in *Paper II*. The stringency of restrictive COVID-19 containment policies was found to be positively correlated with populism in user comments only in Austria, Germany, and the Netherlands. In France, Italy, Sweden and the UK, stricter government policies were not correlated with increased citizen-generated populist messages. This finding qualifies the findings discussed earlier with regard to reactance: While I found a positive association between COVID-19 coverage and populist comments in all countries, unobserved factors made the stringency of COVID-19 policies a less important predictor of populist comments in certain countries (FRA, ITA, SWE, and UK). Such intervening factors could be differences in the bottom-up mobilization of populist movements (Neumayer, Pfaff, and Plümper 2023), different approaches of governments’ crisis communication (Schnabel, Anderson, and De Francesco 2024), or other country-specific political opportunity structures (Kitschelt 1986; Schwörer and Fernández-García 2022). Further comparative research is needed to

fully disentangle the contexts that evoke user-generated populist online communication.

The findings obtained from the analysis of COVID-19 have implications for other crises and contexts that involve science related populism (Mede and Schäfer 2020). I argued that the climate change crisis has crucial aspects that are in common with the pandemic. In both cases, governments are called upon to implement unpopular and restrictive measures to avert a global threat for which they have to rely on scientific expertise (e.g., Bows-Larkin 2015; Nabi, Gustafson, and Jensen 2018). In communicating these measures, decision-makers similarly face citizens' reactance (Ma, Dixon, and Hmielowski 2019) and populists' challenging online behaviors (Yan, Schroeder, and Stier 2022). Based on the findings of this dissertation, I would expect to observe higher amounts of populist bottom-up communication below news stories that cover climate change, climate change policies, decision makers, and scientific experts. Knowledge of the topics that trigger (Mau, Westheuser, and Lux 2024) particularly strong expressions of discontent in the comment sections can prove to be valuable for journalists, public relation practitioners, and platform operators when it comes to allocating resources for moderating online discussions.

The *fourth* key contribution of this dissertation adds to the long-discussed relationship between populism and the media (e.g., Esser, Stępińska, and Hopmann 2017; Krämer 2014; Mazzoleni 2008; Mazzoleni, Stewart, and Horsfield 2003). An unexpected finding is how the media type relates to the levels of populism in comment sections. Tabloid media, often assumed to foster populist discourse (Krämer 2014; Manucci 2017; Mazzoleni 2008; Moffitt 2018), were found to exhibit the lowest levels of populism in user comments on Facebook in *Paper II*, with significantly lower levels than pages operated by quality media. In *Paper III*, the pages operated by public broadcasters exhibited the highest levels of populism. This finding is contrary to Mazzoleni's (2008) hypothesis of a symbiotic relationship between populism and tabloid journalism, which has spawned a series of contradictory research results over the last decade (counter: T. Akkerman 2011; Bos and Brants 2014; Rooduijn 2019; support: Hameleers, Bos, and de Vreese 2019; Wettstein et al. 2019; 2018). While this dissertation did not examine populist content generated *by* journalists or that disseminated *through* media coverage (Esser, Stępińska, and Hopmann 2017, 369), the findings indicate that populist commenters seek out the Facebook pages of the unbeloved "establishment" media (Egelhofer, Aaldering, and

Lecheler 2021; Fawzi 2020; Fawzi and Krämer 2021; Schulz, Wirth, and Müller 2020). The theoretical perspective proposed in this dissertation to view populist comments as part of a populist *counterpublic* (Fraser 1990; Toepfl and Piwoni 2015), helps to make sense of this. According to a hypothesis proposed by Toepfl and Piwoni (2015, 484), counterpublic comments peak under circumstances in which mainstream media “systematically disregards the views of a vocal minority.” Seeking to challenge what they perceive as hegemonic discourse, counterpublic commenters may choose the path of greater friction to express their views. For both crises studies, this interpretation offers a certain plausibility. This finding and interpretation also opens new avenues for future research, particularly with regard to possible strategies that drive the individual and collective behavior of populist commenters. Survey methods and experimental designs could help unpack the intentions underlying populist citizens’ engagement in the comment sections of certain media types.

Media outlets can do something about populism in comments sections. In *Paper II*, I found that visible moderation (Wintterlin et al. 2020) can be an effective tool in reducing the levels of citizen-generated populism. Whenever a news outlet engaged in its own comment sections, the level of populism was lower. However, as the operationalization of moderation was merely rudimentary and did not consider the content of the media-authored comment, further research is necessary to substantiate this finding. In *Paper III*, I explored a form of civic moderation (Friess, Ziegele, and Heinbach 2020), focusing on replies that countered populist and right-winged comments. Unfortunately, speaking out against populist content often escalated subsequent impoliteness in user discussions. This confirms previous findings that indicated that disagreement in user discussion is related to increased incivility (Rossini 2021). These findings suggest that moderation strategies need to be carefully calibrated to avoid backlash and require further research to be fully understood.

*Fifth*, the third paper of this dissertation shifted the focus to the consequences of populist and anti-immigrant comments for online deliberation (e.g., Friess and Eilders 2015). For this study, a theoretical framework grounded in public spheres theories (e.g., Benkler 2006; Fraser 1990; Habermas 2023; Jackson and Kreiss 2023; Toepfl and Piwoni 2015) proved analytically useful. Populism in comment sections

were understood as expressions of counterpublic discourse that challenge established norms of deliberation (Fraser 1990; Toepfl and Piwoni 2015). In addition, we focused the empirical analysis on the question of how other commenters respond to populist comments, utilizing the ‘reply’ feature provided by Facebook. We investigated how populist and anti-immigrant comments affected the number and the deliberative quality of replies during the so-called ‘refugee crisis’ in Austria and Slovenia between 2015 and 2016. Our findings revealed that both populist and anti-immigrant comments were powerful mobilizers that were associated with significantly higher numbers of replies. However, right-wing populist comments were also linked to a decline in the deliberative quality of replies, with those responding to people-centric comments being less often backed up by arguments and those addressing anti-immigrant comments exhibiting increased levels of incivility. To the best of my knowledge, these findings are the first to demonstrate the ambivalent relationship between populism and democracy (Canovan 1999; Mudde and Rovira Kaltwasser 2012a) in behavioral data from comment sections. On the one hand, populist comments can draw other user into participating in online discussions, which can be understood as a revitalizing impact on political participation (Anduiza, Guinjoan, and Rico 2019; Theocharis 2015) and democracy in general (Laclau 2005; Mudde and Rovira Kaltwasser 2012a, 21; Zaslove et al. 2021). On the other hand, responses to populist comments were found to be associated with a low deliberative quality. Even if the observed effects were limited, this supports a pessimistic assessment of the impact of populist communication on the broader democratic process (Waisbord 2018b).

*Sixth*, methodologically, this dissertation made significant contributions to the young field of computational social science (Atteveldt and Peng 2018; Grimmer 2015; Lazer et al. 2009; 2020; Shah, Cappella, and Neuman 2015). Utilizing computational methods, all three papers conducted large-scale analyses of digital trace data, aiming for enhancing the ecological validity of the findings (Brewer and Crano 2014; Howison, Wiggins, and Crowston 2011). By relying on this data source, I aimed to circumvent problems arising from social desirability bias (Blair, Coppock, and Moor 2020; Shah, Cappella, and Neuman 2015), which are an issue for expressing populist attitudes (Blassnig, Engesser, et al. 2019, 630; M. Maier et al. 2023) and uncivil communication (Hopp et al. 2020). I developed and introduced an original tool for computational text analysis in *Papers II and III*—the R package *dic-*

*tvectoR* (Thiele 2022a), which implements the DDR method (Garten et al. 2018). I optimized the tool and demonstrated that this can validly identify ideological content in social media comments while maintaining a high level of flexibility, interpretability, and computational efficiency. *Paper II* also contributed to the growing field of multilingual computational text analysis (e.g., Licht and Lind 2023; D. Maier et al. 2022), by demonstrating both the usefulness and limitations of the approach to machine-translate an entire corpus into one language. Identifying the limitations of this approach, as discussed in *Paper II* and below, should be of great value for comparative researchers who face similar design choices in the future. Aiming for a gold-standard validation (Grimmer and Stewart 2013), all computational text analysis measurements were thoroughly evaluated against samples hand-coded by human and (mostly) native-speaking annotators. Additionally, the analysis of *Paper II* employed advanced Bayesian multilevel regression analysis, which has advantages over frequentist multilevel models with few clusters (Chan and Rauchfleisch 2023; Stegmueller 2013), however, this is rarely implemented for large datasets, partially because of its computational costs. All tools, where possible, code, and data were made available in keeping with open research practices, as documented in the papers.

Computational social science and computational text analysis are rapidly developing fields. Despite recent quantum leaps, particularly in the domain of LLMs, the tenet posited by Grimmer and Stewart (2013, 269) that “all quantitative models of language are wrong—but some are useful,” still holds true. Similarly, the analyses included in this dissertation are not without limitations. These partially stem from the computational methods, but there are also other sources. I have made these limitations transparent in the three papers, but I also address them here.

The *first* limiting factor is the source of data used here, which is digital trace data from the Facebook API. Although this data provides ecologically valid observations of sensitive user expressions, the user comments returned from the Facebook API are fully anonymized. This is in compliance with the General Data Protection Regulation (GDPR) and avoids certain ethical issues, but it prevents the analysis of individual-level factors. Therefore, the analyses included in this dissertation are constrained to relations between contextual and aggregate variables and cannot claim to directly test micro-mechanisms. I have made the theoretically presumed

micro-mechanisms explicit so that they can be tested in future experimental research. Moreover, accessing social media APIs is becoming increasingly difficult, with Facebook having closed its gates in the aftermath of the Cambridge Analytica scandal in 2016 (Bruns 2019) and shutting down Crowdtangle recently; and X—formerly known as Twitter (Tromble et al. 2023)—introducing overpriced charges for data access. Here, I relied on the software *Facepager* (Jünger and Keyling 2020), which is written for researchers, has passed the Facebook app review, and enables access to the Facebook Graph API. One downside of this access is a lack of clarity regarding the completeness of the data. Moreover, the terms of services and copyright make it difficult to share the full replication data with the research community (J. Gruber, Atteveltdt, and Welbers 2023). Experiencing a learning curve, I have found a feasible way to do so in *Papers II and III*. Overall, the data access situation for social media platforms continues to change (Freelon 2018; Ohme et al. 2024; Tromble 2021). One ray of hope is the Digital Services Act of the European Union (e.g., Jaursch, Ohme, and Klinger 2024). However, until that is fully operational, APIs will continue to be the primary source of digital trace data from online platforms. Future research is encouraged to directly test the mechanisms assumed in this dissertation by using individual-level data. Such studies could also improve our understanding of the motivations and sociodemographic characteristics of populist commenters.

A *second* set of limitations stem from the methods employed in this dissertation. One unfortunate limitation is that the results of *Paper II* may have been affected by a measurement error that is differential to language. Therefore, the comparative insights should be interpreted with caution. As discussed at length in the paper, future computational research should ensure that measurement errors can be quantified and corrected for in regression models (TeBlunthuis, Hase, and Chan 2024). Another limitation stems from the method used to draw the validation samples. To ensure a sufficient coverage of true positives, suspectedly populist comments were oversampled in *Paper I*, which might have resulted in an overestimation of the dictionary performance. Moreover, the samples were drawn without previous statistical power analysis. I advise that future research accounts for these shortcomings. Third, I flattened out the dynamic nature of the data by treating it as cross-sectional and restricted the modeling of temporal effects to lagged variables.

Future researchers might want to address temporal dynamics in dedicated time-series analyses, using methods such as vector autoregression or Granger causality.

A *third* set of limitations result from research design choices. In addition to the limitations stemming from the focus on digital trace data, the case selection raises the question of the generalizability of the findings. While the expansion of the country selection in *Paper II* broadened my previous findings, the question remains whether these findings hold in contexts beyond the selected crises (COVID-19 and the ‘refugee crisis’); and whether the findings can be replicated on different social media platforms. Conducting more cross-platform studies remains a desirable goal for the entire field of social media research (e.g., Heft et al. 2023).

Finally, a *fourth* set of limitations stem from certain conceptual constraints. For example, in this dissertation, I considered populist user comments primarily as spontaneous expression of attitudes that does not involve much strategic coordination. If we take the suggested notion of populist counterpublics (Toepfl and Piwoni 2015) seriously, the strategic and collective online behavior of populist movements should receive more attention in future research. While such analyses might identify additional contextual factors (Plümper, Neumayer, and Pfaff 2021), the factors identified here should remain valid: Emotionalized contexts and references to elite actors should provide favorable discursive conditions for strategic populist movements and non-strategic individuals alike (N. Ernst, Esser, et al. 2019; Schwörer and Fernández-García 2022). By exploring other forms of strategic online behavior, future research should also take into account that citizen-generated online communication is also feigned in disinformation campaigns—for example by the coordinated use of fake accounts (Giglietto et al. 2020; Keller et al. 2020; Thiele, Milzner, et al. 2024). Finally, I would appreciate a revitalization of the theoretical debate on how appropriate deliberative norms are for analyzing the quality of online discussions (e.g., Freelon 2015; Papacharissi 2004). The standards are set relatively high and occasionally fall short. In a critical reflection of the results of *Paper III*, for example, one could ask what is more damaging to democracy—to leave populist content unchallenged or to accept a subsequent escalation of impoliteness? Against the backdrop of such challenging constellations, future research should carefully reconsider both the conceptual and empirical approach in assessing the democratic quality of user discussions.

Despite these limitations, this dissertation has made a substantial contribution to the study of populist communication by shifting the focus to citizen-generated content in real-world online settings. I identified crucial contextual factors of populist expressions in comments sections and explored the consequences of citizen-generated populist communication for democratic deliberation. My methodological contribution advances the field of computational social science by providing a tool that facilitates the analysis of complex ideological online discourse and by identifying avenues of for enhancing the robustness of findings derived from computational methods. I have mapped avenues for future research, both in terms of substantive issues and methodological improvement. The empirical findings presented in this dissertation have important implications for policymakers, journalists, and social media platforms, and emphasize the need for careful moderation of online discourses to maintain healthy democratic discussions in the face of rising populist engagement.





## **Appendix Paper I**

## Appendix A – Coding Instructions

This appendix documents an abridged version of the coding instructions for manually annotating content, which were employed in *Paper I*. Parts of these instructions were also used in *Papers II and III*, as documented in the respective Appendices.

Coders were presented with general coding instructions, adopted from Blassnig et al. (2016, 1):

“Only code explicit statements. Implications, hints, and context knowledge must not be coded. If in doubt, don’t code it. If you have to ask yourself whether a statement is explicit enough to code it, it is not. [...] Hypothetical statements are coded. Statements that are future-oriented or in subjunctive mood are coded as normal statements. Hypothetical does not mean implicit.” (Blassnig, Engesser, and Esser 2016, 1)

Further, the general instructions clarified that the categories are not mutually exclusive, addressed the handling of missing values, and provided guidance for employing filter variables. Throughout the manual coding, holistic grading was employed for coding the comments and posts—that is, for each coded observation, one code was assigned per construct.

### *Comment Level*

The instructions documented in Table A 1 for capturing populist key messages were used in all three papers. The instructions closely align with the instructions developed by Blassnig et al. (2016; Blassnig, Engesser, et al. 2019). These coding instructions were broken down to two dimensions—*people-centrism*, and *anti-elitism*; and were amended by definitions adopted from Aslanidis (2018, 1255) as well as by examples taken from the material. A comment was considered populist if at least one of the two dimensions was present.

**Table A 1.** Comment-Level Coding Instructions in Paper I

| Construct       | Instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Values |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| People-Centrism | <p><u>Question:</u> Does the comment invoke the people or demand sovereignty for the people? (Aslanidis 2018, 1255)</p> <p><u>Definitions:</u> People-centrism is one core dimension of populist communication. It is defined here as an ideological discourse that invokes ‘the people’ (Aslanidis 2018, 1255). It values ‘the people’ as something positive or worth protecting, constructs it as an in-group, i.e., as a group to which the author of the text belongs to, and/or suggests that ‘the people’ are the “rightful political sovereign within a given polity” (Aslanidis 2018, 1255).</p> <p>‘The people’ are defined as the “overwhelming majority” (Aslanidis 2018, 1255) of the “population of a country” or polity that is assumed to “share a common origin or culture” (Blassnig, Engesser, and Esser 2016, 14). “The people may be regarded as nation, ethnos, demos, class, or strata” (Blassnig, Engesser, and Esser 2016, 14). It is essential that the commenter regards himself or herself as part of the people and values the people. The people may be addressed directly (“the people”, “the Austrian population”), “as a metaphor (‘man on the street’, ‘the common man’), or as a sub-group that is regarded as representing” (Blassnig, Engesser, and Esser 2016, 14) the overwhelming majority (‘the hardworking people’, ‘voters’, ‘we taxpayers’).</p> <p><u>Instructions:</u> Please code “1”, if the coded text refers to ‘the people’ in one of the ways described above and is characterized by at least one of the following aspects:</p> <ul style="list-style-type: none"> <li>• The people are attributed with <b>virtues</b> and positive traits. For example, the people</li> </ul> | 0/1    |

may be described as good, honest, hard-working, modest, moral, credible, intelligent, competent, consistent, considerate, benevolent, or similar (Blassnig, Engesser, and Esser 2016, 17). (e.g., “every normal citizen knows about this madness”)

- The people are seen as responsible for **positive developments**, events, or situations (Blassnig, Engesser, and Esser 2016, 17). (e.g., “I am glad to be a tiny part of this. A lot of work and sweat has built this country and made it what it is now.”)
- The people are described as a **homogeneous** group: The “people is seen as sharing a common understanding of the world, common feelings [...], common opinions [...], or a common will [...]”. (e.g., “The voters want immigration controlled, they declared that loud and clear.”) (Blassnig, Engesser, and Esser 2016, 18).
- The people are constructed as a **collective of victims**, that suffers from elite actions, or external threats, or needs to be protected (Hameleers 2019a). (e.g.: “Who is protecting us????”)
- The comment demands to listen to **the people’s will**, or addresses the people to wake up, or to stand up for their will (Blassnig, Engesser, and Esser 2016, 20) (e.g., “let’s unite and take the streets! together we can make a difference!”)
- The comment criticizes institutions or elites for **not reflecting the people’s will**, for deceiving or silencing the vast majority. (e.g.: “The people will not be deceived any longer by this clown.”)

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |
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| Anti-Elitism | <p><b>Question:</b> Does the comment discredit or blame the elite or suggest that the elite is detached from the people? (Blassnig, Engesser, and Esser 2016, 18–19)</p> <p><b>Definitions:</b> Anti-elitism is the second core dimension of populist communication. It is defined as “references against a slim minority of unaccountable power holders [that allegedly engage] [...] in the misappropriation of popular sovereignty” (Aslanidis 2018, 1255). It constructs ‘the elite’ as the antagonist of ‘the people’, which illegitimately rules and deceives the latter (Mudde 2004, 543).</p> <p>‘The elite’ is defined as minority groups of power holders within a society that are (assumed to be) powerful and influential because of its “political power, wealth, or privilege” (Blassnig, Engesser, and Esser 2016, 14). Not the factual power is decisive, but the assumption of such power in the coded text. Elites “can be allocated to the areas of politics, administration, economy, law, media, science, and culture” (Blassnig, Engesser, and Esser 2016, 14). “The elite may either be addressed in general terms [(e.g., ‘those above’, ‘politicians’, ‘the rich’, ‘the media’)] or specific members [or institutional representatives] of the elite may be addressed by name” (Blassnig, Engesser, and Esser 2016, 14) or nickname (e.g., “Wall Street”, “Brussels”, “Soros”).</p> <p><b>Instructions:</b> Please code “1”, if the coded text refers to ‘the elite’ in some of the ways described above and is characterized by at least one of the following aspects:</p> <ul style="list-style-type: none"> <li>• Elites are <b>discredited</b> or denounced: “Negative personality traits, mistakes, and unlawful or immoral behavior of the elites are stressed. The elites [...] are portrayed as corrupt, evil, incapable, malevolent, [mendacious], criminal, lazy, stupid, undemocratic [or in any other similar negative way]. The elites or its representatives are denied of morality, charisma, credibility, intelligence, competence, consistency etc.” (Blassnig, Engesser, and Esser 2016, 18) (e.g., “It is minister Mikl Leitner who, apart from incompetence, only attracts attention with embarrassing statements.”; “Down with this sell-out government!”)</li> <li>Caution: If a text criticizes elites in a balanced way, without suggesting a fundamental or moral degeneracy of the elite or the established system it is not considered anti-elitist.</li> <li>• Elites are <b>blamed</b> for fundamentally <b>negative developments</b> or situations: elites are held responsible for undesirable situations that are depicted as serious harm for the society (Blassnig, Engesser, and Esser 2016, 18). (e.g., “Our politicians have managed to make Austria an unsafe country. The politicians who are responsible should be locked up”)</li> <li>• Elites are depicted as <b>detached</b> from the people, <b>unaccountable</b> to the people’s will, or <b>manipulating</b> the people: The elite is described as “not being close to the people, not knowing the people and their needs, not speaking for the people, [...] not listening to the people,” (Blassnig, Engesser, and Esser 2016, 19) not representing the people, betraying or deceiving the people, lying to the people, manipulating the public opinion, or as being distanced from the people in any other way (Blassnig, Engesser, and Esser 2016, 19–20). (e.g., “when will our so-called repre-</li> </ul> | 0/1 |
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sentatives of the people finally open their eyes”; “The politicians do not listen to us”)

- Elites are **denied sovereignty**. “The speaker argues in favor of granting less power to the” or some elites (Blassnig, Engesser, and Esser 2016, 21). (e.g., “I hope that the EU breaks apart so that Austria can finally close the borders!”)

## Post Level

**Table A 2.** Post-Level Coding Instructions in Paper I

| Construct                       | Instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Values |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Topic:<br>COVID-19              | <p><u>Question:</u> Does the post mention the topic of COVID-19?</p> <p><u>Instructions:</u> Please code “1” if the post contains any reference to...</p> <ul style="list-style-type: none"> <li>• the COVID-19 virus or the COVID-19 pandemic.</li> <li>• government and public health responses to the pandemic.</li> <li>• research about COVID-19.</li> <li>• consequences of the pandemic or government measures for the daily life.</li> </ul>                                                                                                | 0/1    |
| Topic:<br>Economy               | <p><u>Question:</u> Does the post mention the topic of economy?</p> <p><u>Instructions:</u> Please code “1” if the post contains any reference to...</p> <ul style="list-style-type: none"> <li>• any economic situation or development – irrespective of the economic sector, whether past, present, or future, and whether the post refers to the national economy, the situation of individual enterprises, specific branches, labor force or consumers.</li> <li>• public expenditures, taxation, or indebtedness.</li> </ul>                   | 0/1    |
| Topic:<br>Party politics        | <p><u>Question:</u> Does the post mention the topic of party politics?</p> <p><u>Instructions:</u> Please code “1” if the post explicitly mentions any of the political parties in the German or Austrian parliament (list was provided) – either by name, by party color or by name for a specific coalition.</p>                                                                                                                                                                                                                                  | 0/1    |
| Topic:<br>Borders/<br>Migration | <p><u>Question:</u> Does the post mention the topic borders or migration?</p> <p><u>Instructions:</u> Please code “1” if the post contains any reference to...</p> <ul style="list-style-type: none"> <li>• transnational migration, refugees, border crossings, and country entries.</li> <li>• legislature and regulations that govern migration, asylum, border crossings or entries.</li> <li>• border police or any other authority that regulates border crossings.</li> </ul>                                                                | 0/1    |
| Govern-<br>ment                 | <p><u>Question:</u> Does the post mention the government?</p> <p><u>Instructions:</u> Please code “1” if the post mentions...</p> <ul style="list-style-type: none"> <li>• the chancellor or any minister of the Austrian or German federal government by his or her name (list was provided) or title.</li> <li>• the chancellor or any minister of the Austrian or German state government (Bundesländer) by his or her name (list provided) or title.</li> <li>• the European Commission or the President of the European Commission.</li> </ul> | 0/1    |
| Experts                         | <p><u>Question:</u> Does the post mention experts?</p> <p><u>Instructions:</u> Please code “1” if the post mentions...</p> <ul style="list-style-type: none"> <li>• any researcher or expert.</li> <li>• public or private research institutions (e.g. “Universität”, “BioNTech”).</li> <li>• research or research results.</li> <li>• public health institutions composed of experts (e.g. “RKI”, “WHO”, “Ethikrat”, etc.).</li> </ul>                                                                                                             | 0/1    |

## Appendix B – Dictionaries

Table B 1 documents Gründl's (2022) populism dictionary, and the dictionaries used in *Paper I* to capture post-level characteristics. For developing the latter, I first collected words that I a priori considered to reflect the concept at hand. Second, I excluded terms that tapped into different contexts than intended with the help of the keywords-in-context function of the R-package *quanteda* (Benoit et al. 2018) and added relevant terms that accompanied the initial set of keywords. Third, I expanded this list by the 20 nearest-neighbor words queried from a *fastText* model (Bojanowski et al. 2017) which was custom-trained on the corpus inspected in *Paper I*, including Facebook posts, headlines, sub-headlines, and user comments. Fourth, theoretically plausible keywords were selected by hand and wildcards placed where deemed feasible. Fifth, the resulting dictionaries were put to the validation test. Steps 2 – 5 were iterated up to three times per dictionary.

Prior to application of the dictionaries, the text was cleaned by removing numbers and punctuation. On post level, the post message was analyzed along with the headline, sub-headline, and URLs of hyperlinked articles. The 'government' dictionary was applied case-sensitively, all other dictionaries were case-insensitive.

**Table B 1.** Dictionaries Employed in Paper I

| Concept<br>(n terms)           | Words <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Populism<br>(238) <sup>2</sup> | (a ä)ngst(e)? (de(s r) eine(s r) unsere(s r)) bürger(s n innen in)?, (a ä)ngst(e)? (de(s r) eine(s r) unsere(s r)) deutsche(n r), aberwitzig(e er es en em)?, abgehoben(e er es en em)?, alt(-)?partei(en)?, an der nase herumführ(t en), angeblich(e er en)? ([^:space:])*partei(en)?, anma(ß ss)end(e er es en em)?, anständig(e er es en em) bürger(s n innen in)?, anti(-)?demokratisch(e er es en em)?, apparatschik(s)?, (.)arbeitend(e er en) bevölkerung, (.)arbeitend(e er en em) bürger(s n innen in)?, arrogant(e er es en em)?, arroganz, auf kosten der allgemeinheit, auf kosten de(s r) beschäftigten, auf kosten de(s r) bürger(s n innen in)?, auf kosten de(s r) deutsche(n r), auf kosten de(s r) österreich(er ers erinnen erin ischer ischen), b(a ä)nk(i)?er(.?), belehre(n t)?, (.)belehrung(en)?(.?), berufspolitiker(s n innen in)?, bevölkerung (.)?wei(ß ss), bevormunde(t n), bonze(.?), bosse(n)?, bürgerfern(e er es en em)?, bürger(innen in)? (.)?(die nase die schnauze satt genug dicke) (.)?(haben hat), bürger(innen in)? (haben hat) (.)?(die nase die schnauze satt genug dicke), bürger(innen in)? (.)?(will (ein)?fordert möchte mag verlangt beansprucht wünscht), bürger(innen in)? (.)?(wollen (ein)?fordern möchten mögen verlangen beanspruchen wünschen), bürger(s n innen in)? (von auf) der stra(ß ss)e, bürgerwille(n ns)?, bürokrat(en in innen)?, (.)desaster(s)?, deutsche(n r)? tradition(en)?, diktat(e s es)?, dilettantisch(e er es en em)?, dilettantismus, direkt(e er)? demokratie, dreist(e er es en em)?, durchschnittlich(e er es en em) deutsche(n r s m)?, durchschnittlich(e er es en em) österreich(er ers ern erinnen erin ischer ischer isches ischen ischem), durchschnitts(-)?bürger(s n innen in)?, durchschnitts(-)?deutsche(n r s m)?, einfach(e er en em) bürger(s n innen in)?, elfenbeinturm, (.)elite(n)?, empörung de(s r), erdreste(t n), (es das dies) (.)?bürger(n innen in)? (.)?(langt reicht), (.)establishment(s)?, etabliert(e er en) ([^:space:])*partei(en)?, deutsche(n r)?, fälschlich(erweise)?( (für als)( eine(n)?)?), filz, finan(c z)ier(s e)?, frechheit, fremdherrschaft, frühstücksdirektor(s en innen in)?, für (das unser) (.)?volk, für die ([^:space:])*?mehrheit, für (die unsere) ((kleinen normalen einfachen) )?leute, gängelung(en)?, gegen (das unser) ((eigene(s)? deutsche(s)? schweizer schweizerische(s)? österreichische(s)? )?volk, geiselhaft, gemein(e es en em) volk(s es e)?, geschacher(e)?, gesunde(m n r)? menschenverstand(s es)?, gierig(e er es en em)?, globalist(en in innen)?, (grund)?anständig(e er en em) bürger(s n innen in)?, (grund)?anständig(e er es en em) mensch(en)?, (grund)?vernünftig(e er es en em) mensch(en)?, günstling(s e en)?, (haben hat) (.)?bürger(innen in)? (.)?(die nase die schnauze satt genug dicke), hausverstand(s es)?, hirnverbrannt(e er es en em)?, hochmütig(e er es en em)?, irrsinn, irrwitz(.?), kanzler(innen)?darsteller(s n innen in)?, (.)kapitalist(en in innen)?, konzernlobbyist(.?), korrumpier(.?), korrupt(e er es en em)?, kreisen, kuhhandel(s)?, (.)kugel(.?), lebensfern(.?), lebensfremd(.?), lug, machthunger(s)?, machthungrig(e er es en em)?, machtvorsessen(e er es en em)?, machtvorsessenheit, mafia, manipuliert(en), ma(ß ss)(t en) (.)?sich, mauschelei(en n)?, mehrheit (der im in der unter den aller), mehrheit (der unter den aller) bürger(n innen)?, mehrheit (des im) volk(s es e)?, mehrheitsmeinung(en)?, nimmersatt(e er es en em)?, nomenklatura, normal(e er en em) bürger(s n innen in)?, normalsterblich(.?), oberlehrerhaft(e er es en em)?, oberlehrer(s n in innen rolle)?, oberschicht, ohne (.)?rückgrat, opportunist(en in innen)?, österreichische(n r)? tradition(en)?, |

(.\*)?partei(en)?(.\*)?(be|an)?lüg(t|en), (.\*)?partei(en)?(-)?kartell(.\*), parteien(-)?system, pfründe, plebiszitär(e|er|es|en|em)?, pöbel(s)?, politiker(-)?kaste(n)?, politikversagen(s)?, politische(n|m|s)? versagen(s)?, politische(r|n)? klasse, politische(r|n|m|s)? kaste(.\*), postengeschacher, (prinzipien|gesinnung|überzeugung(en)?|grundsätze) (über bord w(e|i)r(f|en|t)|verr(a|ä)t(en)?|verg(e|i)ss(en|t)|änder(t|n)|wechsel(t|n)|tausch(t|en)), prinzipienlos(.\*), propagand(.\*), pseudo(-)?(.\*)?partei(en)?, raubritter(.\*), realitätsferne, realitätsfern(e|er|es|en|em)?, realitätsfremd(e|er|es|en|em)?, rechtschaffen(e|er|en|em) bürger(s|n|innen|in)?, rückgratlos(.\*), sagen dürfen, schäm(t|en), schande, schickeria, schreiberling(.\*), schweigend(e|er|en) mehrheit, schweizer tradition(en)?, selbstgefällig(e|er|es|en|em)?, selbstherrlich(.\*), selbstzufrieden(e|er|es|en|em)?, sich (.\*)?bürger(innen|in)? (.\*)?(wehr|widersetz|verteidig(t|en), so(-)?genannt(e|er|en) ([^[:space:]]\*)medien, so(-|)?genannt(e|er|es|en|em)?, spekulant(en|in|innen)?, staatsversagen(s)?, standhaft(e|er|es|en|em)?, steuerzahlend(e|er|en|em) bürger(s|n|innen|in)?, steuerzahler(innen|in)? (.\*)?)(wollen|(ein)?fordern|möchten|mögen|verlangen|beanspruchen|wünschen), stimmvieh, strippenzieher(s|n|in|innen)?, system(-)?partei(en)?, täusch(t|en), täuschung, technokrat(.\*), teil des systems, tradition(en)?, tricks(t|en), überheblich(e|er|es|en|em)?, undemokratisch(e|er|es|en|em)?, unehrlich(.\*), unehrlich(e|er|es|en|em)?, unmut, uns(er|er|en|em)? bürger(n|innen)?, uns(er|er|en|em)? steuerzahler(n|innen)?, unters volk, unverfrorenheit, unverschämt(e|er|es|en|em)?, verhöh(n|t|en)?, verkrustet(e|er|es|en|em)?, verlogen(e|er|es|en|em)?, versagend(e|er|es|en|em)?, vetter(n|i|l|es)wirtschaft, volk (ab)?stimm(t|en), volksabstimmung(en)?, volksauftr(a|ä)g(s|e|en)?, volksentscheid(s|e|en)?, volksnähe, volksouveränität, volksverr(a|ä)t(.\*), volkswille(n|ns)?, volk (.\*)?)(will|(ein)?fordert|möchte|mag|verlangt|beansprucht|wünscht), von oben herab, wähler(innen|in)? (.\*)?(die nase|die schnauze|satt|genug|dicke)(.\*)?(haben|hat), wähler(innen|in)? (haben|hat) (.\*)?(die nase|die schnauze|satt|genug|dicke), wählertäuschung, wahlvieh, wahnwitzig(e|er|es|en|em)?, wei(ß|ss) (.\*)?bevölkerung, weltfremd(e|er|es|en|em)?, wendeh(a|ä)ls(e)?, will|(ein)?fordert|möchte|mag|verlangt|beansprucht|wünscht) (.\*)?allgemeinheit, will|(ein)?fordert|möchte|mag|verlangt|beansprucht|wünscht) (.\*)?bevölkerung, will|(ein)?fordert|möchte|mag|verlangt|beansprucht|wünscht) (.\*)?bürger(innen|in)?, will|(ein)?fordert|möchte|mag|verlangt|beansprucht|wünscht) (.\*)?volk, wir (als)?bürger(innen)?, wir (als)?steuerzahler(innen)?, (wollen|(ein)?fordern|möchten|mögen|verlangen|beanspruchen|wünschen) (.\*)?arbeiter(innen)?, (wollen|(ein)?fordern|möchten|mögen|verlangen|beanspruchen|wünschen) (.\*)?bürger(innen)?, (wollen|(ein)?fordern|möchten|mögen|verlangen|beanspruchen|wünschen) (.\*)?steuerzahler(innen)?, (wunsch|wünsche|anliegen|ansuchen|verlangen) (der|einer|unserer) bevölkerung, wut de(s|r) bürger(s|innen|in)?, zentralist(en|in|innen)?, zentralistisch(e|er|es|en|em)?, zugeben, zu( )?lasten de(s|r) deutsche(n|r), zu( )?lasten de(s|r) österreich(er|ers|erinnen|erin|ischer|ischen), zu( )?lasten de(s|r) steuerzahler(s|innen|in)?, zum schaden de(s|r), zum schaden de(s|r) bürger(s|innen|in)?, (a|ä)ngst(e)? (de(s|r)|eine(s|r)|unsere(s|r)) österreich(er|ers|erinnen|erin|ischer|ischen), angeblich(e|er|en|em)? (.\*)?journalist(en|in|innen)?, (.\*)arbeitend(e|er|es|en|em) deutsche(n|r|s|m)?, (.\*)arbeitend(e|er|es|en|em) österreich(er|ers|ern|erinnen|erin|ische|ischer|isches|ischen|ischem), (.\*)arbeitend(e|er|es|en|em) schweizer(s|n|innen|in|ische|ischer|isches|ischen|ischem)?, auf kosten de(s|r) schweizer(s|innen|in|ischer|ischen)?, durchschnitts(-)?österreich(er|ers|ern|erinnen|erin|ische|ischer|isches|ischen|ischem), (grund)?vernünftig(e|er|en) leute(n)?, hochnäs(e|er|es|en|em)?, lakai(e|en)?, (.\*)?partei(en)?(-)?diktatur, politische(s|n|m)? theater(.\*), polit(-)?theater(.\*), (a|ä)ngst(e)? (de(s|r)|eine(s|r)|unsere(s|r)) schweizer(s|innen|in|ischer|ischen)?, (aus)?verkauf(t|en) ([^[:space:]]\*)?partei(en)?, durchschnittlich(e|er|en|em) bürger(s|n|innen|in)?, durchschnittlich(e|er|es|en|em) schweizer(s|n|innen|in|ische|ischer|isches|ischen|ischem)?, durchschnitts(-)?schweizer(s|n|innen|in|ische|ischer|isches|ischen|ischem)?, redlich(e|er|en|em) bürger(s|n|innen|in)?, schmiefink(.\*), zu( )?lasten de(s|r) schweizer(s|innen|in|ischer|ischen)?

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| COVID-19<br>(318) | <p>*cluster, *impfpflicht, *lockerung*, *pandemie, *reiseregel*, *virus*, absonderungsbescheid, abstandsregeln, abstandsgebot, abstandsgebote, abstandspflicht, abstandsregel*, aerosol*, alltagsmasken, ansteckung, ansteckungen, ansteckungs, ansteckungsgefahr, ansteckungsgefahren, ansteckungsrate, ansteckungsraten, ansteckungszahlen, antigen, antigen*, antikörper, antikörpern, antikörperstudie, antikörpertest, antikörpertests, astra, astraceneca, astracenica, astraseneca, astrazenaca, astrazenca, astrazenecas, astrazeneka, astrazenica, astrazenika, atemschutz*, ausgangsbeschränkung*, ausgangspere, ausgangssperre, ausgangssperren, ausgangsspeere, ausgangssperre, ausreisetestpflicht, ausreisetest, beherbergungsverbot, besuchsbeschränkungen, besuchsregeln, besuchsverbot*, betretungsverbote, biontec, biontech, biontech*, bionteck, biontek, biotec, biotech, bundesgesundheitsministerium, bundesgesundheitsministeriums, clusters, contact*tracing, corona-ampel, corona-beschränkung*, corona-einschränkung*, corona-hilf*, corona-hilfspaket, corona-kurs, corona-maßnahme*, corona-massnahme*, corona-strategie, corona*, corona*ampel, corona*app, corona*beschränkung*, corona*einschränkung*, corona*einschränkungen, corona*geld, corona*hilf*, corona*kurs, corona*massnahme*, corona*regel*, corona*strategie, coronaimpfung, coronamaßnahme*, coronatests, coronavirus, covid-19-strategie, covid-strategie, covid*, covid*19*strategie, covid*strategie, curevac, dauerlockdown, dauerlockdowns, digitalunterricht, distanzunterricht, durchgeimpfte, durchimpfen, durchimpfung, durchimpfungsrate, durchseuchen, durchseucht, durchseuchung, einmalmasken, einreisebeschränkung*, einreisestopps, einreiseverbot*, einreiseverordnung, einwegmasken, endloslockdown, epidemie, epidemiegesetz, epidemien, erkrankt, erstgeimpfte, erstgeimpften, erstimpfung, fallzahl*, fernunterricht, ffp*, freimpfen, freitest*, geeimpften, geiimpft, geimpf, geimpfe, geimpft*, gesundheitssystem*, grundimmunisierung, gurgelt, gurgeltest*, handschuhe, heimtests, herdenimmunisierung, herdenimmunität, hilfsgelder, hochrisikogebiet, hochrisikogebieten, hochrisikoland, home*office, homeofficepflicht, homeshooling,</p> |
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|                                       | <p>hotspot, hotspots, hygieneauflagen, hygienebedingungen, hygienebestimmungen, hygienekonzepten, hygienemaßnahmen, hygienemassnahmen, hygienepplan, hygienevorschriften, impfstoff, immunisierung, impf*, impfrate, impfstoff, impfung*, impstoffe, impstoffen, infektion*, infektionslage, infizier*, inzidenz, inzidenzen, inzidenzen, inzidenzwert, inzidenzwerte, inzidenzwerten, inzidenzwertes, inzidenzwerts, inzidenzzahl, kinderimpfungen, kitaöffnungen, koch, kontaktnachverfolgung, kontaktreduzierung, kontaktregeln, kontaktverbot, kontaktverbote, kontaktverfolgung, kreuzimpfungen, labortests, Impfstoff, lockdownmaßnahmen, lockdownmassnahmen, lockdowns, lockdownverlängerungen, lokdown, lucaapp, maske*, masken-pflicht, masken*pflicht, massenimpf*, massentest*, maßnahme*, mindestabstand, mns, mund*nasen*schutz, mundschutzes, nachverfolgung, nachverfolgungen, nasenbedeckung, nasenbohrertests, negativtest, neuansteckung*, neuinfektions, neuinfektionszahlen, nichtgeimpfte, nichtgeimpfter, notfallzulassung, notzulassung*, novavax, öffnungsschritt, öffnungsschritte, öffnungsschritten, öffnungsstrategie, öffnungsstrategien, osterlockdown, pandemiegesetz, pandemiekrise, pandemiemaßnahmen, pcr, pcr*test, pfizerbiontech, pfizers, pflichtimpfung, plastikmasken, präsenzunterrichts, quarantäne*, quarantene, quarantine, rachenabstriche, raumluf, reisebeschränkung*, reiseverbot, reiseverbote, reiseverboten, reisewarnung*, reproduktionsfaktor*, reproduktionsrate, reproduktionszahl*, risikogebiet*, risikoländern, rki, robert*koch*, sars, sars*cov*, schnelltest*, schulöffnung, schulschließungen, schutzimpfung, schutzmaske*, schutzmaßnahme*, schutzregel*, selbstquarantäne, selbsttest*, shutdown, shutdowns, sinopharm, sinovac, soforthilfe*, sperrgebiet, staatshilfen, sterbefallzahlen, sterberate, superspread*, tagesinzidenz, testcenter, testen lassen, testkit, testkits, testpflicht, teststation, teststationen, teststrasse, teststraße*, teststrategien, testungen, todesfallzahlen, todesrate, totallockdown, totimpfstoff, ungeimpfte, ungeimpften, ungeimpfter, urlaubsheimkehrer, vakzin, vakzinen, vektorimpfstoff, vektorimpfstoffe, verordnung, videounterricht, viren, vollgeimpften, wellenbrecherlockdown, weltgesundheitsorganisation, wieder möglich, wieder öffnen, wiedereinreise, wieler, wuhan, wuhans, zugangsbeschränkungen, zugangstest, zuhause bleiben, zutrittstest, zutrittstests, zwangsimpf*, zwangsquarantäne, zwangstesten, zwangstestung, zwangszuimpfen, zweite welle, zweitimpfung</p> |
| Govern-<br>ment<br>(158) <sup>3</sup> | <p>*minister*, arbeitsminister*, außenminister*, bildungsminister*, brüssel, bundesarbeitsminister*, bundesaußenminister*, bundesbildungsminister*, bundesfinanzminister*, bundesgesundheitsminister*, bundesinnenminister*, bundesjustizminister*, bundeskanzler*, bundeskanzlerin, bundeslandwirtschaftsminister*, bundesminister*, bundesregierung, bundessozialminister*, bundestourismusminister*, bundesumweltminister*, bundesverteidigungsminister*, bundeswirtschaftsminister*, chef des bundeskanzleramt*, entwicklungsminister*, eu*kommiss*, europäisch* kommission*, familienminister*, finanzminister*, gesundheitsminister, gesundheitsminister*, innenminister*, justizminister*, kanzleramtsminister*, kommissionspräsidentin, landeshauptfrau, landeshauptleute, landeshauptmann, landesregierung, landwirtschaftsminister*, sozialminister*, tourismusminister*, umweltminister*, verkehrsminister*, verteidigungsminister*, vizekanzler*, wirtschaftsminister*, Alexander Schallenberg, Alma Zadic, Christine Aschbacher, Elisabeth Köstinger, Gernot Blümel, Heinz Faßmann, Karl Nehammer, Karoline Edtstadler, Klaudia Tanner, Leonore Gewessler, Margarete Schramböck, Rudolf Anschöber, Sebastian Kurz, Susanne Raab, Werner Kogler, Günther Platter, Hans Peter Doskozil, Hermann Schützenhöfer, Johanna Mikl-Leitner, Markus Wallner, Michael Ludwig, Peter Kaiser, Thomas Stelzer, Wilfried Haslauer, Anschöber, Aschbacher, Blümel, Edtstadler, Faßmann, Gewessler, Kogler, Köstinger, Kurz, Nehammer, Raab, Schallenberg, Schramböck, Tanner, Zadic, Doskozil, Haslauer, Kaiser, Leitner, Ludwig, Platter, Schützenhöfer, Stelzer, Wallner, Christine Lambrecht, Horst Seehofer, Julia Klöckner, Andreas Scheuer, Angela Merkel, Anja Karliczek, Annegret Kramp-Karrenbauer, Franziska Giffey, Gerd Müller, Heiko Maas, Helge Braun, Hubertus Heil, Jens Spahn, Kramp-Karrenbauer, Olaf Scholz, Peter Altmaier, Svenja Schulze, Andreas Bovenschulte, Armin Laschet, Bodo Ramelow, Daniel Günther, Dietmar Woidke, Malu Dreyer, Manuela Schwesig, Markus Söder, Michael Kretschmer, Michael Müller, Peter Tschentscher, Reiner Haseloff, Stephan Weil, Tobias Hans, Tschentscher, Volker Bouffier, Winfried Kretschmann, Altmaier, Braun, Giffey, Heil, Karliczek, Klöckner, Lambrecht, Maas, Merkel, Müller, Scheuer, Schulze, Seehofer, Spahn, Bouffier, Bovenschulte, Dreyer, Günther, Hans, Haseloff, Kretschmann, Kretschmer, Laschet, Ramelow, Schwesig, Söder, Weil, Woidke, Ursula von der Leyen, von der Leyen</p>                                          |
| Experts<br>(55) <sup>3</sup>          | <p>allergolog*, ampelkommission, arzneimittelkommission, arzt, ärzt*, biontech, charit?, corona-kommission, ethikkommission, ethikrat*, experte*, expertin*, expertise, fachexperten, fachleute*, fachmann, forsch*, forschung*, forschungsergebnisse, immunologe, immunologie, impfempfehlung, impfkommision, impfkommision, infektiolog*, institut, meduni, metastudie, prüfungskommission, rki, stiko, studie*, universität, universitätsklinik, universitätsklinikum, vakzinolog*, virologe*, virologie, virologin*, weltgesundheitsorganisation, who, wissenschaftler, wissenschaftlern, Alexander Kekul?, Anthony Fauci, Christian Drosten, Drosten, Florian Thalhammer, Herwig Kollaritsch, Isabella Eckerle, Jonas Schmidt, Karin Mölling, Ostermann, Streeck, Wolfgang Graninger</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Party<br>politics<br>(29)             | <p>AfD, AFD, B90/Grüne, CDU, christdemokrat*, Christdemokrat*, christsozial*, Christsozial*, CSU, FDP, FPÖ, Große Koalition, Grüne*, Linke, NEOS, ÖVP, Scharz*Rot, schwarz*blau*, schwarz*srün*, sozialdemokrat*, Sozialdemokrat*, SPD, SPÖ, Team HC, türkis, Türkis*Grün*, türkise, türkiser, Volkspartei</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Bor-<br>ders/Migr<br>ation<br>(105)   | <p>*außengrenz*, *einwanderer*, *grenzschutz, *migrant*, *migration*, *zuwander*, abgeschoben*, abschiebe*, abschiebung*, abwandern, abzuschieben, anlandeplattform*, asyl*, auffanglager, aufzunehmen, ausgewandert, ausländerbehörde, ausländerin*, ausländern, ausländische, ausländischen, ausreise, aussengrenzen, balkanroute, camp, deutschkenntnisse, deutschkurs*, eingewandert, einreise, einreisebeschränkungen, einreisebestimmungen, einreisen, einreisende, einreisenden, einreisestopp,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | einreiseverbot, einreiseverbote, einreist, einwandern, einwanderung, einwanderungsland, einwanderungspolitik, festung europa, flucht, flüchtete, flüchtling*, flüchtlingsquartier*, fluchtursachen, geflohen, geflohene*, geflüchtet, geflüchteten, gernzzaun, grenze, grenzen dicht, grenzgänger, grenzgebiet, grenzkontrolle*, grenzöffnung, grenzöffnungen, grenzschließung, grenzschließungen, grenzsicherung, grenzübergang, grenzübergänge, grenzübertritt*, grenzverkehr, grenzzäune, heimatländer, herkunftsländer, idomeni, immigrant*, integration*, integrieren, integriert, integrierte, integrierten, islam kindergärten, kara tepe, kriegsflüchtlinge, lampedusa, landesgrenzen, lesbos, masseneinwanderung, massenflucht, migration*, migrationsdeal, mittelmeeerroute, rackete, refugee*, rückführen, rückführung*, rückgeführt*, schlepper*, schleuser, seenot, seenotrettung, spielfeld, sprache, staatsbürger, syrer*, traiskirchen, wiedereinreise, wirtschaftsflüchtlinge, zugewandert*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Economy (216) | *einbußen, *handel, *konzern*, *verlust*, *wirtschaft*, *zins*, aktiengesellschaften, aktienmarkt, amazon, angestellte, angestellten, anzahlung, arbeiter, arbeiterinnen, arbeits, arbeitsausfall, arbeitsleben, arbeitslos*, arbeitsmarkt, auszahlung, auszahlungen, bank*, baubranche, baufirmen, baumarkt, bestell, bestellen, besteuern, besteuern, betriebe, betriebskosten, bezahlung, billig*, billion, binnenmarkt, bonuszahlung, bonuszahlungen, börse*, branche, branchen, bruttosozialprodukt, corona*hilfe*, coronabonus, coronahilfe, coronahilfen, coronasteuer, dienstgeber, dienstleist*, einkauf*, einkaufskorb, einkommenssteuer, einkommensteuer, einmalzahlung, einzelhandels, einzelhändler, einzelhändlern, einzelunternehmer, einzukaufen, energiekosten, eventbranche, export*, finanziellen, finanzmarkt, firmen, firmenpleiten, fixkosten*, fleischproduktion, fleischproduzenten, freiberufler, freihandelsabkommen, gastarbeiter, gastronomie, gastronomiebetriebe, gastronomien, geschäften, gesundheitsbranche, gewinn, gewinne, großbetriebe, grosskapital, großunternehmen, grunderwerbssteuer, grundsteuer, günstig, handelns, handels, handelsabkommen, handelsangestellte, handelsangestellten, handelskette*, handelspakt, handelspartner, händler, händlern, heizkosten, hersteller, herstellern, hilfsmittel, hilfsgelder, hilfsgeldern, hilfsmassnahmen, hilfspaket*, hilfzahlungen, hochkonjunktur, hotellerie, hotellerie, import, insolvent*, job*, kaufen, kaufland, kaufpreis, kleinbetriebe, kleinunternehmen, kleinunternehmer, konjunktur*, konkurs, konkurse, konzern*, krankenkassenbeiträge, krisenproduktion, kurzarbeit, kurzarbeiter, kurzarbeitergeld, kurzarbeitern, langzeitarbeitslosen, lebenshaltungskosten, leitindex, lieferando, lieferdienste, lieferketten, lohnkosten, lohnsteuer, markt, marktplatz, massenarbeitslosigkeit, massenproduktion, medienunternehmen, mehrkosten, mehrwertsteuersenkung, milliardenhöhe, millionär*, mitarbeiter*, mittelständler, nebenjob, nebenkosten, neuverschuldung, novemberhilfe, novemberhilfen, ökosteuer, onlineshop, onlineshops, onlineversand*, pendler, pleite*, preise, privatwirtschaft, produktion*, produzent*, regale, reichensteuer, reisebranche, rettungspaket, rückzahlung, ruin, schwarzmarkt, selbstständige, selbstständigen, soforthilfe*, sonderzahlung, sonderzahlungen, sozialausgaben, sozialpartner*, sozialpolitik, staatshilfe, staatshilfen, staatskosten, steuer, steuerausgleich, steuereinnahmen, steuererhöhung, steuererleichterungen, steuerfrei, steuerklasse, steuersatz, steuersätze, stornokosten, strafzahlungen, stromkosten, subunternehmer, summen, tierprodukte, tourismusbranche, überbrückungshilfe, überbrückungshilfen, überproduktion, umsatz*, umsätze, unternehmen*, unternehmer, unternehmerinnen, unternehmern, veranstaltungsbranche, verdienstausschuss, versand, versandhandel, versandhändler, waffenexporte, warenkorb, weltmarkt, zahlung, zahlungen, zahlungsunfähig*, zalando, zeitarbeit, zeitarbeiter |

Notes: 1: A \* represents a wildcard, it matches any number of characters or digits, a ? matches any single character. Gründl's (2022) populism dictionary applies more complex rules ('regex') to match multiword expressions; see there for full documentation. 2: Courtesy by Johann Gründl (2022). Please refer to his article for further use. 3: For names of persons (e.g. "Kurz"), case-sensitive dictionary lookups were applied.

## Fear appeals

In addition to these dictionary-based operationalizations, *Paper I* initially aimed to capture the strength of fear appeals (Witte 1992) in the media posts. I approached this measurement by using the DDR (Garten et al. 2018) method described in detail in *Paper II*. Drawing on the NRC Emolex emotion intensity lexicon (Mohammad 2017) and my previous work (Thiele 2019), I selected words that represent highly uncontrollable, dangerous situations to construct a short dictionary ('alarmierend', 'gefahr', 'katastrophe', 'unkontrollierbar', 'verstorben'). The resulting DDR measurement was evaluated against a manual coding of the 450 posts on a tripartite scale (0–2). The Spearman rank correlation between the DDR and human coding was  $\rho = 0.57$ , outperforming Widmann's (2021) fear appeal measure ( $\rho = 0.41$ ) but was still considered insufficiently valid to be included in *Paper I*. Further, this variable did exhibit no significant effect in the regression analysis documented and interpreted in Appendix D.

## Appendix C – Examples

Table C 1 provides examples of populist and non-populist user comments for face validity. The columns in Table C report the Facebook page on which the user comment was found, the date of the corresponding post, the original text of the comment in German, a machine translation (DeepL) of the comment, the number of populist words that were detected by Gründl's (2022) populism dictionary, and the matching regex-patterns from the dictionary. In the text, the words that were identified as populist words are highlighted in bold and italics. The examples presented here were hand-picked from a stratified random sample, comprising of 30 clearly populist comments (> 3 populist words; found below post with >3 populist comments), 30 borderline cases (1 populist word; below posts with only 1 populist comment), and 30 non-populist comments. Judging from face validity, these examples support the decision of this paper to consider a comment as populist if contains at least one populist keywords. The dictionary underestimates populist content rather than overestimates it precedence, as it misses words that can be considered populist—for example, “profit interests” “of the few super rich” in the first comment.

**Table C 1.** Examples of Populist and Non-Populist User Comments

| Page       | Date       | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Comment (DeepL translation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Hits | Pattern                                |
|------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------------------------------|
| tagesschau | 2021-04-30 | ♥ Wenn das Regime in Berlin mit der „Tagesschau“ - also mit dem <b>Propagandainstrument</b> der Bundesregierung - für die Deutungshoheit in Fragen zur Schulung der Medienkompetenz bei Menschen kämpfen lässt. Das sollte es ja eigentlich nach dem II. Weltkrieg - im wesentlichen eine sechs Jahre lange, militärische „Marketing-Kampagne“ der Nazi-/IG-Farben-Koalition, mit dem Ziel, den Chemie- und Pharmaweltmarkt für die IG Farben zu erobern - nicht mehr geben. ♥ Und jetzt wiederum Farben - in dieser 3. Welle des mittlerweile 150 Jahre währenden Krieges der Reichen hinter der <b>Chemie-Pharma-Mafia</b> gegen die Armen - lässt man wieder staatliche Medien für die Profitinteressen weniger Superreicher hinter dem Chemie-Pharmakomplex trommeln - durch ungsmedien, die mit der Corona-PR-Kampagne die Medieninkompetenz der Menschen vollkommen fördert und ausnutzt. Offensichtlich und für Menschen, die kraft eigener Recherche wirklich WISSEN besitzen - OFFENKUNDIG. Anders formuliert: ♥ Staatliche <b>Propaganda</b> , die gegen die Würde des Menschen gerichtet ist, wird bestraft - nach dem Ende der <b>Diktatur</b> . Nur noch Geduld! | ♥ When the regime in Berlin uses the „Tagesschau“ - that is, with the mouthpiece and <b>propaganda tool</b> of the German government - to fight for the sovereignty of interpretation in the media literacy. It was supposed to be after the Second World War - essentially a six-year, Military “Marketing Campaign” of the Nazi/IG-Color Coalition, with the aim of to conquer the global chemical and pharmaceutical market for IG Farben - no longer give. ♥ And now again - in this third wave of the 150 year war of the rich behind the <b>cal-pharmaceutical mafia</b> against the poor - the state media are once again being used to drum up the profit interests of the few super rich behind the chemical-pharmaceutical complex - by government media that, with the Corona PR campaign, Incompetence of the people is clearly promoted and exploited. Obviously and - for people who really have KNOWING by virtue of their own research - OPEN. In other words: ♥ State <b>propaganda</b> directed against human dignity is punished - after the end of the <b>dictatorship</b> . Just slightly more patience!” | 4    | propagand (*), mafia, diktat(e)s e s)? |
| tagesschau | 2021-04-09 | tagesschau komisch, am 17.03.21 sah eure tagesschau farbliche Skalierung noch nicht so dramatisch und reißerisch aus. Habt ihr den Grafiker gewechselt oder ist das Teil eurer <b>Corona-Panik-Propaganda</b> ?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | funny, on 17.03.21 your color scaling didn't look so dramatic and lurid. Did you change the graphic artist or is that part of your <b>Corona Schämt panic propaganda? Shame</b> on you! It's                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 4    | propagand (*), schäm(t en), schande,   |

|                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                            |
|-----------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------|
|                 |                | euch! Eine <b>Schande</b> , dass wir euch mit a <b>shame</b> that we have <b>pay</b> #statetelevi-<br>unseren Gebühren <b>finanzieren</b> müssen. sion<br>#staatsfernsehen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | finan(c z)ie<br>r(s e)?                                                                                    |
| DIE ZEIT        | 2020-<br>11-13 | Ihre <b>propaganda</b> kotzt mich so an!!!! Your <b>propaganda</b> pisses me off so!!!! 4<br>".....hakenkreuzen corona-leugner durch ".....hakenkreuzen corona-leugner<br>leipzig....." es ist zum kotzen. Ihre proo- durch leipzig....." it sucks. Your proo-<br>ganda und jede <b>propaganda</b> ALLER main- ganda and every <b>propaganda</b> of ALL<br>stream-medien!!! Seit dem 29.08.2020 main-stream-media!!! Since 29.08.2020<br>hauen ALLE main-stream-medien genau ALL main-stream-media hauen around<br>darauf rum. Klar. <b>Propaganda</b> . Wird ihnen exactly on it. Sure. <b>Propaganda</b> . Will<br>vorgehen, genauso vorzugehen. Anstatt vorgehen them to proceed in the<br>einmal investigativen journalismus zube- same way. Instead of once investiga-<br>treiben, gauen sie genauso unmöglich in tive journalism zubetreiben, they're<br>duese perverse <b>propaganda</b> maschinerie just as impossibly into this perverted<br>ein, wie alle main-stream-medien. [...] <b>propaganda</b> machine as all the main-<br>stream media [...]                                                                                                                                                                                                                                                                                                                                            |  | propagand<br>(.*)                                                                                          |
| tagess-<br>chau | 2021-<br>04-26 | Das <b>sogenannte</b> Grundgesetz ist ein The <b>so-called</b> Grundgesetz is a protec- 3<br>Schutz in Form von Abwehrrechten der tion in the form of defensive rights of<br>Bevölkerung gegen Übergriffe durch den the population against encroachments<br>Staat und dessen Vollstreckungsorgane. by the state and its enforcement agen-<br>Diese Grundrechte im GG sind wie der cies. These basic rights in the GG are,<br>Name schon sagt Grundrechte und dürfen as the name suggests, basic rights and<br>nicht gegen die Bevölkerung zur Strafe may not be used against the popula-<br>oder als Belohnung und Motivation dafür tion as a punishment or as a reward<br>Ziele des Staates genutzt werden. Es ist and motivation for it goals of the state.<br>eine <b>Frechheit</b> , ungeimpfte Personen als It is an <b>impertinence</b> to call unvac-<br>Gefahr zu bezeichnen. Ständig kommen cinated persons a danger. Constantly<br>weitere Skandale und Misswirtschaft der further scandals and mismanagement<br>Regierung in dieser Coronazeit zu Tage of the government in this Coronazeit<br>aber die durch GEZ <b>finanzierten</b> Sender, come to light but the stations <b>financed</b><br>unterstützen weiter brav mit <b>Propaganda</b> by GEZ, continue to support the in-<br>die unfähige Regierung in Berlin. [...] competent government in Berlin with<br><b>propaganda</b> . [...] |  | so(- <br>)?genannt(<br>e er es en e<br>m)?,<br>frechheit,<br>finan(c z)ie<br>r(s e)?,<br>propagand<br>(.*) |
| tagess-<br>chau | 2021-<br>03-22 | Da fällt einem bald wirklich nichts mehr Soon you really can't think of anything 3<br>ein. Die <b>sogenannte Politikerelite</b> berei- else. The <b>so-called politician elite</b><br>chert sich illegal am Deutschen Volk und enriches itself illegally at the German<br>kommt wahrscheinlich mit Einer Ermah- people and probably gets away with an<br>nung davon. Das sind unhaltbare Zustände admonition. These are untenable<br>in unserm Land. Ich Frage mich wann wird conditions in our country. I ask myself<br>endlich wieder ehrliche Politik gemacht für when will finally again honest politics<br>unser Volk. Aber mit diesen <b>korrupten</b> made for our people. But with these<br>Gierhälsen wird das wohl vorläufig nichts. <b>corrupt</b> greedy necks that will probably<br>Trauerspiel 🤔🤔 nothing for the time being. Trau-<br>erspiel 🤔🤔                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | so(- <br>)?genannt(<br>e er es en e<br>m)?,<br>(.*)elite(n)?<br>,<br>korrupt(e e<br>r es en em)<br>?<br>?  |
| tagess-<br>chau | 2021-<br>02-13 | <b>Schande</b> über uns Italiener! <b>Schande!</b> Und <b>Shame</b> on us Italians! <b>Shame!</b> And 3<br>nochmals <b>Schande!</b> Und wieder ein again <b>shame!</b> And again a bought<br>gekaufter Politiker! politician!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | schande                                                                                                    |
| DIE ZEIT        | 2021-<br>03-12 | Das ist <b>Diktatur</b> und <b>Arroganz</b> gerade bei This is <b>dictatorship</b> and <b>arrogance</b> , 2<br>wichtigen Entscheidungen ist es wichtig especially when it comes to important<br>das sie genau durchleuchte werden und decisions, it is important that they are<br>von der breiten Masse getragen werden carefully examined and supported by<br>the broad masses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | diktat(e s e<br>s),<br>arroganz                                                                            |
| Die Presse      | 2021-<br>05-20 | EU ist die wahre <b>Mafia</b> EU is the real <b>mafia</b> 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | mafia                                                                                                      |
| tagess-<br>chau | 2021-<br>05-18 | Oder anders, GEZ Medien kosten <b>uns</b> Or in other words, GEZ media cost <b>us</b> 1<br><b>Steuerzahler</b> € ..... <b>taxpayers</b> € .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | uns(er(e er<br> en))?<br>steuerzahl<br>er(n innen)<br>?<br>?                                               |
| Bild            | 2021-<br>03-22 | „Wie gefährlich? Noch gefährlicher als "How dangerous? Even more danger- 1<br>Corona? Kaum zu glauben, Herr Lauter- ous than Corona? Hard to believe, Mr.<br>bach - wir brauchen Ihren fachkundigen Lauterbach - we need your expert<br>Rat!“ „Ja mei, da macht man einen Lock- advice!“ "Yes my, there you make a<br>down bis nächstes Jahr, Masken auf, lockdown until next year, masks on,<br>Home Schooling, Ausgangssperre und nun home schooling, curfew and now<br>schnell ab in den Luftschutzbunker!“ Geld quickly off into the bomb shelter!"<br>und Essen gibt's von der Kometenhilfe Money and food is there from the<br>🤔🤔🤔🤔🤔🤔 and die <b>Elite</b> ist safe!“ comet aid 🤔🤔🤔🤔🤔🤔 and the <b>elite</b> is<br>safe!“ 🤔🤔🤔🤔🤔🤔                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | (.*)elite(n)?                                                                                              |

|                   |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |   |                                        |
|-------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----------------------------------------|
| tagess-<br>chau   | 27.11.2020    | Holt euch das Geld von den Griechen zurück, ihr könnt auch mal in der Türkei nachfragen. Kredite kredite Kredite.. <b>Altparteien</b> abwählen .                                                                                                                                                                                                                                                                                                                                                                                                                                               | Get the money back from the Greeks, you can also ask in Turkey. Credits credits credits. Vote out the <b>old parties</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1 | alt(-)<br>)?partei(en)<br>)?           |
| tagess-<br>chau   | 2020-11-15    | Ja traurigerweise haben unsere <b>annten</b> Volksvertreter Glaubwürdigkeit verloren ..                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | so <b>gen-</b> Yes sadly our <b>so called</b> people's representatives have lost their credibility ....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1 | so(-)<br>)?genannt(e)<br>er es en em)? |
| DER<br>STANDARD   | 2020-10-31    | Warum erst ab Dienstag macht der Virus Pause diese <b>verlogene</b> Regierung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Why only from Tuesday the virus makes a break this <b>lying</b> government                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1 | verlogen(e)<br>er es en em)?           |
| Kronen<br>Zeitung | 2020-03-21    | LIEBE-BÜRGER ÜBERNEHMEN WIR VERANTWORTUNG: <b>DIREKTE DEMOKRATIE</b> RETTET UNSER GELIEBTES ÖSTERREICH!!!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DEAR-CITIZENS LET'S TAKE RESPONSIBILITY: <b>DIRECT DEMOCRACY</b> SAVES OUR BELOVED AUSTRIA!!!!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1 | direkt(e er)<br>?<br>demokrati<br>e    |
| tagess-<br>chau   | 2021-05-22    | Großbritannien mit der niedrigsten Inzidenz in Europa (trotz indischer Variante) wird Risikogebiet? Der nächste Beweis, dass Corona vor allem eins ist: viel Politik                                                                                                                                                                                                                                                                                                                                                                                                                           | UK with lowest incidence in Europe (despite Indian variant) becomes risk area? The next proof that Corona is one thing above all: a lot of politics                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0 | NA                                     |
| Die Presse        | 2021-04-29    | 😄 !!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 😄 !!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0 | NA                                     |
| Die Presse        | 2021-03-26    | Das Konzept an sich klingt spannend. Für mich stellt sich die Frage - Wie versorgt sich die Anlage zum Beispiel bei einer Volatilität geschuldeten Mindererzeugung? Könnte man völlige Autarkie schaffen? Klarerweise begünstigt die Region speziell Photovoltaik durch eine geringe Schwankungsbreite in Wintermonaten und durch Gezeitenkraft sollte potentiell auch eine Grundlast gedeckt werden können. Eventuell bieten Speicher den nötigen Puffer. Da man sich aber sowieso noch in der Phase der barkeitsstudie befindet, bin ich gespannt, ob sich dieses Konzept realisieren lässt. | The concept itself sounds exciting. For me, the question is - How does the plant supply itself, for example, in the event of reduced generation due to volatility? Would it be possible to create complete self-sufficiency? Clearly, the region favors photovoltaics in particular due to a low range of fluctuation in winter months, and tidal power should potentially be able to cover a base load as well. Possibly, storage facilities offer the necessary buffer. But since we are still in the feasibility study phase anyway, I am curious whether this concept can be realized. | 0 | NA                                     |
| tagess-<br>chau   | 2021-01-30    | Über Menschen mit schwersten Behinderungen die in pädagogischen Einrichtungen Wohnen redet immer noch keiner und auch nicht über das dortige Personal. 😞                                                                                                                                                                                                                                                                                                                                                                                                                                       | About people with severe disabilities who live in educational institutions still no one talks and not even about the staff there 😞 .                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0 | NA                                     |
| Zeit<br>Bild      | im 2020-12-16 | Viel Glück 🍀                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Good luck 🍀                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0 | NA                                     |
| DER<br>SPIEGEL    | 2020-12-09    | Wir werden diese ruhige Logik vermissen. Leider die falsche Partei, aber eine gute Kanzlerschaft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | We will miss this calm logic very much. Unfortunately the wrong party, but a good chancellorship                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0 | NA                                     |
| Kronen<br>Zeitung | 2020-04-30    | Eine Frage tragen dir Busfahrer in Wien eigentlich Masken?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | One question do you bus drivers in Vienna actually wear masks?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0 | NA                                     |

## Appendix D – Robustness Checks

**Table D 1.** Results of Regression Models for Robustness Checks

|                              | Negative binomial models <sup>1</sup><br>DV: count of populist comments |                 |                 | Linear models<br>DV: share of pop. comments |                 |
|------------------------------|-------------------------------------------------------------------------|-----------------|-----------------|---------------------------------------------|-----------------|
|                              | Model 1                                                                 | Model 2         | Model 3         | Model 4                                     | Model 5         |
| <i>Explanatory variables</i> |                                                                         |                 |                 |                                             |                 |
| COVID                        | 0.10 (0.02)***                                                          | 0.08 (0.02)***  | 0.10 (0.02)***  | 0.07 (0.02)***                              | 0.07 (0.02)***  |
| Government                   | 0.28 (0.03)***                                                          | 0.28 (0.03)***  | 0.28 (0.03)***  | 0.16 (0.03)***                              | 0.16 (0.03)***  |
| Experts                      | -0.18 (0.07)**                                                          | -0.19 (0.07)**  | -0.18 (0.07)**  | -0.06 (0.04)                                | -0.06 (0.04)    |
| Day count                    | 0.20 (0.02)***                                                          | 0.20 (0.02)***  | 0.20 (0.02)***  | 0.02 (0.01)                                 | 0.02 (0.01)     |
| Stringency                   | -0.06 (0.02)***                                                         | -0.06 (0.02)*** | -0.06 (0.02)*** | -0.01 (0.01)                                | -0.01 (0.01)    |
| Fear                         |                                                                         | 0.02 (0.01)     |                 |                                             |                 |
| <i>Interaction terms</i>     |                                                                         |                 |                 |                                             |                 |
| COVID*Government             | -0.20 (0.04)***                                                         | -0.20 (0.04)*** | -0.20 (0.04)*** | -0.10 (0.04)**                              | -0.10 (0.04)**  |
| COVID*Experts                | 0.15 (0.08)                                                             | 0.15 (0.08)*    | 0.14 (0.08)     | 0.05 (0.05)                                 | 0.05 (0.05)     |
| COVID*Day Count              | 0.10 (0.02)***                                                          | 0.10 (0.02)***  | 0.10 (0.02)***  | 0.06 (0.02)***                              | 0.06 (0.02)***  |
| COVID*Stringency             | 0.08 (0.02)**                                                           | 0.08 (0.02)**   | 0.08 (0.02)**   | 0.02 (0.02)                                 | 0.02 (0.02)     |
| COVID*Fear                   |                                                                         | -0.01 (0.02)    |                 |                                             |                 |
| <i>Controls</i>              |                                                                         |                 |                 |                                             |                 |
| New COVID cases              | 0.00 (0.01)                                                             | 0.00 (0.01)     | 0.00 (0.01)     | 0.01 (0.01)                                 | 0.01 (0.01)     |
| Scrape age                   | -0.06 (0.01)***                                                         | -0.06 (0.01)*** | -0.06 (0.01)*** | -0.03 (0.01)***                             | -0.03 (0.01)*** |
| Economy                      | 0.04 (0.03)                                                             | 0.04 (0.03)     | 0.04 (0.03)     | 0.05 (0.02)**                               | 0.05 (0.02)**   |
| Borders/Migration            | 0.08 (0.04)*                                                            | 0.07 (0.04)     | 0.08 (0.04)*    | 0.01 (0.03)                                 | 0.01 (0.03)     |
| Party politics               | 0.42 (0.03)***                                                          | 0.42 (0.03)***  | 0.42 (0.03)***  | 0.24 (0.02)***                              | 0.24 (0.02)***  |
| <i>Accounts (group var.)</i> |                                                                         |                 |                 |                                             |                 |
| DER SPIEGEL (GER)            | -0.13 (0.03)***                                                         | -0.14 (0.03)*** |                 | -0.08 (0.03)**                              |                 |
| DIE ZEIT (GER)               | 0.11 (0.04)**                                                           | 0.10 (0.04)*    |                 | -0.02 (0.03)                                |                 |
| Bild (GER)                   | -0.56 (0.03)***                                                         | -0.57 (0.03)*** |                 | -0.25 (0.03)***                             |                 |
| Der Standard (AT)            | -0.30 (0.05)***                                                         | -0.30 (0.05)*** |                 | -0.26 (0.03)***                             |                 |
| Die Presse (AT)              | -0.08 (0.04)*                                                           | -0.09 (0.04)*   |                 | -0.15 (0.03)***                             |                 |
| Kronen Zeitung (AT)          | -0.48 (0.03)***                                                         | -0.48 (0.03)*** |                 | -0.28 (0.03)***                             |                 |
| oe24.at (AT)                 | -0.26 (0.03)***                                                         | -0.26 (0.03)*** |                 | -0.23 (0.03)***                             |                 |
| Zeit im Bild (AT)            | -0.11 (0.04)**                                                          | -0.12 (0.04)**  |                 | -0.12 (0.04)**                              |                 |
| Num. obs.                    | 25121                                                                   | 25121           | 25121           | 25121                                       | 25121           |
| AIC                          | 56975.54                                                                | 56976.84        | 57091.79        |                                             | 70884.71        |
| BIC                          | 57170.69                                                                | 57188.26        |                 |                                             | 71022.94        |
| Random Effects               | NO                                                                      | NO              | YES             | NO                                          | YES             |
| Num. groups: account         |                                                                         |                 |                 |                                             | 9               |
| R <sup>2</sup>               |                                                                         |                 |                 | 0.02                                        |                 |

Note: \*\*\*p < 0.001; \*\*p < 0.01; \*p < 0.05; 1: N.B. models include the logged number of downloaded comments + .1 as offset.

Table D 1 documents the results from regression models that this study ran as robustness checks. For comparison, the results from the full model reported in the main article are included in the table as Model 1. The dependent variable of Models 1-3 is the number of populist comments per post. These models are negative binomial regression models that include the logged number of downloaded comments per post plus 0.1 as an offset, accounting for the number of times that a populist comment could have been observed (Hilbe 2011, 134). I tested for overdispersion, confirming that a negative binomial regression model would account for the variance in the dependent variable better than a Poisson model.

Model 1 and 2 account for the nested structure of the data through an fixed-effects model by including dummy variables for each account. Models 3 and 5 accounts for the clustering of the data on account level by a random-effects/multilevel model with varying intercepts on level of the Facebook pages (Gelman and Hill 2007). Multilevel models have been considered problematic when there are only few clusters. Here, I follow advice by Elff et al. (2021) who suggest that this issue is less problematic if restricted maximum-likelihood estimation and a different statistical test is used. The former is implemented here for Models 3 and 5. However, the particular test-statistic recommended by Elff et al. (2021) was not implemented in the R-package glmmTMB (M. E. Brooks et al. 2017) used here. The results of Model 3 confirm the findings from Model 1.

Model 2 mirrors Model 1 but adds the independent variable ‘Fear’, measured by the DDR method as described in Appendix B, and the corresponding interaction term ‘COVID\*Fear’. The results from this model do not alter the main findings from Model 1 and show no significant effect of fear appeals. I argue that this does not refute the main argument put forward in *Paper I*—that populist comments are an expression of ‘reactance’, sparked by an overabundance of ‘fear appeals’—for two reasons: First, the topic of COVID-19 itself likely carries such a strong fear appeal that variations in threat-related language (captured by the measurement) may no longer have an impact. Second, reactance theory (S. S. Brehm and Brehm 1981; Dillard and Shen 2005) suggests that reactance is driven not primarily by the threat component of fear appeals (Rogers 1975) but by components perceived as restrictions to personal freedoms. Hence, the effect of COVID-19-related posts might rather stem from unpleasant associations with restrictive measures—such as lockdowns and compulsory testing. *Paper II* inspects this hypothesis more thoroughly.

Models 4 (fixed-effects) and 5 (random-effects) are constructed analogously, but use a different dependent variable: The *share* of populist comments in the number of downloaded comments, which is a continuous measure ranging from 0 to 1. This allows fitting linear regression models, which provide coefficients that are straightforward to interpret. The downside is that the score does not represent adequately the scope of populist commenting as it overrepresents populist comments in comment sections of little overall activity and somewhat underrepresents populist comments in highly crowded comment sections. For these reasons, I preferred to analyze the count of populist comments in *Paper I*. Nevertheless, both linear Models 4 and 5 confirm the main finding that posts about COVID-19 attract more populist comments than posts on other topics and that this effect grew over time. All else equal, and when the standardized day count variable equals zero, the share of populist comments in downloaded comments per post increases by 7 percent when the post mentions the topic of COVID-19, compared to other posts. In both linear models, I found a significant increase of this effect over time, but did not find a significant independent effect of the time variable itself. This is in line with the theoretical argument presented in the main article, which suspects that this interaction effect is driven by the repetition of fear appeals included in COVID-19 coverage. However, both linear models could not replicate the interaction effect of stringency and the topic of COVID-19. Hence, *Paper II* of this dissertation explores this connection more thoroughly.



## **Appendix Paper II**

## Appendix E – Coding Instructions

Below I document an abridged version of the instructions for annotating the validation data used in *Paper II*. Comments were coded along the binary variables *people-centrism* and *anti-elitism* (Table E 1), following the same instructions used in all three papers (see Appendix A), which closely align with the instructions developed by Blassnig et al. (2016; Blassnig, Engesser, et al. 2019). At the post level (Table E 2), coders binary coded references to *COVID-19*, *COVID-19 policies*, and *easing of COVID-19 policies*, which were used to construct the reference to restrictions variable, as well as references to the *government* and *experts*. The post-level instructions were further developed drawing on the instructions employed in *Paper I*. Again, holistic grading was employed and the same general coding instructions were presented as documented in Appendix A.

### Comment Level

**Table E 1.** Comment-Level Coding Instructions in Paper II

| Construct       | Instructions                                                       | Values |
|-----------------|--------------------------------------------------------------------|--------|
| People-Centrism | <i>Identical to instructions reported in Appendix A, Table A1.</i> | 0/1    |
| Anti-Elitism    | <i>Identical to instructions reported in Appendix A, Table A1.</i> | 0/1    |

### Post Level

**Table E 2.** Post-Level Coding Instructions in Paper II

| Construct                                   | Instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Values |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Topic:<br>COVID -19                         | <u>Question:</u> Does the post mention the topic of COVID-19?<br><u>Instructions:</u> Please code “1” if the coded text refers in some form to the COVID-19 virus, any aspect of the COVID-19 pandemic, including any governmental, societal, or scientific response to, or consequence of the COVID-19 crisis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0/1    |
| Subtopic:<br>COVID-19<br>policies           | <i>FILTER: If “covid” = “0”, this category is “0”. If “covid” = “1”, please code:</i><br><u>Question:</u> Does the post mention any authorities’ measure responding to the COVID-19 crisis?<br><u>Instructions:</u> Please code “1” if the coded text refers in some form to any measure of authorities that is a response to the COVID-19 crisis – whether directed at public health or other aspects of the crisis.<br>“Authorities” here means all level of government, whether national, regional, local, or supra-national, all public service agencies, all public health advisory boards or councils (e.g., the RKI in Germany, the RIVM in Netherlands, the Folkhälsomyndigheten in Sweden etc.), and local institutions such as specific schools or hospitals. COVID-19 measures include, but are not limited to, measures directed at public health (e.g., social distancing, masks, quarantine, self-isolation, hygienic rules), including testing for COVID-19 or vaccinations; restrictive measures (e.g., closing schools, restaurants, lockdowns, measures limiting social contacts); contact tracing; travel restrictions and specific border policies; policies that ease past COVID-19 restrictions; policies that react on economic or social challenges related to the COVID-19 crisis. References to the general COVID-crisis management of authorities are also considered as ‘COVID-19 policies’ here. | 0/1    |
| Subtopic:<br>Easing<br>COVID-19<br>policies | <i>FILTER: If “measure” = “0”, this category is “0”. If “measure” = “1”, please code:</i><br><u>Question:</u> Does the post mention any easing of restrictive COVID-19 policies, or policies that offer economic support?<br><u>Instructions:</u> Please code “1” if the coded text refers in some form to easing restrictive measures (e.g., mentions of lifting lockdowns, lifting obligatory mask wearing, lifting travel bans, lifting restrictions to enter public events); or measures intended to cushion economic or social hardships induced by the COVID-19 crisis (e.g., emer-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0/1    |

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|                            | gency funds, helplines)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |
| Actors:<br>Govern-<br>ment | <p><u>Question</u>: Does the post mention the current national government of the country in question or the European Commission?</p> <p><u>Definitions</u>: The “government” here exclusively refers to the incumbent (at the time of the post) head of government (e.g., Prime Minister, Chancellor, in France: including the President), the ministers of his or her cabinet, the government as a whole, and the European Commission.</p> <p>Mentioning the head of state (only exception: “the President” in France); parliamentarians who are not part of the cabinet; public advisory boards; regional or local governing bodies; foreign governments; or former governments do not count as ‘the government’ here.</p> <p><u>Instructions</u>: Please code “1” if the coded text refers to</p> <ul style="list-style-type: none"> <li>• the head of the current national government of the respective country at the time of the post – referred to by either his or her name or office;</li> <li>• any minister of the (federal) government of the respective country at that time – referred to by either his or her name or office;</li> <li>• the government as a whole;</li> <li>• the head or any member of the European Commission at that time;</li> <li>• the European Commission as a whole.</li> </ul> <p>A list of names, official titles and incumbents was provided to the coders.</p>                                                                                                                                                                                                                                                                                                                                                                                                                       | 0/1 |
| Actors:<br>Experts         | <p><u>Question</u>: Does the post mention experts?</p> <p><u>Definitions</u>: An “expert” here is understood as someone who has acquired profound knowledge in a specific field through academic education. We consider experts from any field of knowledge, whether public health related or not. Persons who have acquired profound experience through practice but without academic education are not considered experts here (e.g., general healthcare professionals). References to the output or field of study of those experts, as well as references to public research institutions is considered as mentioning experts. Explicit references to “experts” do count.</p> <p>References to private research institutions (e.g., BioNTech, Pfizer) is not sufficient to be counted as mentioning “experts” here. If the post refers explicitly refers to the researchers active, or research conducted in those institutions this counts as mentioning experts.</p> <p>Please note that mentioning general healthcare professionals of hospitals does not count as reference to experts here.</p> <p><u>Instructions</u>: Please code “1” if the coded text refers to</p> <ul style="list-style-type: none"> <li>• anyone explicitly as “expert”, or “specialist”;</li> <li>• to any researchers – either in general terms (e.g., “researcher”, “scientist”), by indicating their area of expertise (e.g., “virologist”, “psychologist”, “virology”, “psychology”), or by indicating their academic profession (e.g., “professor XY”);</li> <li>• research in general (e.g., “research”, “a study”, “science”);</li> <li>• any public, academic research institution (e.g., “university XY”, “institute XY”);</li> <li>• other public health experts with an academic background (e.g. physicians or doctors).</li> </ul> | 0/1 |

## Appendix F – Dictionaries

Table F 1 documents the multilingual dictionaries employed in *Paper II* for capturing references to *COVID-19*, *COVID-19 Policies*, *Easing of COVID-19 policies*, as well as *Experts* and the *Government*. The dictionaries for the first three categories are sub-categories of one another: All terms in *Policies* are included in *COVID-19*, and all terms in *Easing* are included in *Policies*. To develop these dictionaries, I manually translated the dictionaries employed in *Paper I*, using translation websites that provide context alongside the translations (linguee.de; context.reverso.net). Each term was carefully assessed for suitability, judging from eyeballing the suggested translation and contexts. Uncertainties led to exclusion of the term. To expand the dictionaries, I trained country-specific *fastText* models on the text from the untranslated posts. The models were employed to retrieve 20 nearest neighbors for each term. The obtained terms were manually inspected by cross-referencing the context-sensitive translation websites (linguee.de; context.reverso.net) and contexts within the analyzed corpus. Wildcards were placed where feasible. The *Government* dictionaries maintain case sensitivity and incorporate cabinet members names, with some common surnames excluded. The German and Austrian dictionaries are identical except for the *Government* dictionary.

**Table F 1.** Dictionaries Employed in Paper II

| Lang | Concept                      | Words <sup>1</sup><br>(n words)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENG  | COVID-19 (77)                | *cluster*, *easing*, *hotspot*, *immuni*, *infect*, *lockdown*, *pandemi*, *quarantine*, *vaccin*, *vaccinated*, *vaxx*, *virus*, antibod*, astra*, ban family visit*, ban visit*, biontech*, cases, combat coronavirus, contact tracing, containment measure*, corona*, coronavirus measure*, coronavirus safety measure*, coronavirus test*, covid measure*, covid test*, covid*, curfew, distancing, dose*, doses, eases, easing, epidemic, epidemic measure*, fatalit*, fight against covid, fight coronavirus, government response*, health verification*, health* measure*, healthcare, isolat*, jab, lifting, limit* travel*, major incident, mask*, mass test*, measure* taken, measure* to combat, measure* to fight, moderna, outbreak, pcr*, pfizer*, re?open*, reopening, restrictions, sanitiser, sars*, stem spread, stem the spread, strict* measure*, superspread*, test and trace, test positive, tested on covid, tested positive, testing, tougher measure*, tracing app, transmission, travel ban*, travel restrictions, wuhan |
|      | Policies (60) <sup>2</sup>   | *easing*, *immuni*, *lockdown*, *quarantine*, *vaccin*, *vaccinated*, *vaxx*, astra*, ban family visit*, ban visit*, biontech*, combat coronavirus, contact tracing, containment measure*, coronavirus measure*, coronavirus safety measure*, coronavirus test*, covid measure*, covid test*, curfew, distancing, dose*, doses, eases, easing, epidemic measure*, fight against covid, fight coronavirus, government response*, health verification*, health* measure*, isolat*, jab, lifting, limit* travel*, major incident, mask*, mass test*, measure* taken, measure* to combat, measure* to fight, moderna, pcr*, pfizer*, re?open*, reopening, restrictions, sanitiser, stem spread, stem the spread, strict* measure*, test and trace, test positive, tested on covid, tested positive, testing, tougher measure*, tracing app, travel ban*, travel restrictions                                                                                                                                                                           |
|      | Easing (6) <sup>3</sup>      | *easing*, eases, easing, lifting, re?open*, reopening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|      | Experts (28)                 | doctor*, endocrinolog*, epidemiolog*, ethic* adviser, expert*, extrapolate, fda, finds, ghebreyesus, health professional, immunolog*, institute, johns hopkins, microbiolog*, pharmacists, physician*, professor, psycholog*, public health england, pulmonolog*, research*, scien*, specialist*, study, survey, technique, virolog*, world health organi?ation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|      | Government (48) <sup>4</sup> | Alister Jack, Barclay, Ben Wallace, Brandon Lewis, Braverman, Brussels, Buckland, Coffey, commission president, Commission President, Dowden, EU commission*, European commission, Eustice, Gove, government, Government, Hancock, Hart, Jenrick, Johnson, Kwarteng, Liz Truss, Lord Frost, Mark Spencer, Michael Ellis, Milling, minister, Minister, ministry, Ministry, of Bowes Park, Patel, PM, prime minister Boris, Prime Minister Boris, Prime Minister Johnson, Raab, Rees Mogg, secretary, Secretary, Shapps, Sharma, Sunak, Trevelyan, UK prime minister, UK Prime Minister, Williamson                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| GER  | COVID-19 (124)               | *ansteck*, *ausgangssperre*, *cluster*, *geimpft*, *immunisiert*, *impf*, *infektion*, *infizier*, *lockdown*, *lockerung*, *maske*, *maskenpflicht*, *maßnahme*, *pandemi*, *quarantäne*, *reisebeschränkung*, *reiseverbot*, *schnelltest*, *testpflicht*, *vakzin*, *viren*, *virus*, abstandsregel*, angesteckt*, antigen*, antikörper*, arzneimittelbehörde, astra*, ausgangsbeschränkung*, ausreisetestpflicht, biontech*, blutgerinnsel, blutgerinnseln, bundesgesundheitsminister, corona*, cov, covid*, delta, dosen, durchimpfung*, einreise*,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   |  | <p>einreisebeschränkung*, einreisebestimmungen, einreisestop*, einreiseverbot*, epidemie*, erkranken, erkrankung*, erregger, fallzahl*, ffp*, freitest*, gelockert, genesungen, gesundheitsexperte, gesundheitsminister, gesundheitssystem*, getestet*, ghebreyesus, gurgelt, herdenimmunität, home*office, homeoffice*, hospitalisierungen, hygiene, hygieneregeln, impfpflicht, intensivmedizinisch, intensivpatienten, intensivstationen, inzidenz*, kontaktbeschränkungen, kontaktpersonen, kontaktverbot*, kontrollen, körpernahe, lombardei, lungenkrankheit, masken*pflicht, massentest*, mindestabstand, moderna, mutante, mutanten, mutation, mutationen, neuinfektion*, notfallzulassung, öffnet,öffnungsschritt*, patienten, pcr*, pfizer*, pharmaunternehmen, präsenzunterricht*, regeln, reisewarnung*, reproduktionszahl*, risikogebiet*, risikogruppen, rki, sars*, sauerstoff, schulöffnung*, schulschließung*, schutzmaske*, schutzregel*, selbsttest*, social distanc*, sperrzone, spitalspatienten, stark eingeschränkt, superspread*, tests, teststraße*, teststrategie*, ungeimpft*, weiter eingeschränkt, weltgesundheitsorganisation, who, vieler, wuhan, zeneca, zweite* welle</p> |
| Policies (69) <sup>2</sup>        |  | <p>*ausgangssperre*, *geimpft*, *impf*, *lockdown*, *lockerung*, *maske*, *maskenpflicht*, *maßnahme*, *quarantäne*, *reisebeschränkung*, *reiseverbot*, *schnelltest*, *testpflicht*, *vakzin*, *abstandsregel*, *antigen*, *arzneimittelbehörde, astra*, *ausgangsbeschränkung*, *ausreisetestpflicht, biontech*, *dosen, durchimpfung*, *einreise*, *einreisebeschränkung*, *einreisebestimmungen, einreisestop*, *einreiseverbot*, *ffp*, *freitest*, *gelockert, getestet*, *gurgelt, home*office, homeoffice*, *hygiene, hygieneregeln, impfpflicht, kontaktbeschränkungen, kontaktpersonen, kontaktverbot*, *kontrollen, masken*pflicht, massentest*, *mindestabstand, moderna, notfallzulassung, öffnet,öffnungsschritt*, *pcr*, *pfizer*, *pharmaunternehmen, regeln, reisewarnung*, *risikogebiet*, *schulöffnung*, *schulschließung*, *schutzmaske*, *schutzregel*, *selbsttest*, *social distanc*, *sperrzone, stark eingeschränkt, tests, teststraße*, *teststrategie*, *ungeimpft*, *weiter eingeschränkt, zeneca</p>                                                                                                                                                                        |
| Easing (5) <sup>3</sup>           |  | *lockerung*, gelockert, öffnet,öffnungsschritt*, schulöffnung*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Experts (50)                      |  | <p>*arzt, *ärzt*, *expert*, *forschen*, *forschende*, *forscher*, *forschung*, *ologe, *ologen, *ologin, *professor*, *spezialist*, *studie, *studien, *studiendaten*, *studienergebnis*, *universität*, *wissenschaft*, *anästhes*, *apotheker, charité, drosten, endokrinolog*, *epidemiolog*, *ethikrat*, *fachleute*, *fda, ghebreyesus, immunolog*, *impfkommision, infektiolog*, *institut*, *intensivmedizin, intensivmediziner, johns hopkins, mediziner, meduni, mikrobiolog*, *pneumolog*, *psycholog*, *rki, robert koch, stiko, uni, universitätsklinik*, *vakzinolog*, *virolog*, *weltgesundheitsorganisation, who, vieler</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Government - AT (39) <sup>4</sup> |  | <p>*ministerin Aschbacher, *kanzler*, *koalition*, *minister*, *minister?, *ministerium*, *regierung*, Anschöber, Blümel, Brüssel, Christine Aschbacher, Edtstadler, EU Kommission*, eu* Kommission*, Europäische* Kommission*, Faßmann, Gewessler, Kabinett*, Kanzler*, Kocher, Kogler, Kommissionschefin, Kommissionspräsidentin, Köstinger, Kurz, Lunacek, Magnus Brunner, Minister, Ministerin, Ministerium*, Ministerrat*, Mückstein, Nehammer, Raab, Regierung*, Schallenberg, Schramböck, Tanner, Zadic</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Government - DE (38) <sup>4</sup> |  | <p>*ministerin Schulze, *kanzler*, *koalition*, *minister*, *minister?, *ministerium*, *regierung*, von der Leyen, Altmaier, Barley, Brüssel, EU Kommission*, eu* Kommission*, Europäische* Kommission*, Giffey, Heil, Helge Braun, Kabinett*, Kanzler*, Kanzleramt* Braun, Karliczek, Klöckner, Kommissionschefin, Kommissionspräsidentin, Kramp Karrenbauer, Lambrecht, Maas, Merkel*, Minister, Ministerin, Ministerium*, Ministerrat*, Regierung*, Scheuer, Scholz, Seehofer, Spahn, Svenja Schulze</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| FRA COVID-19 (63)                 |  | <p>*anticorps, *autotest*, *épidémie, *incidence, *virus, antigéniques, astra*, *biontech*, *cas, cluster, confin, confinement, confinements, contag*, *contamin*, *contre la *pandemie, contre le *virus, contre le covid, corona*, *couvre feu, cov, covid*, *décision* difficile*, *déconfinement, doses, écol* ferm*, *événements annulés, fermés, fermeture*, *ffp*, *gestes barrières, hospitalisés, immunis*, *immunitaire, immunité, infect*, *inocul*, *masque*, *mesures barrières, mesures de confinement, mesures le covid, mesures restrictives, moderna, nouvel* mesur*, *pand* mie, pcr, pfizer*, *pharmaceutique, quarantaine, reconfinement, relâchement, réouverture, restrictions, rouvert, sars*, *stopcovid, télétravail*, *test*, *transmission, vaccin*, *variant, variants, wuhan</p>                                                                                                                                                                                                                                                                                                                                                                                              |
| Policies (41)                     |  | <p>*autotest*, *antigéniques, astra*, *biontech*, *confin, confinement, confinements, contre la *pandemie, contre le *virus, contre le covid, couvre feu, décision* difficile*, *déconfinement, doses, écol* ferm*, *événements annulés, fermés, fermeture*, *ffp*, *gestes barrières, inocul*, *masque*, *mesures barrières, mesures de confinement, mesures le covid, mesures restrictives, moderna, nouvel* mesur*, *pcr, pfizer*, *pharmaceutique, quarantaine, reconfinement, relâchement, réouverture, restrictions, rouvert, stopcovid, télétravail*, *test*, *vaccin*</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Easing (4) <sup>3</sup>           |  | déconfinement, relâchement, réouverture, rouvert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Experts (30)                      |  | <p>*ologiste, *ologue, *ologues, chercheur*, *conseil de la santé, endocrinolog*, *épidémiolog*, *essai* clinique*, *étude*, *expert*, *fda, ghebreyesus, hcsp, immunolog*, *infectiolo*, *institut, johns hopkins, médecin, médecins, microbiolog*, *oms, organisation mondiale de la santé, pneumolog*, *professionnel* de santé, *psycholog*, *scien*, *spécialist*, *traitement, université, virolog*</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Government (40) <sup>4</sup>      |  | <p>Bachelot, Belloubet, Blanquer, Borne, Bruxelles, Buzyn, Castex, Collomb, Commission européenne, Darmanin, Denormandie, Dupond-Moretti, Dupond Moretti, Edouard Philippe, Flessel Colovic, Girardin, Gourault, gouvernement, Hulot, Le Drian, Le Maire, Lecornu, Macron, Maignon, Mézard, ministère, ministre*, Montchalin, Nyssen, Parly, Pénicaud, Pompili, président de la République, président Emmanuel, président français, président Macron, présidente de la Commission européenne, Travert, Vérant, Vidal</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|     |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ITA | COVID-19 (70)                | *antigen*, *contag*, *epidemi*, *immun*, *incidenz*, *infett*, *infez*, *pandemi*, *vaccin*, *vaccina*, *virale*, *virus*, allentament*, anti coronavirus, anti covid, anti virus, anticorp*, astra zeneca, astra zeneca, biontech*, casi, contenere i*, contenere la, contenimento, coprifuoco, coronavir*, cov, covid*, decessi, delta, distanziamento, dosi, ffp*, guariti, impone, isolament*, lockdown, lotta alla pandemia, mascherin*, misura, misure, misure restrittive, misure rigide, morti, nuova stretta, passaporto sanitario, pfizer, provvedimenti, quarantena, restrizioni, riaperture, riapre, ricoverati, sars*, scuole chiuse, sintomi, superspreader, telelavor*, test, trasmissibilità, trombosi, una stretta, variante, virologi, virologia, wuhan, zona arancione, zona gialla, zona rossa, zone rosse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|     | Policies (43) <sup>2</sup>   | *antigen*, *vaccin*, *vaccina*, allentament*, anti coronavirus, anti covid, anti virus, astra zeneca, astra zeneca, biontech*, contenere i*, contenere la, contenimento, coprifuoco, distanziamento, dosi, ffp*, impone, isolament*, lockdown, lotta alla pandemia, mascherin*, misura, misure, misure restrittive, misure rigide, nuova stretta, passaporto sanitario, pfizer, provvedimenti, quarantena, restrizioni, riaperture, riapre, scuole chiuse, telelavor*, test, trombosi, una stretta, zona arancione, zona gialla, zona rossa, zone rosse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|     | Easing (3) <sup>3</sup>      | allentament*, riaperture, riapre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|     | Experts (39)                 | agenzia italiana del farmaco, aifa, anestes*, autorità sanitarie, borrelli, commissione sanitaria, dott, dottore*, endocrinolog*, epidemiolog*, expert*, farmacisti, fda, fondazione, ghebreyesus, immunolog*, infettivolog*, institut*, johns hopkins, magrini, medici, medico, microbiolog*, oms, organizzazione mondiale della sanità, pneumolog*, professore*, psicolog*, ricerc*, ricerca, ricercatore, ricercatori, ricercatrice, scien*, specialist*, studi, studio, università, virolog*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|     | Government (59) <sup>4</sup> | *inistro Bianchi, ?onsiglio dei ?inistri, ?residente del ?onsiglio, Amendola, Azzolina, Bellanova, Boccia, Bonafede, Bonetti, Brunetta, Bruxelles, Carfagna, Cartabia, Catalfo, Cingolani, Colao, commissione europea, Commissione europea, Commissione Europea, Consiglio dei ministri, Conte, D'Inca, D Inca, Dadone, Daniele Franco, De Micheli, Di Maio, Draghi, Fioramonti, Fraccaro, Franceschini, Garavaglia, Garofoli, Gelmini, Giorgetti, Giovannini, governo, Governo, Gualtieri, Guerini, Lamorgese, Manfredi, Messa, minister?, Minister?, ministr?, Ministr?, Orlando, Patrizio Bianchi, Patuanelli, Pisano, premier, presidente della ?ommissione ?uropea, presidente della ?ommissione Ue, Provenzano, Sergio Costa, Spadafora, Speranza, Stefani                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| NED | COVID-19 (110)               | *antigeen*, *antilicham*, *besmet*, *inent*, *infect*, *lockdown*, *masker*, *metermaatregel*, *pandemie*, *quarantain*, *reisverbod*, *vaccin*, *virus*, afstand*, anderhalvemetermaatschap*, anderhalvemeterregel, anderhalvemetersamenlev*, astra*, avondklok*, avondklokken, avondklokrellen, basisschool dicht, beperkende maatregel*, bezoekregel*, bijwerkingen, biontech*, cluster*, code rood, corona, corona maatregel*, corona*, coronabeleid, coronagevallen, coronamaatregelen, coronaregels, coronatesten, coronatests, coronawet, covid*, doses, ema, epidemie*, farmaceut, farmaceuten, ffp*, gaan dicht, gemuteerde, geneesmiddelenbureau, geprikt, gevaccin*, gezondheidsraad, gezondheidszorg*, groepsimmunitet*, heropenen, injectie, inreisregel*, kunnen open, maatregel*, maatregel* om de verspreiding, maatregel* tegen het coronavirus, masker*, moderna, mondkapje*, mutatie, nieuwe maatregel*, openingsplan, patiënten, pcr*, pfizer*, prikken, reisadvie*, reisbeperk*, reisverbod*, reproductiegetal*, restaurants dicht, risicogebied*, rvm, sars*, scholen dicht, sneltest*, sterfgevallen, steunmaatregelen, strenge* maatregel*, terrassen open*, testen*, teststrategie, teststraten, thuisblijven, thuiswerken, variant, varianten, veiligheidsmaatregel*, verpleegafdelingen, verplicht, versoepeld, versoepelen, versoepeling, versoepelingen, virusmaatregelen*, voorlopig dicht, weer open*, wereldgezondheidsorganisatie*, who, winkels dicht, wuhan, zelftest*, ziekenhuis, ziekenhuisopnames, ziekenhuispersoneel, zorgsysteem* |
|     | Policies (58) <sup>2</sup>   | *antigeen*, *inent*, *lockdown*, *masker*, *quarantain*, *reisverbod*, *vaccin*, afstand*, anderhalvemeterregel, astra*, avondklok*, avondklokken, avondklokrellen, bezoekregel*, biontech*, coronabeleid, coronamaatregelen, coronaregels, coronatesten, coronatests, coronawet, doses, ema, farmaceut, ffp*, geprikt, gevaccin*, heropenen, injectie, inreisregel*, kunnen open, maatregel*, masker*, moderna, mondkapje*, openingsplan, pcr*, pfizer*, prikken, reisadvie*, reisbeperk*, reisverbod*, risicogebied*, sneltest*, steunmaatregelen, terrassen open*, testen*, teststrategie, teststraten, thuiswerken, verplicht, versoepeld, versoepelen, versoepeling, versoepelingen, virusmaatregelen*, weer open*, zelftest*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|     | Easing (10) <sup>3</sup>     | heropenen, kunnen open, openingsplan, steunmaatregelen, terrassen open*, versoepeld, versoepelen, versoepeling, versoepelingen, weer open*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|     | Experts (37)                 | *deskundige*, *expert*, *loog*, *ologen*, *onderzoek*, *onderzoek*, *onderzoeken*, *onderzoeker*, *specialist*, *studie*, *studies*, *wetenschap*, arts*, dokt?r*, epidemiolog*, fda, ggd, ghebreyesus, hogeschool, hooglara*, immunolog*, institut*, johns hopkins, longarts*, microbiolog*, nvwa, planbureau*, professor*, psycholog*, rijksinstituut, rvm, scp, studieresultaten, universiteit, virolog*, wereldgezondheidsorganisatie, who                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|     | Government (46) <sup>4</sup> | *inister Bruins, *inister Schouten, *minister, *minister?, ?an Ark, ?an Engelshoven, ?an Nieuwenhuizen, ?an Rijn, ?an Veldhoven, ?e Jonge, Barbara Visser, Bijleveld, Blok, Bruno Bruins, Brussel, Carola Schouten, Commissievoorzitter, de Bruijn, Europese Commissie, Grapperhaus, Henk Kamp, Hoekstra, Kaag, kabinet*, Kabinet*, Knapen, Koolmees, Minister, ministerie, Ministerie, ministerraad, Ollongren, overheid, Overheid, premier, Premier, Raymond Knops, regering*, Regering*, Rutte, Sander Dekker, Slob, van Nieuwenhuizen, van t Wout, Wiebes, Zijlstra                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SWE | COVID-19 (110)               | *epidemi*, *infect*, *karantän*, *lockdown*, *masker*, *pfizer*, *reseförbud*, *reserestriktion*, *vaccin*, *virus*, antigen*, antikropp*, astra*, besöksförbud, biontech*, biverkningar, blodproppar,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | <p>bromsa* spridning*, corona strategi, corona*, coronaåret, coronapandemin, coronarestriktioner*, coronasmittad, coronasmittade, coronastrategi*, coronatest*, coronatider, covid strategi, covid test, covid*, covidtest*, distansering, distansundervisning*, dödsiffran, dosen, doserna, ema, farsot*, flockimmunitet*, folkhälsomyndighet* rekommendation*, folkhälsomyndigheten, folkhälsomyndighetens, folkhälsomyndighetens råd, folksamlingar, förblir stängt, fortsatt stäng*, håll* avstånd, håll* hemma, håll* öppet, hålla gränser öppna, hållas stängd, immunitet, immuniteten, incidens*, inreseförbud*, inresestriktion*, isoler*, kampen mot corona*, kampen mot covid*, klartecken, kontaktförbud, läkemedelsbolaget, läkemedelsjätten, lättnader, masstest*, modernas, munskydd*, mutation, mutationen, nedstängning*, öpp* gräns*, öpp* igen, öppna, öppning*, pandemi*, pandemilagen*, patienten, pcr*, restriktioner, restriktionerna, riskområde*, sars*, självtest*, sjukhusen, sjukhusvård, sjukvård*, skolorna öppnar, skolstängningar*, skyddsåtgärd*, smitt*, snabbtest*, spridningen, stäng* alla, stäng* gräns*, stäng* sina gräns*, stäng* skol*, stäng* sve*, stänga barer, stängd* krogarna, stängda, stoppa* spridning*, testning*, testresultat, uppluckring, utgångsförbud*, världshälsoorganisation*, wuhan, zeneca, zenecas</p> |
| Policies (79) <sup>2</sup>   | <p>*karantän*, *lockdown*, *masker*, *pfizer*, *reseförbud*, *resestriktion*, *vaccin*, *antigen*, *astra*, *besöksförbud*, *biontech*, *biverkningar*, *blodproppar*, *bromsa* spridning*, *corona strategi*, *coronarestriktioner*, *coronastrategi*, *coronatest*, *covid strategi*, *covid test*, *covidtest*, *distansering*, *distansundervisning*, *dosen*, *doserna*, *ema*, *folkhälsomyndighet* rekommendation*, *folkhälsomyndighetens råd*, *folksamlingar*, *förblir stängt*, *fortsatt stäng*, *håll* avstånd, *håll* hemma, *håll* öppet, *hålla gränser öppna*, *hållas stängd*, *inreseförbud*, *inresestriktion*, *isoler*, *kampen mot corona*, *kampen mot covid*, *klartecken*, *kontaktförbud*, *läkemedelsbolaget*, *läkemedelsjätten*, *lättnader*, *masstest*, *modernas*, *munskydd*, *nedstängning*, *öpp* gräns*, *öpp* igen, *öppna*, *öppning*, *pandemi*, *pandemilagen*, *pcr*, *restriktioner*, *restriktionerna*, *riskområde*, *självtest*, *skolorna öppnar*, *skolstängningar*, *skyddsåtgärd*, *snabbtest*, *stäng* alla, *stäng* gräns*, *stäng* sina gräns*, *stäng* skol*, *stäng* sve*, *stänga barer*, *stängd* krogarna, *stängda*, *stoppa* spridning*, *testning*, *testresultat*, *uppluckring*, *utgångsförbud*, *zeneca*, *zenecas</p>                                                                               |
| Easing (10) <sup>3</sup>     | <p>*håll* öppet, *hålla gränser öppna*, *klartecken*, *lättnader*, *öpp* gräns*, *öpp* igen, *öppna*, *öppning*, *skolorna öppnar*, *uppluckring</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Experts (39)                 | <p>*epidemiolog*, *expert*, *forskare*, *forskaren*, *forskning*, *institutet*, *läkare*, *läkarn*, *professor*, *professorn*, *studie*, *studier*, *universitet*, *vetenskap*, *fda*, *fhi*, *fhm*, *folkhälsomyndighet*, *forskarna*, *ghebreyesus*, *immunolog*, *ivo*, *johns hopkins*, *läkark*, *mikrobiolog*, *msb*, *psykolog*, *sakkunnig*, *scb*, *sjukvårdsdirektör*, *socialstyrelsen*, *specialist*, *statistiska centralbyrån*, *tegnell*, *universitetssjukhuset*, *vaccinimmunolog*, *världshälsoorganisationen*, *virolog*, *who</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Government (45) <sup>4</sup> | <p>*departement*, *minister*, *minister* Johansson, *minister?*, Amanda Lind, Ann Linde, Anna Hallberg, Baylan, Bolund, Bryssel, Damberg, Ekström, Eneroth, Ernkran, EU kommission*, Eva Nordmark, Fridh, Hans Dahlgren, Jennie Nilsson, kommissionens ordförande, kommissionsordförande, Lena Hallengren, Lindhagen, Löfven, Lövin, Magdalena Andersson, Margot Wallström, Micko, Minister*, ministerrådet, Morgan Johansson, Peter Eriksson, Peter Hultqvist, regering*, Regering*, regeringskansliet*, Regeringskansliet*, Shekarabi, statsminister*, Statsminister*, statsråd*, Statsråd*, Stenevi, Strandhäll, Ygeman</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

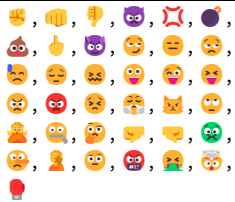
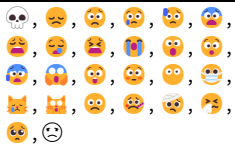
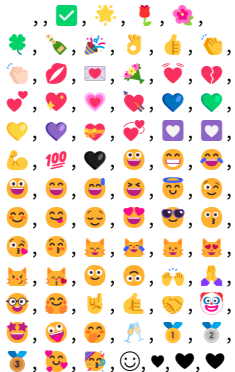
Notes: 1: A \* represents a wildcard, it matches any number of characters or digits; 2: All terms included in 'policies' are also included in 'COVID-19'; 3: All terms included in 'easing' are also included in 'policies' and 'COVID-19'; 4: Case-sensitive.

## Appendix G – Text Preprocessing

In *Paper II*, text was cleaned and preprocessed for the tasks: (a) translation, (b) training the *fastText* model, (c) measurement development, (d) application of the post-level dictionaries, and (e) application of the DDR measurements. For most of these tasks, text was lowercased, punctuation, hyperlinks, and stop-words removed, numbers, emojis, and emoticons replaced by words. Stop-words were defined following the German *nlTK* list, with the exception of the following words that were considered to function as in- and out-group marker in populist discourse or convey other important meaning: *alle\**, *diese\**, *die*, *das*, *einige\**, *euer\**, *eur\**, *uns\**, *keine\**, *mein\**, *nicht\**, *solche\**, *sie*, *sich*, *nur*, *wieder*, *selbst*, *manche\**, *seine\**, *wir*. Emojis were manually assigned by the author to four broad emotion categories joy, anger, fear, and other. Table G 1 documents all replaced emojis and other special characters.

Text cleaning was applied as consistently as possible in all steps of the analysis, with some exceptions. These exceptions are: (a) For translation, text was not lowercased, punctuation only simplified, emojis replaced after translation, and text truncated to 540 characters; (b) for training the *fastText* model, no stop-words were removed, text was tokenized into sentences and shuffled, duplicates and comments with less than 5 words were removed; (c) for applying the case-sensitive dictionary for government representatives on post level, text was not lowercased to capture names correctly.

**Table G 1.** Replaced Emojis and Special Characters

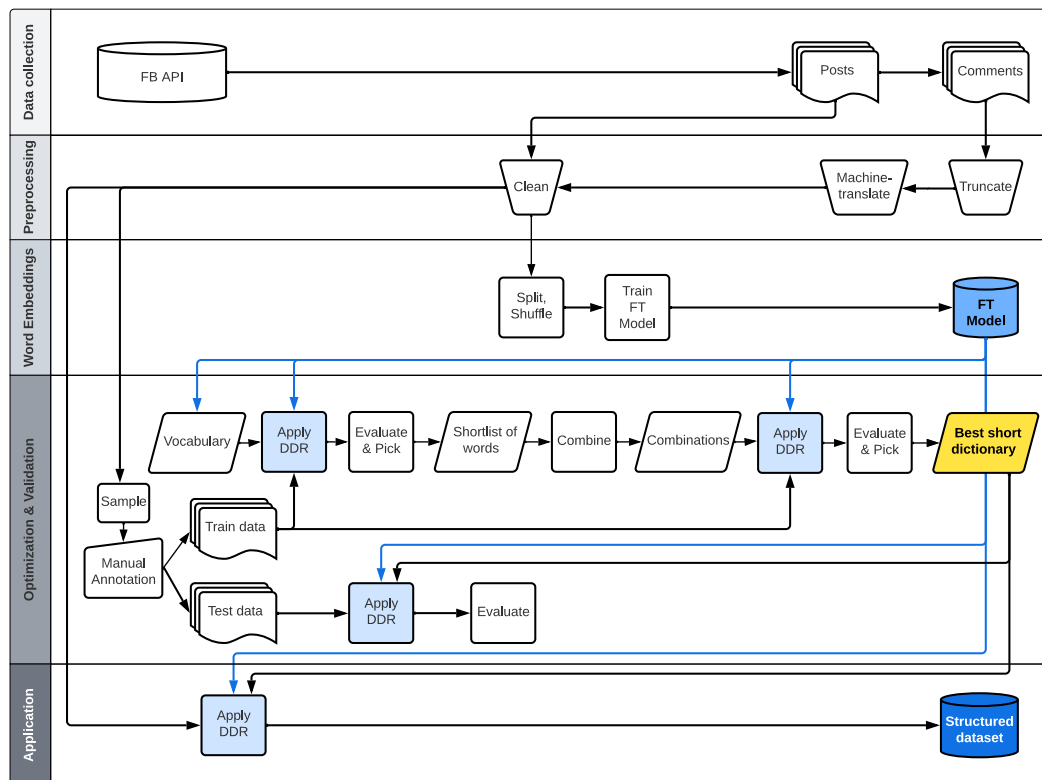
| Unicode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Emojis                                                                              | Concept | Replacement |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------|-------------|
| \U0000270A, \U0001f44A, \U0001f44E, \U0001f47f,<br>\U0001f4A2, \U0001f4A3, \U0001f4A9, \U0001f595,<br>\U0001f608, \U0001f60F, \U0001f611, \U0001f612,<br>\U0001f613, \U0001f614, \U0001f616, \U0001f61B,<br>\U0001f61C, \U0001f61D, \U0001f620, \U0001f621,<br>\U0001f623, \U0001f624, \U0001f63E, \U0001f644,<br>\U0001f645, \U0001f910, \U0001f914, \U0001f91B,<br>\U0001f91C, \U0001f922, \U0001f925, \U0001f926,<br>\U0001f928, \U0001f92C, \U0001f92E, \U0001f92f,<br>\U0001f94A                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | anger   | wut         |
| \U0001f480, \U0001f61E, \U0001f61F, \U0001f622,<br>\U0001f625, \U0001f628, \U0001f629, \U0001f62A,<br>\U0001f62B, \U0001f62D, \U0001f62e, \U0001f62f,<br>\U0001f630, \U0001f631, \U0001f632, \U0001f633,<br>\U0001f636, \U0001f637, \U0001f63F, \U0001f640,<br>\U0001f641, \U0001f912, \U0001f915, \U0001f927,<br>\U0001f97a, \u2639                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | fear    | angst       |
| :-), :, \U00002705, \U0001f31f, \U0001f339, \U0001f33a,<br>\U0001f340, \U0001f37e, \U0001f389, \U0001f44C,<br>\U0001f44D, \U0001f44f, \U0001f44f\U0001f3fb,<br>\U0001f48B, \U0001f48C, \U0001f490, \U0001f493,<br>\U0001f494, \U0001f495, \U0001f496, \U0001f497,<br>\U0001f498, \U0001f499, \U0001f49A, \U0001f49B,<br>\U0001f49C, \U0001f49D, \U0001f49E, \U0001f49F,<br>\U0001f49F, \U0001f4AA, \U0001f4AF, \U0001f5a4,<br>\U0001f600, \U0001f601, \U0001f602, \U0001f603,<br>\U0001f604, \U0001f605, \U0001f606, \U0001f607,<br>\U0001f609, \U0001f60A, \U0001f60B, \U0001f60C,<br>\U0001f60D, \U0001f60E, \U0001f617, \U0001f618,<br>\U0001f61A, \U0001f638, \U0001f639, \U0001f63A,<br>\U0001f63B, \U0001f63C, \U0001f63D, \U0001f642,<br>\U0001f643, \U0001f64c, \U0001f64F, \U0001f913,<br>\U0001f917, \U0001f918, \U0001f919, \U0001f91D,<br>\U0001f921, \U0001f929, \U0001f92A, \U0001f92D,<br>\U0001f942, \U0001f947, \U0001f948, \U0001f949, |  | joy     | freude      |



## Appendix H – DDR Measurement

Paper II employed the “Distributed Dictionary Representation” (DDR) method (Garten et al. 2018) and its implementation in the R-package *dictvectorR* (Thiele 2022a) to quantify the level of populism in each user comment. Figure H 1 presents a schematic overview outlining the pipeline utilized for optimizing and applying the DDR measurement. Beyond the description of the method provided in the main article, this section will document the training of the *fastText* model, the optimization of the DDR measurement, and further evaluation with regard to the importance of individual terms for performance across languages.

**Figure H 1.** Pipeline for Developing the DDR Measurement



### FastText Model

I trained a custom *fastText* word embedding model (Bojanowski et al. 2017) using the corpus of German-language posts, and comments in German, including the translations. The documents used for training underwent cleaning processes documented in Appendix G, were tokenized into sentences using *quanteda* (Benoit et al. 2018), and shuffled. After filtering duplicates and sentences containing fewer than 5 words, the training dataset for the *fastText* model included 3,564,352 lines of text. The model was trained on a local machine (Intel(R) i7-8565U CPU @ 1.80GHz, 4 cores, 8 threads, 16 GB RAM, no GPU) utilizing the *fastrtext* R-package (Benesty 2019). Employing the skipgram method with 200 dimensions, 20 epochs, and a learning rate of 0.1, it utilized a bucket size of 2,000,000, a context window size of 7, a maximum n-gram length of 6, a minimum n-gram length of 3, and set a minimum word count threshold of 10 for vocabu-

lary inclusion. The training completed in less than 2 hours, yielding a vocabulary of 89,309 terms. To evaluate the model's quality via face validity, I reviewed results from nearest neighbor queries.

### ***Optimizing the DDR Measurement***

The main article details the DDR method, validation data, and evaluation strategy. This section focuses on outlining the steps taken to identify an optimal DDR dictionary geared toward capturing user-generated expressions of populism. The objectives were threefold: First, the dictionary should be *inductively* derived, reflecting genuine user-generated expressions of populism. At the same time, second, the dictionary should be *theory-driven*, reflecting core dimensions of populism. Third, the resulting measurement should be *comparable*, maximizing F1 scores across all countries. The R-code to replicate these steps is presented in the vignette 'from text to measurement' in my R-package *dictvector* (Thiele 2022a). Due to copyright restrictions, the original Facebook text data cannot be shared. The data provided in the replication repository on OSF includes the scores from applying the DDR measurement and shareable data.

I started from the 89,309 terms included in the custom-trained *fastText* model's vocabulary and excluded stop-words and the least common decile of words. Next, I computed each word's cosine similarity to the mean vector representations of two corpora—the comments in the training corpus that were manually annotated as populist and those annotated as non-populist. Additionally, I computed the difference of these scores; these steps are facilitated by `dictvector::find_distinctive()`. This provides a rough indicator for words that potentially enhance both recall and precision for capturing the construct when applied in the DDR method. I narrowed down this list of words to the top 3,000 words, using the product of the populism similarity and distinctiveness score. Next, I identified multiword expressions from a random, 50 percent sample of the analyzed corpus, using `dictvector::add_multiwords()`. Multiword expressions are important in populist communication, as they are used to construct in- and out-groups (e.g., 'wir steuerzahler'; 'we taxpayers') and help to distinguish neutral meanings from populist meanings of words. Next, I obtained F1 scores for each individual term, by employing each single term as a one-term-dictionary in the DDR method, using the train sample as reference to predict. From those terms, I excluded highly similar expressions, keeping those that performed better.

Next, I reviewed the words manually. First, words were annotated by myself for relevance, excluding too idiosyncratic word combinations and near-duplicates. Second, the remaining list of 287 terms were annotated as terms referring either to 'elites', to 'the people', or to some 'relation' between those two groups. 'Elites' were broken down into subcategories. 'Relation' terms were broken into the subcategories 'blaming', 'manipulation', 'sovereignty', 'damaging', and 'unaccountable'. These categories were obtained inductively from the analyzed corpus. Nevertheless, they align with key messages of populist communication. From each of the three dimensions, the 15 with the highest single-word F1 score were selected.

Using combinatorics and random sampling, I constructed 2.9 million short dictionary combinations out of these 45 words. I considered short dictionary lengths between

three to fifteen words, including only such combinations that represented each dimension ('elites', 'the people', 'relation') with at least one word. Random sampling reduced the number of possible combinations to a manageable amount; `dictvector::get_combis()` provides this functionality. Each of the 2.9 million word combinations was assessed for their F1 performance when employed as DDR dictionary in predicting the human annotation in the train data. For the 10 thousand best-performing combinations, F1 scores were computed separately for each country, using the training dataset. To evaluate consistency across countries, I calculated the 8<sup>th</sup>-root of the product of all eight F1 scores (1 overall; 7 countries). This score helped to identify the overall best performance as well as the most consistent performance. The dictionary that scored highest in this composite F1 score was selected. The resulting dictionary was inspected manually, whether it covered the different semantic categories in a balanced way and was deemed conceptually balanced and theoretically convincing. This dictionary and the formal validation is documented in the main text.

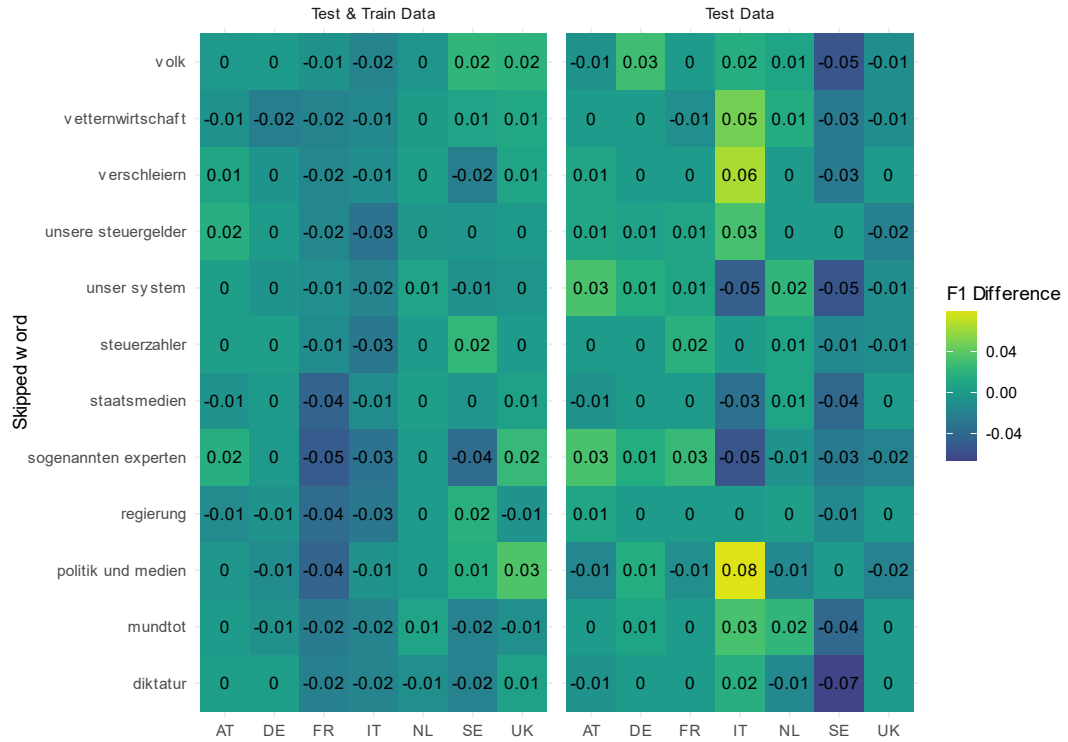
### ***Additional Equivalence Assessment***

In addition to the validation documented in the main text, I inspected the importance of each single dictionary term for the measurement performance across countries. To quantify the impact of each single term, a list of 12 dictionaries was created where each dictionary left out one of the 12 terms in the selected DDR dictionary. Each of these 'incomplete' dictionaries was used to predict populism in the (1) combined test and train validation sample, and (2) the test sample alone, and a F1 score calculated, as described in the main article. To assess deteriorated or improved performance, I inspect the difference between the F1 scores for the 'incomplete' and the complete DDR-dictionary. The heatmap in Figure H 2 documents how leaving out one of the 12 DDR-dictionary terms (y-axis) improves (positive values; light-yellow) or deteriorates (negative values; dark-blue) the F1 score, compared to the complete dictionary performance in predicting populism in the test and train data (left grid) and test sample alone (right grid).

The performance of an ideal measurement would (a) not decrease strongly by leaving out one term, (b) would exhibit a balanced pattern of term importance, and (c) would exhibit similar patterns across all countries. The heatmap in Figure H 2 shows that the selected DDR-dictionary comes close to achieving these goals for the untranslated Austrian and German corpora: The differences there are relatively small ( $<|.02|$ ) and do not show outlying terms for both the combined data, as well as the test data alone. Similarly homogeneous patterns emerge for the Netherlands, and UK. The pattern is less balanced for France, Sweden, and Italy. For example, leaving out the term "sogenannte experten" decreases the performance on the French train and test corpus by  $-.05$ , and in likewise by  $-.05$  in the Italian test corpus. These patterns illustrate that country-contexts continue to have an impact on the meaning of words even after machine translation (Licht and Lind 2023, 20) and affect measurement performance and equivalence. The patterns are more imbalanced in the test data, which raises concerns. However, it must be noted that these imbalances are partly driven by the low number of true positives in the Italian ( $n= 22$ , 26%) and Swedish ( $n=27$ ; 32%) test data, which is below the mean share of true positives in population test dataset (40%). As discussed in

the main article, the careful inspection of the DDR measurement raises questions about its cross-lingual equivalence. Therefore, Appendix I presents additional robustness checks of the comparative findings of the regression analysis in the main article.

**Figure H 2.** Improvement/deterioration of F1 by leaving out one DDR-dictionary term



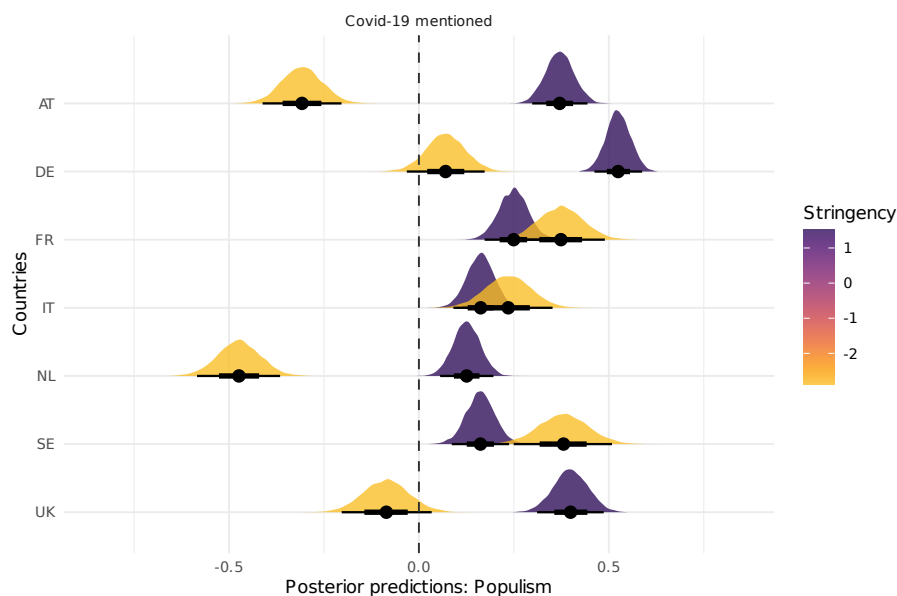
## Appendix I – Robustness Checks

As a robustness check for the comparative analysis presented in the main article, Table I 1 presents the outcomes of Bayesian regression models when fitted separately for each country, using non-pooled data. These models encompass all variables featured in Model 3 of the main article, excluding random effects on page level due to the limited categories within the grouping variable, *account*, which comprises only 3 categories per country. While *media type* is included in these models, aligning with the *account* variable when countries are examined independently, uncertainty from the account level isn't directly modelled, resulting in narrower confidence intervals (CIs). Continuous variables in these models were standardized and centered on country-means.

To corroborate the positive effect of stringency on populism when mentioning COVID-19, as observed in Model 3 for Germany, Austria, and the Netherlands in the main article, Figure I 1 illustrates the populism predictions under specified conditions from country-specific models. Stringency ranges from the overall minimum (uniform across countries; represented in yellow) to the overall maximum (depicted in purple). The interaction of mentioning COVID-19 with this variable is set to 1, while all other variables are set to 0 or their respective means, consistent due to centering. The distributions depict posterior draws, with lines indicating the 80% (bold) and 95% (thin) CIs.

The figure highlights substantial positive effects of stringency on populism when COVID-19 is mentioned, observed in the country samples of Austria, Germany, the Netherlands, and additionally, the UK, corroborating the findings from the main article. Conversely, these effects are either insignificant (Italy) or trend in the opposite direction (FR, SE) in other countries. Although the CIs might not fully capture uncertainty from the account level, these findings further fortify the robustness of the country-specific effects identified in Model 3 of the main article.

**Figure I 1.** Effect of stringency on the predicted level of populism by country



**Table I 1.** Bayesian linear regression models, non-pooled data

|                               | <b>AT</b>                 |               | <b>DE</b>                 |               | <b>FR</b>                 |               | <b>IT</b>                 |               | <b>NL</b>                 |               | <b>SE</b>                 |               | <b>UK</b>                 |               |
|-------------------------------|---------------------------|---------------|---------------------------|---------------|---------------------------|---------------|---------------------------|---------------|---------------------------|---------------|---------------------------|---------------|---------------------------|---------------|
| <i>Predictors</i>             | <i>Estimates CI (95%)</i> |               | <i>Estimates CI (95%)</i> |               | <i>Estimates CI (95%)</i> |               | <i>Estimates CI (95%)</i> |               | <i>Estimates CI (95%)</i> |               | <i>Estimates CI (95%)</i> |               | <i>Estimates CI (95%)</i> |               |
| Intercept                     | -0.03                     | -0.07 – 0.01  | 0.08                      | 0.05 – 0.12   | 0.20                      | 0.16 – 0.24   | -0.01                     | -0.06 – 0.03  | -0.38                     | -0.42 – -0.35 | 0.11                      | 0.07 – 0.15   | 0.03                      | -0.02 – 0.07  |
| Comments count                | 0.10                      | 0.08 – 0.12   | 0.18                      | 0.17 – 0.20   | 0.19                      | 0.17 – 0.21   | 0.17                      | 0.15 – 0.20   | 0.17                      | 0.15 – 0.18   | 0.06                      | 0.04 – 0.09   | 0.27                      | 0.24 – 0.29   |
| Days since outbreak           | -0.04                     | -0.08 – -0.01 | 0.11                      | 0.08 – 0.15   | 0.01                      | -0.03 – 0.05  | 0.05                      | 0.01 – 0.08   | -0.00                     | -0.04 – 0.03  | 0.05                      | 0.02 – 0.09   | -0.07                     | -0.12 – -0.03 |
| First wave                    | -0.34                     | -0.40 – -0.27 | -0.25                     | -0.32 – -0.18 | -0.25                     | -0.33 – -0.17 | -0.05                     | -0.13 – 0.02  | -0.17                     | -0.24 – -0.10 | -0.19                     | -0.27 – -0.11 | -0.09                     | -0.18 – -0.00 |
| Stringency (lagged)           | 0.02                      | -0.01 – 0.05  | 0.00                      | -0.02 – 0.03  | -0.04                     | -0.07 – -0.02 | -0.02                     | -0.05 – 0.00  | 0.01                      | -0.02 – 0.04  | -0.03                     | -0.06 – -0.00 | 0.12                      | 0.08 – 0.16   |
| COVID (mentioned)             | 0.17                      | 0.13 – 0.20   | 0.29                      | 0.25 – 0.32   | 0.09                      | 0.05 – 0.13   | 0.20                      | 0.16 – 0.24   | 0.30                      | 0.26 – 0.34   | 0.13                      | 0.08 – 0.17   | 0.21                      | 0.16 – 0.25   |
| Government (mentioned)        | 0.56                      | 0.51 – 0.60   | 0.29                      | 0.24 – 0.33   | 0.47                      | 0.41 – 0.53   | 0.45                      | 0.39 – 0.51   | 0.59                      | 0.54 – 0.65   | 0.52                      | 0.45 – 0.58   | 0.58                      | 0.51 – 0.66   |
| Experts (mentioned)           | 0.13                      | 0.07 – 0.19   | 0.03                      | -0.02 – 0.08  | 0.18                      | 0.09 – 0.26   | 0.07                      | 0.01 – 0.13   | 0.22                      | 0.16 – 0.27   | 0.15                      | 0.10 – 0.20   | 0.11                      | 0.03 – 0.19   |
| Media type (tabloid)          | -0.16                     | -0.20 – -0.12 | -0.70                     | -0.74 – -0.66 | -0.54                     | -0.59 – -0.49 | -0.40                     | -0.45 – -0.35 | 0.23                      | 0.19 – 0.27   | -0.51                     | -0.56 – -0.46 | -0.53                     | -0.59 – -0.48 |
| Media type (pub. broadcaster) | 0.09                      | 0.04 – 0.15   | 0.25                      | 0.21 – 0.29   | -0.13                     | -0.18 – -0.09 | 0.00                      | -0.05 – 0.05  | 0.48                      | 0.44 – 0.53   | -0.12                     | -0.17 – -0.07 | 0.08                      | 0.02 – 0.14   |
| Moderation                    | 0.02                      | -0.06 – 0.10  | -0.17                     | -0.21 – -0.12 | -0.14                     | -0.51 – 0.22  | -0.39                     | -0.94 – 0.18  | -0.22                     | -0.47 – 0.03  | -0.03                     | -0.14 – 0.07  | -0.22                     | -0.36 – -0.08 |
| Stringency*COVID-19           | 0.13                      | 0.10 – 0.17   | 0.10                      | 0.07 – 0.13   | 0.01                      | -0.03 – 0.05  | 0.01                      | -0.04 – 0.05  | 0.13                      | 0.09 – 0.16   | -0.02                     | -0.06 – 0.02  | -0.01                     | -0.06 – 0.04  |
| Bayes-R2 <sup>*</sup>         | 0.13                      | 0.12 – 0.14   | 0.34                      | 0.33 – 0.35   | 0.13                      | 0.12 – 0.14   | 0.12                      | 0.11 – 0.13   | 0.20                      | 0.19 – 0.22   | 0.09                      | 0.08 – 0.10   | 0.22                      | 0.20 – 0.23   |
| Observations                  | 12,345                    |               | 10,066                    |               | 8,818                     |               | 8,547                     |               | 9,913                     |               | 9,123                     |               | 6,446                     |               |

Notes: All priors: intercept (normal 0, 10), b (normal 0, 10), sigma (Cauchy 0, .5); \* Using 2000 draws.



## **Appendix Paper III**

## Appendix J – Coding Instructions

This appendix documents an abridged version of the coding instructions used in *Paper III*. The instructions for capturing dimensions of populism *anti-elitism* and *people-centrism* in comments and replies are identical to those used in *Papers I and II*, which are based on the codebook by Blassnig et al. (2016; Blassnig, Engesser, et al. 2019). The instructions for coding the quality of online deliberation drew on the codebook developed by Ziegele and Friess (2018), which was employed, for example in Friess et al. (2020). Coders were presented with identical general instructions as in the codebook documented for *Papers I and II*. Examples were taken from existing codebooks and from translated comments found in our corpus during pretesting. The author of this dissertation constructed the codebook; both co-authors conducted the coding of the comment-level variables. Reliability scores are reported in the main text. The only post-level variable, indicating the presence of the topic of borders and migration was coded by the author of this dissertation alone. Therefore, the 400 Slovenian posts were machine-translated to German, using the DeepL API.

### *Comment and Reply Level*

In *Paper III*, we coded parent comments (level 1) and replies (level 2) for the presence of populist and anti-immigrant messages and for the presence of markers for the quality of deliberation. Replies (level 2) were additionally coded for the position that they adapted towards a parent comment (level 1).

**Table J 1.** Coding Instructions for Right-Wing Populist Messages

| Construct        | Instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Values |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| People-Centrism  | <i>Identical to Paper I. see Appendix A; Paper I Coding Instructions: Comment Level</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0/1    |
| Anti-Elitism     | <i>Identical to Paper I. see Appendix A; Paper I Coding Instructions: Comment Level</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0/1    |
| Anti-Immigration | <p><u>Question</u>: Does the comment speak out against immigration?</p> <p><u>Definitions</u>: Anti-immigration discourse is a third core dimension of right-wing populist communication. It is defined as any statement that refers to immigration or immigrants as a threat, ascribes migration or migrants with negative attributes, or demands measures that limit, stop, or reverse migration processes. By such discourse, immigration and immigrants are frequently constructed as threat to ‘the people’s’ (often: the nation’s) security, economy, or culture (Callens and Meuleman 2017, 368–69).</p> <p>‘Immigrants’ here are defined as a minority that is excluded from ‘the people’ in right-wing populist statements, on the grounds of an (alleged) origin, culture, or ethnicity (Blassnig, Engesser, and Esser 2016, 15, 31). Statements may refer to ‘immigrants’ or the phenomenon of ‘immigration’ in different ways, either by addressing a collective (e.g. “refugees”, “migrants”, “foreigners”, etc.), by addressing the phenomenon of migration abstractly (e.g. “migration”, “illegal migration”), by naming specific ethnic groups (e.g., “Afghans”, “African refugees”), by referring to geographical locations that are associated with migration or flight, like specific border crossings or refugee camps (e.g., “the Balkan route”, “Lesbos”), or by referring to other societal groups or institutions that are involved in migration processes (e.g., “human traffickers”, “illegal migration networks”, “asylum industry”), or involved in policing migration processes (e.g., “our border police”).</p> | 0/1    |

**Instructions:** Please code “1”, if the coded text refers to ‘immigrants’ or ‘immigration’ in some of the ways described above and is characterized by at least one of the following aspects:

- Immigrants are portrayed as a **threat to the security, culture, or economy** of the country or of Europe (Callens and Meuleman 2017, 368–69). (e.g., “They flood our country, get everything shoved in the ass and as return they rape our children!!!!!!”, “They come and take away the jobs of the Austrians!”)
- Immigrants are attributed collectively with **negative traits** or are said to behave in a unpleasant way (e.g. “If Islam was peaceful, there wouldn't be so much terror in Islamic countries. Islam is the problem.”)
- Migration is described as a process that have gotten **out of control**. (e.g., “At the border crossings they simply overrun our officials”; “we have to control the borders!”). This may be indicated by using metaphors of natural disasters (e.g., “asylum-catastrophe”, “they flood our country”).
- Problems of **integration** are stressed, or it is demanded that immigrants should adapt to ‘our’ culture or society. (e.g., “How will you explain to future generations that we are strangers in our own country?!!!”)
- The comment speaks out against “**illegal migration**” or labels migration per se as a problem (e.g., “the refugee-problem”).
- Refugees are **suspected** to cheat the asylum system and to be economic migrants, not refugees in the sense of the Geneva Convention (e.g. “These are not refugees. ... these are illegal immigrants!”)
- **Protective** measures that protect the borders, the country, or the people against migration are demanded. (e.g., “the borders should be controlled!”)
- **Deportations** of asylum-seekers, migrants, or cultural minorities are demanded. (e.g. “I have a perfect solution send all the men back and only give asylum to women and children”)
- **Violence** against asylum-seekers, migrants, or cultural minorities is supported (e.g., “they should be fucked in prison ... If he survives his sentence, he should be deported directly to his home country”).
- “Refugee welcome” or “**multiculturalism**” policies, culture, and supporters are attacked, or mocked (e.g. “asylum industry”).

**Table J 2.** Coding Instructions for Quality of Deliberation

| Construct     | Instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Values |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Argumentation | <p><b>Question:</b> Does the comment provide <b>reasons</b> for its claims? (Friess, Ziegele, and Heinbach 2020, 11; Stromer-Galley 2007, 10; Ziegele and Friess 2018, 24)</p> <p><b>Definitions:</b> An <b>argument</b> is a statement that substantiates or rebuts a specific <b>claim</b> by providing <b>reasons</b> (Ziegele and Friess 2018, 24). A <b>claim</b> is either a statement that something is <b>true</b> or is a <b>fact</b> (e.g., “Austria now is an unsafe country”). This includes normative assessments (e.g., “Slovenia is the greatest country”) or a <b>demand</b> for or against something. This is often expressed by comments that something “should” or should not happen (e.g., “we need to go to the streets”), or by indicating what the commenter “would” do if he or she was in charge. (e.g., “I would cut his salary”).</p> <p>A <b>reason</b> is a statement that explains <b>why</b> the something is the case or should be done. It provides a justification for a claim and provides an answer to the question “Why?”. The reason given must be logically related to the claim. It can be either explicitly marked by words like “because”, “since”, “as”, “consequently”, etc., or may be presented as a cause or consequence of the claimed fact or in some other way as a justification for the claimed demand (Ziegele and Friess 2018, 24). Factual claims may be justified by either pointing out causes or justifications explicitly (e.g., “x because y”), or by providing other forms of justification for the claimed fact or assessment in a separate sentence (Ziegele and Friess 2018, 24). If a comment refers to the sources of a given information, this counts as providing a reason. (e.g., claim: “Immigration is bad for our country”, reason: “they take away our jobs”; claim: “Austria now is an unsafe country”, reason: “The criminal statistic is rising since 2015.”)</p> | 0/1    |

Demands can be likewise justified by stating the reason for a demand explicitly (“x because y.”) or by presenting additional justification (e.g., claim: “*we need to go to the streets*”, reason: “*we need to show them that we don’t want them.*”; claim: “*he would cut his salary*”, reason: “*He is corrupt.*”; claim: “*It’s time that we do something against these asylum seekers.*” reason: “*They cost us money, and they bring insecurity to this country.*”)

Please note that the quality, persuasiveness, or correctness of a reason given is irrelevant here. It is not required that the reason given is particularly elaborate, convincing, accurate or true (Stromer-Galley 2007, 10; Ziegele and Friess 2018, 24).

Instructions: Please code if the comment presents any form of **reason** for its **claims**. To do so, please

1. **Identify the claims** (as defined above) made in the comment. If you cannot identify any claim, code 0.
2. **Identify reasons** given (as defined above) in the comment for any of the claims. If you cannot identify any reason, code 0.

Help: If the statement does not explicitly mention “because”, and you are in doubt if two parts of the comment form a claim-reason relation, try the following: Try to insert a “because” between the part that you believe to be a claim and the part that you suspect to be a reason. Only use the explicit sentences. If the parts connected in this way form a (more or less) reasonable statement, code 1 (Ziegele and Friess 2018, 24). If you are in doubt, code 0.

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Sourcing     | <p><u>Question:</u> Does the comment refer to <b>sources of external knowledge</b>? (Stromer-Galley 2007, 10; Ziegele and Friess 2018, 29)</p> <p><u>Definitions and Instructions:</u> Here we code, if the comment refers to any kind of <b>external knowledge</b> that is verifiable in the broadest sense by providing the <b>source</b> of this knowledge. This is the case if the comment includes a hyper-link/URL; or refers to a specific study, author, legal framework; or some other kind of identifiable source, including general references to the position or program of a specific institution. Anecdotal evidence, such as personal experiences here does not qualify as “external” knowledge (Marzinkowski and Engelmann 2022, 9; Stromer-Galley 2007, 10; Ziegele and Friess 2018, 29). (e.g. “<i>Article 7 of the EU Treaty provides...</i>”, “<i>The action originated from Ms. XY: <a href="https://www.foo.bar">https://www.foo.bar</a></i>”, “<i>in the coalition contract the parties have agreed ...</i>”)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0/1 |
| Impoliteness | <p><u>Question:</u> Is the comment characterized by an <b>impolite tone</b>? (Friess, Ziegele, and Heinbach 2020, 11)</p> <p><u>Definitions:</u> Impoliteness is defined as an “unnecessarily disrespectful tone toward the discussion forum, its participants, or its topics” (Coe, Kenski, and Rains 2014, 660).</p> <p><u>Instructions:</u> Please code “1”, if you find at least <b>one passage</b> in the coded text that contains one or more of the following aspects:</p> <ul style="list-style-type: none"> <li>• <b>Name-calling:</b> Using abusive words, insults, derogatory, offensive, or belittling statements toward persons, groups, or institutions (Coe, Kenski, and Rains 2014, 661; Friess, Ziegele, and Heinbach 2020, 11; Rega and Marchetti 2021, 112) (e.g.: “<i>How stupid are you, anyway? ... these assholes think our women are fair game</i>”)</li> <li>• <b>Profanity/Vulgarity:</b> Use of obscene or rude language inappropriate for public or professional discourse (Coe, Kenski, and Rains 2014, 661; Friess, Ziegele, and Heinbach 2020, 11) (e.g.: “<i>I could puke if I read this.</i>”, “<i>Keep your shit!</i>”)</li> <li>• <b>Cynicism, sarcasm, or mockery:</b> “Reckless, biting mockery aimed at denunciation/devaluation of the addressee” (Friess, Ziegele, and Heinbach 2020, 11) or ironic statements that aim at devaluating persons, groups, ideas, or institutions (e.g., “<i>Congratulations, the next MILLION social parasites are already on their way here!</i>”, “<i>Austria is sooo rich and we can afford it!!</i>”)</li> <li>• <b>Depreciation:</b> Intentionally depreciating a person, group, or idea (Friess, Ziegele, and Heinbach 2020, 11). (e.g. “<i>they are thieves and so are their fathers.</i>”)</li> <li>• <b>Shouting:</b> The user underlines his or her comment by “raising its volume” through the excessive use (three or more) of exclamation marks, question marks, writing some words or the complete comment in all capital letters (Friess, Ziegele, and Heinbach 2020, 11) (e.g. “<i>the next MILLION social para-</i>”)</li> </ul> | 0/1 |

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|            | sites", "Send them back!!!!")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |
| Incivility | <p><b>Question:</b> Is the comment characterized by <b>incivility</b>?</p> <p><b>Definitions:</b> Incivility here is defined as discourse that threatens democratic values, denies people their personal freedoms, or stereotypes social groups (Friess, Ziegele, and Heinbach 2020, 11; Papacharissi 2004, 274)</p> <p><b>Instructions:</b> Please code "1", if you find at least <b>one passage</b> in the coded text that contains one or more of the following aspects:</p> <ul style="list-style-type: none"> <li>• <b>Dehumanization:</b> "Dehumanization of opponents through the assignment of pejorative and exclusionary animal or debris names or through objectification" (Friess, Ziegele, and Heinbach 2020, 11). (e.g.: "Politicians are pigs!", "should we adapt to these subhumans?").</li> <li>• <b>Negative stereotypes:</b> "Simplifying and generalizing prejudices against a person or a group based on certain (negative) characteristics attributed to the respective group" (Friess, Ziegele, and Heinbach 2020, 11). (e.g.: "Muslims are terrorist sympathizers" (Oz, Zheng, and Chen 2018, 3407))</li> <li>• <b>Sexism:</b> "Discrimination, degradation of a person/group on grounds of gender." (Friess, Ziegele, and Heinbach 2020, 11) Sexism often implies the expression of stereotypes. Seemingly "positive" stereotypes can be sexist as well. (e.g., "Women cannot drive cars"; "Women are simply more talented than men at raising children") (Ziegele and Friess 2018, 15)</li> <li>• <b>Racism:</b> "Discrimination and degradation of a person/group on grounds of race" (Friess, Ziegele, and Heinbach 2020, 11) or culture. (e.g., "In their culture, you aren't supposed to even see the women's hair but with our women these assholes think they're fair game. I am not generalizing – most of them think like this!")</li> <li>• <b>Threat of violence:</b> "Threat of or incitement to violence or crime" (Friess, Ziegele, and Heinbach 2020, 11). (e.g., "Migrants are welcome from my side, as long as they all volunteer to be castrated.")</li> <li>• <b>Silencing:</b> Denying or threatening other's freedom to speak (Oz, Zheng, and Chen 2018, 3407) or attempts to silence someone (e.g.: "You foolish Republican better shut up!" (Oz, Zheng, and Chen 2018, 3407))</li> </ul> | 0/1 |

**Table J 3.** Coding Instructions for Position of Replies

| Construct | Instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Values                                                                                   |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Position  | <p><b>Question:</b> How does the reply position itself towards the parent comment? (Stromer-Galley 2007, 24; Ziegele and Friess 2018, 34–35)</p> <p><b>Definitions and Instructions:</b> Here we code the position of the reply towards the parent comment. We code if it...</p> <ul style="list-style-type: none"> <li>• <b>1: agrees</b> with the 'parent comment'. This is the case when an reply expresses its agreement with the parent comment, re-affirms statements from the parent comment, or generally exhibits a positive, supporting tone directed towards the parent comment or its author (Ziegele and Friess 2018, 34).</li> <li>• <b>-1: disagrees</b> with the 'parent comment'. This is the case whenever the reply explicitly states its disagreement, confronts the parent comment with different views or facts, or expresses a negative tone directed towards the parent comment or its author. (Ziegele and Friess 2018, 35)</li> <li>• <b>0:</b> takes a <b>neutral</b> or unclear position towards the parent comment.</li> <li>• <b>33:</b> If you think that the 'reply' is written by the author of the 'parent comment', code 33.</li> </ul> <p>The position sometimes must be inferred from the tenor of the comment (Ziegele and Friess 2018, 34). If you are unsure, code 0. Sarcastic statements that mock the parent comment are considered as disagreement. We only code the positioning towards the parent comment; positioning towards the post, the news article, or other comments are ignored here. (e.g. agreement: "👍👍", "I'm afraid about this, too!"; disagreement: "This is not true at all."; neutral/unclear: "To what extent?")</p> | <p>1: agrees</p> <p>0: neutral / unclear</p> <p>-1: disagrees</p> <p>33: same author</p> |

***Posts Level*****Table J 4.** Coding instructions for the topic of migration

| <b>Construct</b> | <b>Instructions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Values</b> |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Topic:           | <u>Question:</u> Does the post mention the topic of migration?                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0/1           |
| Migration        | <u>Instructions:</u> Please code “1” if the post contains any reference to... <ul style="list-style-type: none"> <li>• transnational migration</li> <li>• borders, border crossings, or country entries</li> <li>• refugees, flight, or asylum</li> <li>• integration</li> <li>• legislature and regulations that govern migration, asylum, deportations, border crossings or entries</li> <li>• border police any other authority or institution that regulates migration, border crossings, or asylum</li> </ul> |               |

## Appendix K – Dictionaries

In *Paper III*, dictionaries were used to capture the presence of the topic of migration in posts of Austrian and Slovenian news media pages, considering the text of the post, the headline, and sub-headline of each hyperlinked article (Table K 1). The dictionaries were developed, following a similar procedure as for *Paper II*. First, I manually translated the German migration dictionary developed for *Paper I*, by relying on a translation website that provides context along the translation ([www.linguee.de](http://www.linguee.de)). The Slovenian project team reviewed the list of translated words, added, or removed keywords, and placed wildcards where feasible. We applied this preliminary dictionary, drew a random sample of 400 posts with positive matches, machine-translated these posts into German using the DeepL API for closer inspection. Judging from these results, the German speaking author modified or removed ambiguous terms from the dictionary. Next, the list of words was expanded using 20 nearest neighbors, queried from the *fastText* models trained for *Paper III* which are documented in Appendix L. We used keywords-in-context searches to identify additional related terms. Again, we translated all Slovenian words into German and inspected this list for unprecise or incongruous terms. The terms were iteratively optimized and validated on a random sample of 400 Austrian and 400 Slovenian posts, annotated by the author of this dissertation as described in Appendix J. The Austrian dictionary reached a high Recall of 0.97, a Precision of 0.98 and a F1 score of 0.98. The Slovenian dictionary reached a satisfactory Recall of 0.78, Precision of 0.88, and F1 of 0.87.

**Table K 1.** Migration Dictionaries

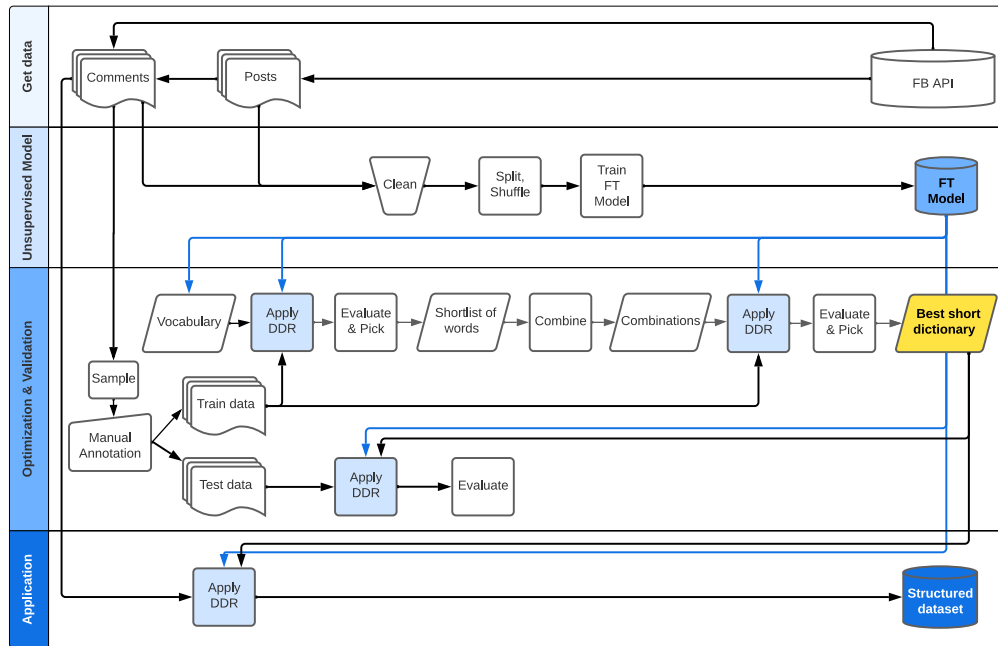
| Concept<br>(n terms)            | Words <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| German:<br>Migration<br>(105)   | *außengrenz*, *einwanderer*, *grenzschutz*, *migrant*, *migration*, *zuwander*, abgeschoben*, abschiebe*, abschiebung*, abwandern, abzuschieben, anlandeplattform*, asyl*, auffanglager, aufzunehmen, ausgewandert, ausländerbehörde, ausländerin*, ausländern, ausländische, ausländischen, ausreise, aussengrenzen, balkanroute, camp, deutschkenntnisse, deutschkurs*, eingewandert, einreise, einreisebeschränkungen, einreisebestimmungen, einreisen, einreisende, einreisenden, einreisestop, einreiseverbot, einreiseverbote, einreist, einwandern, einwanderung, einwanderungsland, einwanderungspolitik, festung europa, flucht, flüchtete, flüchtling*, flüchtlingsquartier*, fluchtursachen, geflohen, geflohene*, geflüchtet, geflüchteten, gernzzaun, grenze, grenzen dicht, grenzgänger, grenzgebiet, grenzkontrolle*, grenzöffnung, grenzöffnungen, grenzschließung, grenzschließungen, grenzsicherung, grenzübergang, grenzübergänge, grenzübertritt*, grenzverkehr, grenzzäune, heimatländer, herkunftsländer, idomeni, immigrant*, integration*, integrieren, integriert, integrierte, integrierten, islam kindergärten, kara tepe, kriegsflüchtlinge, lampedusa, landesgrenzen, lesbos, masseneinwanderung, massenflucht, migration*, migrationsdeal, mittelmeeerroute, rackete, refugee*, rückführen, rückführung*, rückgeführt*, schlepper*, schleuser, seenot, seenotrettung, spielfeld, sprache, staatsbürger, syrer*, traiskirchen, wiedereinreise, wirtschaftsflüchtlinge, zugewandert* |
| Slovenian:<br>Migration<br>(67) | azil*, balkansk* pot*, beg, begu, begun*, begun* tok*, begun* val*, deport*, drž* izvor*, državljanstv*, drzavljanstvo, držav* mej*, dublinsk* konvenc*, evrop* azil* polit*, evrop* migr* polit*, frontex, idomeni, ilegal* migr*, imigra*, immigr*, integrac*, izgn*, izgnati, izgon*, kontrol* mej*, kontrol* zunanj* mej*, lampedus*, lesbos*, mednarodn* zašcit*, mej* preh*, mejn* nadzor*, mejnem, migr*, migr* tok*, migr* val*, migr* žep*, množicni* beg, moria, nadzor* mej*, nadzor* zunanj* mej, obaln* straž*, prebēžnic*, prebežnik*, preck* mej*, preh* mej*, priseljen*, priseljevanj*, prosil* za azil, rackete, refugee, sirec, sirij*, sirsk*, sredozemsk* pot*, subsidiarn* zašcit*, tihotap*, tihotap* ljudi, traiskirchen, trdnjav* evrop*, upravljanj* zunanj* mej*, utrdb* evrop*, varovanj* mej*, zap* mej*, zašcit* mej*, združ* družin*, ženevsk* konvenc*, zunanj* mej*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

Notes: 1: A \* represents a wildcard, it matches any number of characters or digits.

## Appendix L – DDR Measurement

For Step 1 of *Paper III*, we measured right-wing populism in user comments using the automated text analysis method DDR (Garten et al. 2018), implemented in the R-package *dictvectorR* (Thiele 2022a). Below, the optimization and validation of the DDR measurements is documented. Figure L 1 illustrates the workflow.

**Figure L 1.** Pipeline for DDR Measurement



### FastText Models

Two custom *fastText* models were trained on the complete textual data included in the analysis of Step 1, comprising of all posts, including headlines and sub-headlines (AT: n=4,293, SI: n=3,365) and all user comments (AT: n=232,935, SI: n= 50,274). Textual data was tokenized into sentences using *quanteda* (Benoit et al. 2018), shuffled, and cleaned by removing hyperlinks, punctuation, and excessive white space. I replaced emojis based on a self-defined lists by German, respectively Slovenian words for “anger”, “joy”, and “fear”; replaced numbers by words; kept only letters; and lowercased all characters. The cleaned training sample comprised of 235,540 sentences for Austria and 63,245 sentences for Slovenia. I used the R-package *fasttext* (Benesty 2019) to train the *fastText* models with the following specifications: 200 dimensions, context window size 5, learning rate .05, epochs 5, minimum count 7, bucket 2,000,000, ngrams 3-6, sampling threshold 1e-04. The Austrian model includes a vocabulary of 20,192 words, the Slovenian model 12,701 words. In Figure L 1, this process is illustrated in the second row from the top. Both models are made available with the replication material.

## ***DDR Measurement***

In the DDR method, word embeddings are used to calculate the similarity between an average vector representation of a dictionary and vectors for each document (Garten et al. 2018). Prior to measurement, textual data was cleaned as the model-training data described above and frequent stopwords were removed, excluding words that indicate in- and out-groups (e.g., “we”, “our”, “they”). Embedding representations were L2 normalized prior to calculating the cosine similarity. The similarity can range from -1 to +1. We replaced missing values, which were induced by empty text fields, by the country-level mean minus 1 SD.

## ***Validation and Training Data***

To validate our DDR measures and to optimize the short dictionaries, we used the manually coded comments and reply comments used in Step 2. This dataset contains 1,040 parent comments and replies from Austria and 973 comments and replies from Slovenia. We split both datasets randomly into train and test samples, using a 70% (AT: 728, SI: 682) to 30% (AT: 312, SI: 291) ratio. The comments were manually coded along binary categories, indicating anti-elitist, people-centric, and/or anti-immigrant messages. We considered a comment populist if it was coded as people-centric or anti-elitist, or both.

## ***Evaluation***

To evaluate our DDR measures, both for validation and optimization, we tested how well the continuous DDR measurements perform in predicting our binary, human coding (Grimmer and Stewart 2013, 275). To obtain the prediction, we ran logistic regressions with the binary, human coding as dependent variable and the continuous DDR measurement as independent variable. We considered predictions with probabilities greater 50% as positive. These predictions were then compared to the manually coding by calculating Recall, Precision and F1 (Stryker et al. 2006). Recall indicates the proportion of correctly identified positive hits in all truly positive documents. Precision indicates the share of correctly identified positive hits in all predicted positives. F1 is a harmonic mean of both.

## ***Optimizing Short Dictionaries***

For the DDR method, short, clear-cut dictionaries perform better than long lists of words (Garten et al. 2018). Our aim for the dictionary development were to find short dictionaries, which (a) reflect the language used in the analyzed comments, (b) perform well in predicting the human coding, (c) reflect the key dimensions of our concepts, and (d) reflect equivalent dimensions in both languages. We tried to meet these objectives by following both an inductive and a deductive logic. The R-code for all steps is also presented in the vignette “from text to measurement” in my R-package *dictvectors* (Thiele 2022a).

We started, inductively, from the vocabularies of both *fastText* models. We narrowed down this vocabulary to the 80% most frequent words and obtained F1 scores for each individual word, treating each word as a single-word dictionary for a DDR measure, and the train dataset as counterpart for evaluation. From these results, we picked the quartile with the highest F1 scores. We added frequently used multiword expressions from our corpus and obtained F1 scores for these multiword expression in the same way as described above. The best performing quartile was kept. Expressions occurring less than three times were dropped.

Switching to a deductive logic, the lists of terms were annotated by hand by the author of this dissertation; relying on machine translation for the Slovenian terms. These lists contained between 330 and 450 words for each concept (populism, anti-immigration). The terms were annotated for theoretical plausibility, relevance, and conceptual clarity and were narrowed down to a shortlist of 20 populist and 15 anti-immigrant words per language. The terms were assigned with labels for the inductively emerging conceptual subdimensions: For populism, these subdimensions included 'elite actors', 'incompetency of elites', 'moral degeneracy of elites', 'invocations of the people', 'virtues of the people', 'victimization of the people', and 'defending the people'. For anti-immigration, these subdimensions were 'migrants as a group', constructions of 'economic', and 'security threats' from migration, and calls for 'defense against immigration'. The terms reflect country-specific discourses but match equivalent subdimensions.

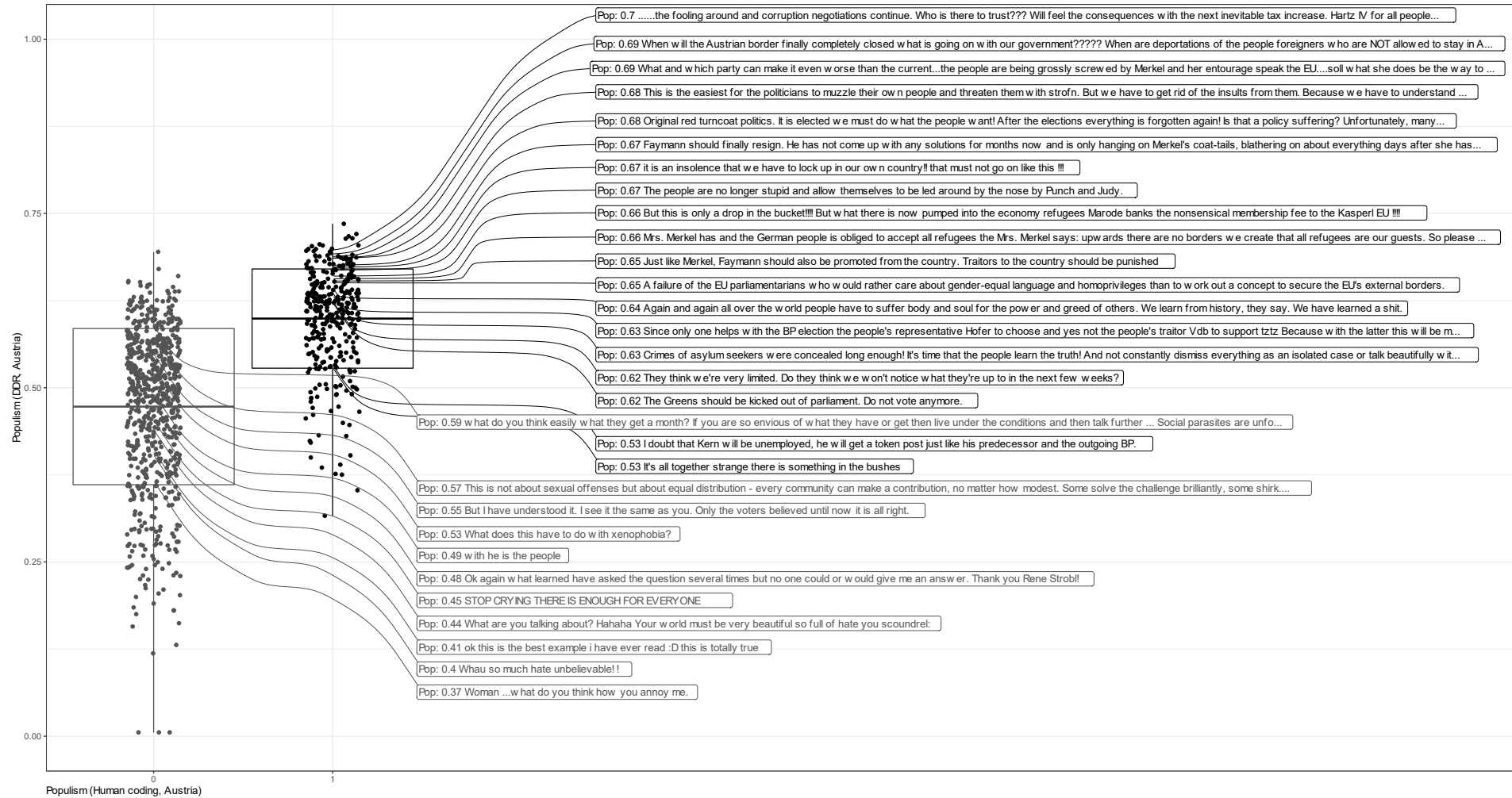
From these shortlists of words, we obtained all possible dictionary combinations of lengths between four and eight words. This resulted in 22,243 uniquely combined dictionaries for anti-immigration, and 60,525 for populism. We excluded dictionaries that reflected only anti-elitism or only people-centrism. For each combination, we applied the DDR method and used the hand-coded training data to obtain F1 scores. The resulting F1 scores ranged from .44 to .77. From the best performing short dictionaries, we picked those short dictionaries that best maximized the F1 score per country and concept and exhibited the largest conceptual overlap between both countries. We tested how these picks performed on the validation test sample. The results are reported in the main text.

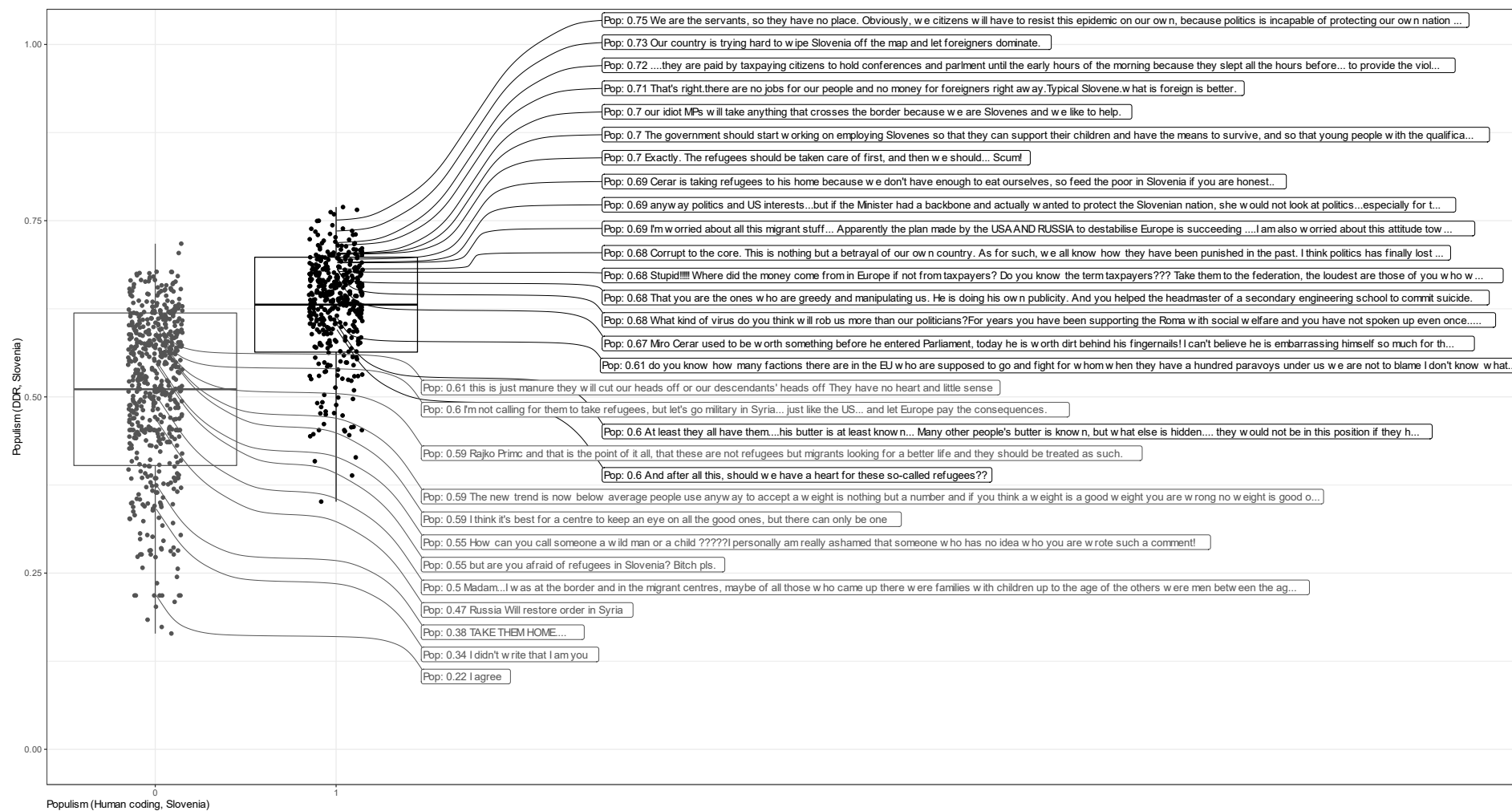
## Appendix M – Examples

In addition to the formal validity test reported in the article, Figures M 1 to M 4 present examples of our measurements for face validity. The jitter-plots show the distribution of all hand-coded comments (AT: n=1,040, SI: n=973) across the binary hand coding of each category on the x-axis and the respective DDR measurement on the y-axis. The boxplot shows the mean of the DDR measure and the  $\pm 1$  SD bars. Additionally, the figures present 30 examples in text labels, indicating the value of the respective DDR measurement and a snippet from the comment, *DeepL*-translated into English. Figure M 1 shows the performance of the populism measurement for the Austrian data, Figure M 2 populism for Slovenia, Figure M 3 anti-immigration for Austria, and Figure M 4 anti-immigration for Slovenia.

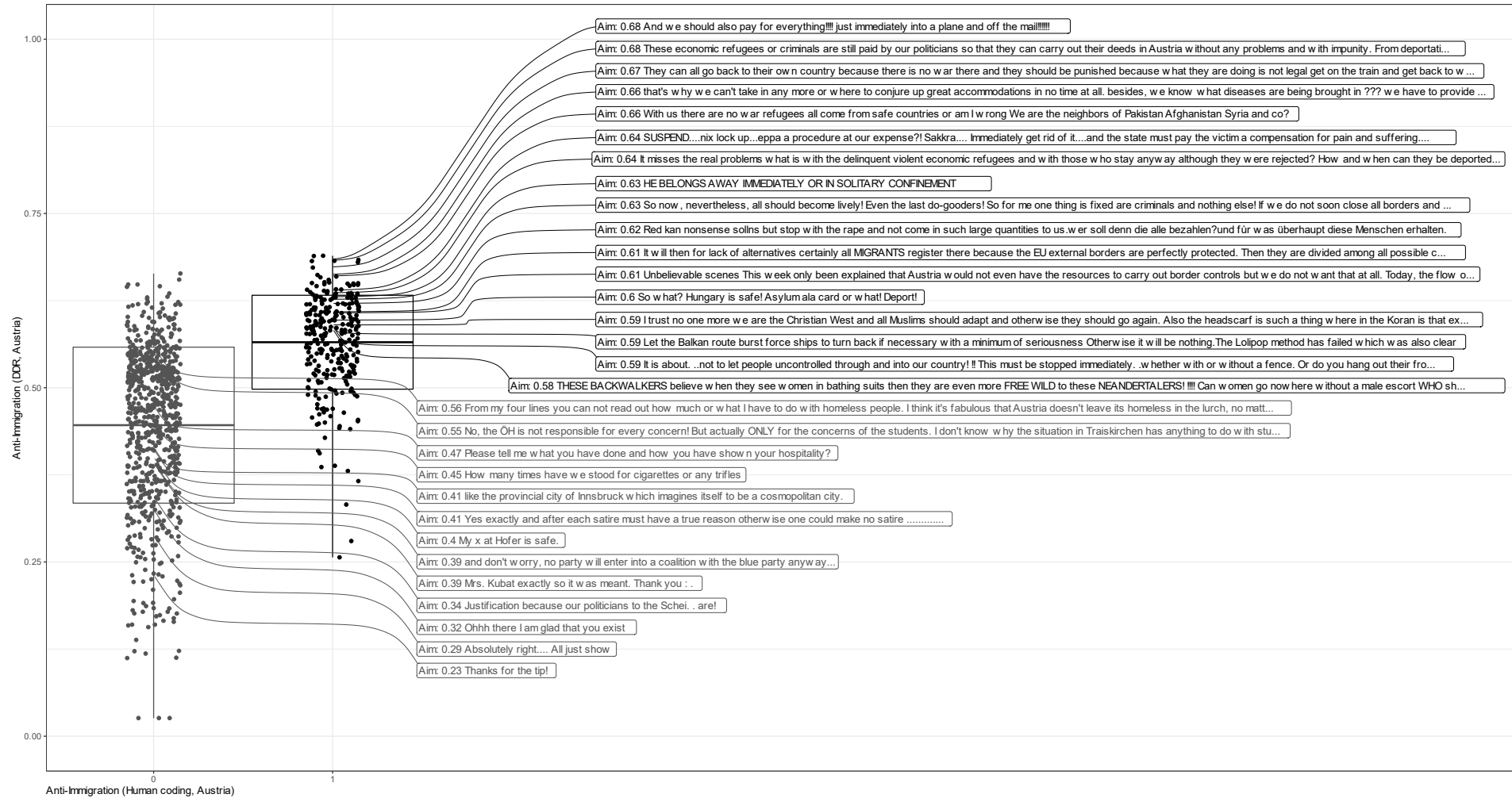
This example illustrates how to read these plots: In Figure M 2, the comment picked as example with the highest DDR score for populism has a value of .7 and reads “...the fooling and corruption negotiations continue. [...]”. Its black color indicates that it was manually coded as “populist”. The least populist comment displayed as example has a DDR score of .37. Its clumsy machine-translation reads “Woman... what do you think how you annoy me”. It has been manually coded as non-populist, indicated by its grey color. The grey dots and the bar on the left-hand side of the plot show that hand-coded non-populist comments had a mean DDR score of about .48. The black dots and the bar on the right-hand side show that populist-coded comments have a mean DDR score of about .60.

**Figure M 1.** Hand-Coding, DDR Measurement, and Examples of Populist and Non-Populist Comments in the Austrian Sample

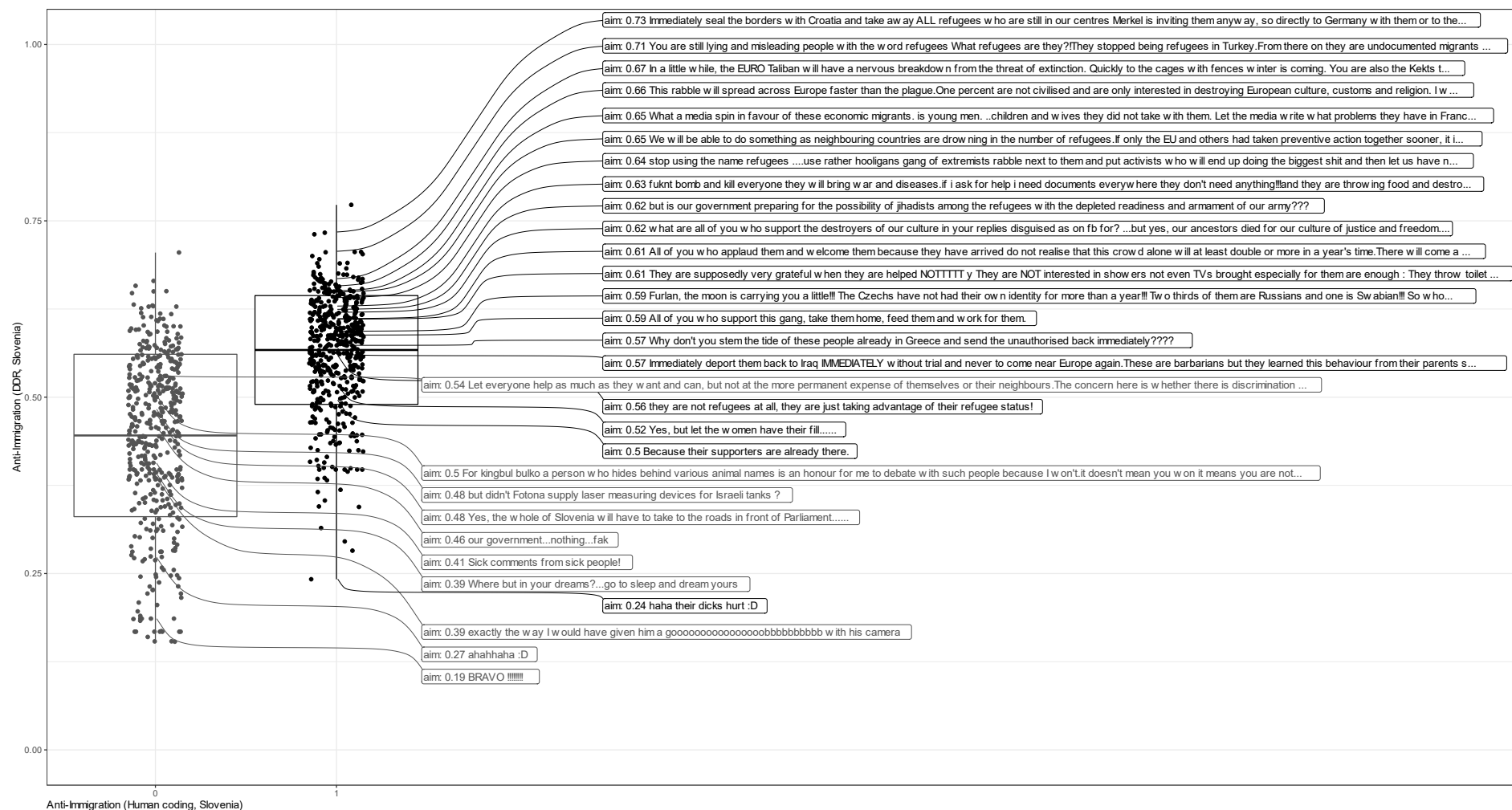


**Figure M 2.** Hand-Coding, DDR Measurement, and Examples of Populist and Non-Populist Comments in the Slovenian Sample

**Figure M 3.** Hand-Coding, DDR Measurement, and Examples of Anti-Immigrant and Non-Anti-Immigrant Comments in the Austrian Sample



**Figure M 4.** Hand-Coding, DDR Measurement, and Examples of Anti-Immigrant and Non-Anti-Immigrant Comments in the Slovenian Sample



## Appendix O – Summary Statistics

**Table O 1.** Summary Statistics, Paper III, Step 1

| Variables                     | Austria        |         | Slovenia      |         |
|-------------------------------|----------------|---------|---------------|---------|
|                               | Mean/n         | (SD/%)  | Mean/n        | (SD/%)  |
| <i>Dependent variable:</i>    |                |         |               |         |
| Reply comments<br>(count)     | 0.7            | (3.4)   | 0.5           | (2.4)   |
| <i>Explanatory variables:</i> |                |         |               |         |
| Populism                      | 0.4            | (0.1)   | 0.5           | (0.1)   |
| Anti-Immigration              | 0.4            | (0.1)   | 0.4           | (0.1)   |
| <i>Controls:</i>              |                |         |               |         |
| Migration topic               | 54,482         | (24%)   | 6,268         | (12%)   |
| Length                        | 71.0           | (114.8) | 75            | (245.5) |
| Tagged users                  | 48,378         | (21%)   | 2,288         | (4.6%)  |
| Download age                  | 1,769.4        | (250)   | 1,939.7       | (219)   |
| Days since post               | 3.6            | (48.1)  | 1.3           | (30.7)  |
| Comments per post<br>(count)  | 362.3          | (1,167) | 74.1          | (75.3)  |
| <i>Facebook accounts</i>      |                |         |               |         |
| Der Standard                  | 20,724         | (9.0%)  |               |         |
| Die Presse                    | 11,034         | (4.8%)  |               |         |
| Kronen Zeitung                | 44,963         | (19%)   |               |         |
| Oe24.at                       | 37,771         | (16%)   |               |         |
| Zeit im Bild                  | 116,415        | (50%)   |               |         |
| 24ur.com                      |                |         | 33,290        | (66%)   |
| Delo                          |                |         | 1,368         | (2.7%)  |
| Dnevnik                       |                |         | 661           | (1.3%)  |
| RTVSLO.si                     |                |         | 725           | (1.4%)  |
| Slovenske Novice              |                |         | 14,164        | (28%)   |
| <b>Total</b>                  | <b>230,907</b> |         | <b>50,208</b> |         |
| (N parent comments)           |                |         |               |         |

**Table O 2.** Summary Statistics, Paper III, Step 2

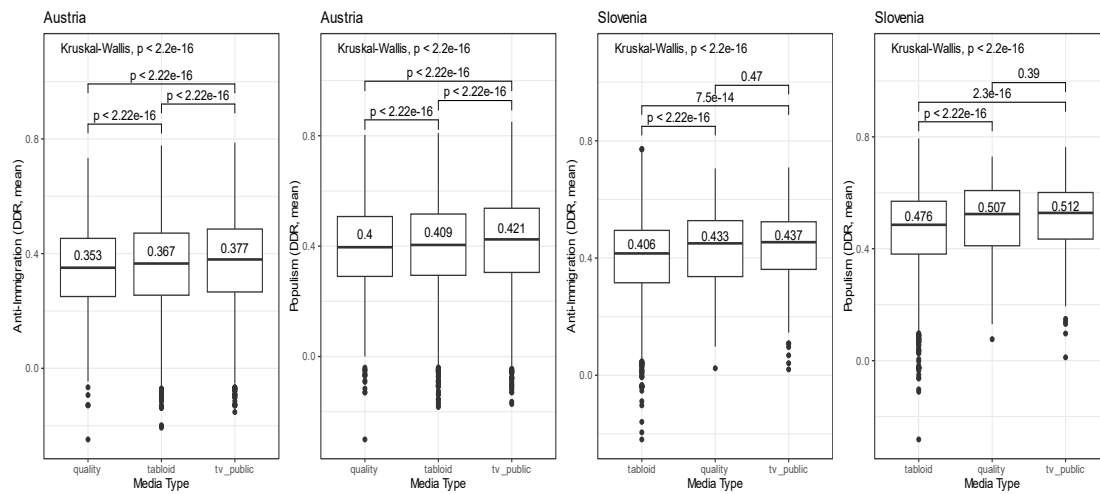
| <b>Variables</b>                  | <b>Mean/n</b> | <b>(SD)/(%)</b> |
|-----------------------------------|---------------|-----------------|
| <i>Dependent variables (R):</i>   |               |                 |
| Argument                          | 308           | (22%)           |
| Sourcing                          | 47            | (3.3%)          |
| Incivility                        | 241           | (17%)           |
| Impoliteness                      | 989           | (70%)           |
| <i>Explanatory variables (P):</i> |               |                 |
| People-centrism                   | 656           | (46%)           |
| Anti-elitism                      | 477           | (34%)           |
| Anti-Immigration                  | 858           | (61%)           |
| <i>Countering:</i>                |               |                 |
| Countering Populism               | 218           | (15%)           |
| Countering Anti-Immigr.           | 224           | (16%)           |
| <i>Controls (P):</i>              |               |                 |
| Argument                          | 519           | (37%)           |
| Sourcing                          | 52            | (3.7%)          |
| Incivility                        | 552           | (39%)           |
| Impoliteness                      | 1,177         | (83%)           |
| Length                            | 358           | (563)           |
| <i>Facebook accounts</i>          |               |                 |
| Der Standard (AT)                 | 47            | (3.3%)          |
| Die Presse (AT)                   | 61            | (4.3%)          |
| Kronen Zeitung (AT)               | 288           | (20%)           |
| Oe24.at (AT)                      | 75            | (5%)            |
| Zeit im Bild (AT)                 | 268           | (19%)           |
| 24ur.com (SI)                     | 406           | (29%)           |
| Delo (SI)                         | 58            | (4.1%)          |
| Dnevnik (SI)                      | 5             | (0.4%)          |
| RTVSLO.si (SI)                    | 10            | (0.7%)          |
| Slovenske Novice (SI)             | 195           | (14%)           |
| <i>Country</i>                    |               |                 |
| Austria                           | 739           | (52%)           |
| Slovenia                          | 674           | (48%)           |
| <b>Total (N reply comments)</b>   | <b>1,413</b>  |                 |

Notes: (R) reply, (P) parent comments.

## Appendix P – Distribution by Media Type

The plots in Figure P 1 show the comparison across media types of the mean anti-immigration and populism DDR scores, as used in Step 1 of *Paper III*. The plots report the p-values from the Kruskal-Wallis-tests, testing for significant differences between the groups. In Austria, all three media types (quality, tabloid, public TV) differ significantly in pairwise comparisons of their mean level of anti-immigrant and populist content in comments. In Slovenia, we do not find significant differences between quality press and public TV, but significant differences between tabloid and quality press, as well as tabloid and public broadcaster. All differences are small, however.

**Figure P 1.** Mean comparison of populism score by media type



## Appendix Q – Regression Tables

Table Q 1 documents the results from the multilevel, negative binomial regressions on the number of reply comments fitted for Step 1 in *Paper III*. Since our measurement of populist and anti-immigrant content is not directly comparable across languages, we analyzed the data from Austria (Model 1) and Slovenia (Model 2) separately. The data has a nested structure—comments are nested within the higher level of posts, while posts are nested within Facebook accounts. We accounted for this structure by fitting multilevel models, with random intercepts for the two higher levels posts and Facebook accounts. We used the R package *glmmTMB* (M. Brooks et al. 2022) to fit the models and restricted maximum likelihood (REML) estimation. The number of units on the account level is small ( $n = 5$ ), which has been considered problematic for multilevel models for long (Stegmueller 2013). However, Elff et al. (2021) have shown that these problems are of less concern, when using REML. The results are interpreted in the main text.

**Table Q 1.** Negative Binomial Multilevel Regressions on the Number of Replies

|                                  | <b>Model 1</b>  | <b>Model 2</b>  |
|----------------------------------|-----------------|-----------------|
|                                  | Austria         | Slovenia        |
| Intercept                        | -0.87 (0.13)*** | -1.93 (0.38)*** |
| <i>Explanatory variables (P)</i> |                 |                 |
| Populism                         | 0.23 (0.01)***  | 0.24 (0.03)***  |
| Anti-Immigration                 | 0.43 (0.01)***  | 0.36 (0.03)***  |
| <i>Controls</i>                  |                 |                 |
| Migration topic                  | 0.12 (0.03)***  | -0.20 (0.10)*   |
| Download age                     | 0.04 (0.02)*    | -0.01 (0.05)    |
| Days passed since post           | -0.09 (0.01)*** | 0.01 (0.02)     |
| Length                           | 0.30 (0.01)***  | 0.24 (0.04)***  |
| Tagged users                     | 0.41 (0.02)***  | 0.72 (0.07)***  |
| Comments per post                | -0.02 (0.03)    | -0.03 (0.04)    |
| AIC                              | 401,863.31      | 73,635.54       |
| Log Likelihood                   | -200,919.66     | -36,805.77      |
| Num. obs.                        | 230,907         | 50,208          |
| Num. groups: Post:Account        | 4,293           | 3,365           |
| Num. groups: Account             | 5               | 5               |
| Var: Post:Account (Intercept)    | 0.30            | 0.60            |
| Var: Account (Intercept)         | 0.08            | 0.68            |

\*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$

## Appendix R – Literature Review

**Table R 1.** Literature Review of Online Deliberation

| Authors <sup>1</sup>       | Year   | Cit. <sup>2</sup> | Meth. <sup>3</sup> | Rec. <sup>4</sup> | Pos. <sup>5</sup> | Arg. <sup>6</sup> | Sour. <sup>7</sup> | Imp. <sup>8</sup> | Inc. <sup>9</sup> | Else <sup>10</sup>                                                    |
|----------------------------|--------|-------------------|--------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|-----------------------------------------------------------------------|
| Beckert and Ziegele        | (2020) | 2                 | c, s               | 0                 | 0                 | 1                 | 1                  | 1                 | X                 | elaborateness, information value, polarization, simplification, humor |
| Coe et al.                 | (2014) | 342               | c                  | 1                 | 1                 | 1                 | 1                  | 1                 | X                 | meta-talk                                                             |
| Collins and Nerlich        | (2015) | 39                | c                  | 1                 | 0                 | 1                 | 0                  | M                 | M                 | topic relevance                                                       |
| Esau et al.                | (2017) | 32                | c                  | 1                 | 1                 | 1                 | 0                  | 1                 | 0                 | topic relevance, engagement, constructiveness                         |
| Friess and Eilders         | (2015) | 68                | t                  | 1                 | 0                 | 1                 | 1                  | M                 | M                 |                                                                       |
| Friess et al.              | (2020) | 3                 | c                  | 1                 | 0                 | 1                 | 1                  | 1                 | 1                 | genuine question, relevance, solution, appeal                         |
| Gervais                    | (2015) | 106               | c, e               | 0                 | 0                 | 0                 | 0                  | 1                 | X                 |                                                                       |
| Klinger and Russmann       | (2015) | 7                 | c                  | 1                 | 1                 | 1                 | 0                  | 1                 | 0                 | doubts, solutions                                                     |
| Maia and Rezende           | (2016) | 21                | c                  | 1                 | 1                 | 1                 | 0                  | 1                 | 0                 |                                                                       |
| Manosevitch et al.         | (2014) | 17                | c, e               | 1                 | 1                 | 1                 | 0                  | 0                 | 0                 | elaborateness                                                         |
| Marzinkowski and Engelmann | (2022) | 1                 | c                  | 1                 | 1                 | 1                 | 1                  | 1                 | 0                 | negative emotions                                                     |
| Oz et al.                  | (2018) | 53                | c, e               | 0                 | 0                 | 1                 | 1                  | 1                 | 1                 |                                                                       |
| Papacharissi               | (2004) | 515               | c, t               | 0                 | 0                 | 0                 | 0                  | 1                 | 1                 |                                                                       |
| Rega and Marchetti         | (2021) | 0                 | c                  | 0                 | 0                 | 0                 | 0                  | M                 | M                 |                                                                       |
| Rossini <sup>11</sup>      | (2022) | 32                | c                  | 1                 | 1                 | 1                 | 0                  | 1                 | 1                 |                                                                       |
| Stromer-Galley             | (2007) | 269               | c                  | 1                 | 1                 | 1                 | 1                  | 0                 | 0                 |                                                                       |
| Stroud et al.              | (2015) | 120               | c, e               | 1                 | 0                 | 1                 | 1                  | M                 | M                 | relevance, genuine question                                           |
| Ziegele et al.             | (2020) | 8                 | c                  | 1                 | 0                 | 1                 | 1                  | M                 | M                 | elaborateness, relevance, questions                                   |
| Total                      |        |                   |                    | 13                | 8                 | 15                | 9                  | 16                | 9                 |                                                                       |

Notes: 1: References at the end of the Appendix; 2: Citation count, according to Web of Science on 2022-04-22; 3: Main methods used, “c” indicates quantitative content analyses, “e” experiments, “s” surveys, “t” theory; 4: Reciprocity; 5: Positioning; 6: Argumentation; 7: Sourcing; 8: Impoliteness. The letter “M” indicates that the study merges aspects of impoliteness and incivility (as defined here) into one dimension; 9: Incivility. The letter “M” indicates that the study merges aspects of impoliteness and incivility (as defined here) into one dimension. The letter “X” indicates that the study operationalizes only “impoliteness” (as defined here) but labels it as “incivility”; 10: Abridged.; 11: Rossini 2020 differentiates “incivility” and “intolerance”. The former matches our understanding of “impoliteness”, while the latter matches our understanding of “incivility”.

We conducted a literature review to identify commonly used operationalizations of online deliberation in recent quantitative content analyses. This review does not claim exhaustiveness. We stopped adding literature after the most important dimensions emerged and operationalizable definitions were identified.

We searched on Web of Science (<https://www.webofscience.com>) in October 2021 for articles that included “deliberation AND comment\* AND (online OR social media)” in any field. The results were narrowed down to articles published in political science or communication journals between 2015 and 2021. From the resulting 94 hits, we identified 34 articles that were relevant for our task by reading the abstracts. After a cursory reading, we excluded studies that did not include suggestions about how to operationalize deliberation in quantitative content analyses. Thereby, we dropped most studies that relied on qualitative or survey methods. We added some frequently cited older contributions that focused on theory (Friess and Eilders 2015; Papacharissi 2004) or offline communication (Stromer-Galley 2007).

From the remaining 18 studies, we identified the suggested construct dimensions and extracted definitions and operational coding instructions. We clustered similar dimensions and operationalizations, taking particular care of studies that used the same label for different constructs. This was the case for “impoliteness” and “incivility”, which are sometimes used interchangeably (Coe, Kenski, and Rains 2014), considered distinct (Papacharissi 2004) or interrelated (Rega and Marchetti 2021). From all suggested di-

mensions, we distilled five key dimensions of online deliberation for our operationalization: Reciprocity, argumentation, sourcing, impoliteness, and incivility. These concepts are discussed in the main text. Our selection criteria were frequency of operationalization in previous studies, conceptual clarity, and feasibility of the operationalization given our material.

Additionally, we decided to code the positioning of replies towards parent comments, to get a better understanding of the dynamics of this reciprocal communication. Table R 1 lists the reviewed literature and indicates which of the conceptual dimensions were operationalized or suggested for operationalization in these studies. The column names in this table follow our definitions of these concepts, as discussed in the main text.



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## Abstract

Online news comment sections are filled with citizen-generated populist communication, but little is known about the contextual factors that shape this ‘populism from below’ and its impact on the democratic quality of user discussions. This dissertation addresses these gaps in three papers, analyzing populism in comment sections on news media Facebook pages during the COVID-19 crisis (*Papers I and II*) and the 2015–2016 ‘refugee crisis’ (*Paper III*). Populism is defined as a thin-centered ideology claiming that ‘the people’ are deprived of sovereignty by a ‘corrupt elite.’ I theorize populist comments as expressions of attitudes activated in anger-inducing contexts and those that prime blame-attribution toward elites. Populist comments are understood as manifestations of populist counterpublics that challenge deliberative norms.

Populist communication is operationalized along key messages and captured using manual and computational content analysis that is validated. Maximizing ecological validity, all three papers investigate digital trace data. *Paper I* examines the connection between user-generated populism and contexts that are expected to induce psychological reactance—focusing on the COVID-19 crisis in Austria and Germany. *Paper II* extends this analysis to seven European countries (Austria, France, Germany, Italy, Netherlands, Sweden, and the UK), investigating 3.4 million machine-translated comments and 65,258 posts from 21 news outlets using an original computational text analysis tool. *Paper III* examines the relationship between populist and anti-immigrant comments as well as the deliberative quality of replies during the ‘refugee crisis’ in Austria and Slovenia, focusing on reciprocity, argumentation, sourcing, politeness, and civility.

The findings indicate that media coverage of COVID-19 and the restrictive containment policies in certain countries correlate with increased levels of populism in comments. Mentions of elite actors, particularly the government, were among the strongest predictors. Surprisingly, tabloid media exhibited the lowest levels of populism in comments, and visible moderation reduced populism levels. These findings suggest that populist comments are linked to reactance and anger-inducing contexts and also reveal that out-group references play a crucial role in triggering citizen-generated populism. Further, populist and right-wing comments were found to receive more replies, but were associated with a partially lower deliberative quality, thereby indicating an ambivalent relationship between populism and democratic norms in user discussions. This dissertation concludes by discussing its interdisciplinary contribution, methodological limitations, and implications beyond the studied cases.



## Abstract (German)

Nutzerkommentare unter Onlinenachrichten sind voll von Bürger-generierter populistischer Kommunikation. Über die Kontextfaktoren, die diesen ‚Populismus von unten‘ begünstigen und über dessen Einfluss auf die demokratische Qualität von Nutzerdiskussionen ist jedoch wenig bekannt. Diese Dissertation widmet sich diesen Forschungslücken in drei Artikeln indem sie Populismus in Nutzerkommentaren auf den von Nachrichtenmedien betriebenen Facebook-Seiten während der COVID-19-Krise (*Papiere I und II*) und der sogenannten ‚Flüchtlingskrise‘ 2015–2016 (*Papier III*) untersucht. Populismus wird als eine ‚dünne‘ Ideologie definiert, die der Idee anhängt, ‚das Volk‘ werde von einer ‚korrupten Elite‘ ihrer Souveränität beraubt. Populistische Kommentare verstehe ich als Äußerung populistischer Einstellungen, die in solchen Kontexten aktiviert werden, die Wut hervorrufen, und solchen, die die Schuldzuweisung an Eliten ‚primen.‘ Ferner verstehe ich populistische Kommentare als Manifestation populistischer Gegenöffentlichkeiten, die deliberative Normen herausfordern.

Operationalisiert wird populistische Kommunikation hier entlang von Kernbotschaften und mittels manueller sowie computergestützter, validierter, Inhaltsanalysen gemessen. Um die ökologische Validität zu maximieren, werden in allen drei Papieren ‚digitale Spurendaten‘ analysiert. *Papier I* untersucht den Zusammenhang zwischen nutzergeneriertem Populismus und Kontexten, die geeignet sind, psychologische Reaktanz hervorzurufen—mit Fokus auf die COVID-19-Krise in Österreich und Deutschland. *Papier II* erweitert diese Analyse auf sieben europäische Länder (Österreich, Frankreich, Deutschland, Italien, Niederlande, Schweden und das Vereinigte Königreich) und analysiert 3,4 Millionen maschinell übersetzter Kommentare, sowie 65.258 Posts von 21 Nachrichtenmedien mittels eines für diese Dissertation entwickelten, computergestützten Textanalysetools. *Papier III* untersucht das Verhältnis zwischen sowohl populistischen als auch einwanderungsfeindlichen Kommentaren und der deliberativen Qualität von Antwortkommentaren im Kontext der ‚Flüchtlingskrise‘ in Österreich und Slowenien—fokussierend auf Reziprozität, Argumentation, Quellenangaben, Höflichkeit und Zivilität.

Die Ergebnisse zeigen, dass die Medienberichterstattung über COVID-19 und in einigen Ländern die restriktiven Eindämmungsmaßnahmen mit einem erhöhten Grad an Populismus in Nutzerkommentaren korrelieren. Die Erwähnung von Eliten—insbesondere der Regierung—zeigte die mit am stärksten Effekte. Überraschenderweise weisen Boulevardmedien die niedrigsten Niveaus von Populismus in Nutzerkommentaren auf; während sichtbare Moderation dieses Niveau ebenso zu senken vermochte. Die Ergebnisse liefern indirekte Belege dafür, dass populistische Kommentare in Kontexten florieren, die Wut und Reaktanz hervorrufen und zeigen die zentrale Rolle von ‚out-group‘ Referenzen an. Populistische und rechtsgerichtete Kommentare erhielten mehr Antworten von anderen Nutzern, die jedoch zum Teil von einer niedrigeren deliberativen Qualität gekennzeichnet waren. Dies zeigt ein ambivalentes Verhältnis zwischen Populismus und demokratischen Normen auch in Nutzerdiskussionen an. Die Dissertation schließt mit einer Diskussion ihres interdisziplinären Beitrags, ihrer methodologischen Einschränkungen und der Implikationen über die untersuchten Fälle hinaus.