

Real-World Developments Predict Immigration News in Right-Wing Media: Evidence from Germany

Christian S. Czymara

To cite this article: Christian S. Czymara (2024) Real-World Developments Predict Immigration News in Right-Wing Media: Evidence from Germany, *Mass Communication and Society*, 27:1, 50-74, DOI: [10.1080/15205436.2023.2240307](https://doi.org/10.1080/15205436.2023.2240307)

To link to this article: <https://doi.org/10.1080/15205436.2023.2240307>



© 2023 The Author(s). Published with license by Taylor & Francis Group, LLC.



[View supplementary material](#)



Published online: 31 Aug 2023.



[Submit your article to this journal](#)



Article views: 555



[View related articles](#)



[View Crossmark data](#)



Citing articles: 1 [View citing articles](#)



This article has been awarded the Centre for Open Science 'Open Materials' badge.

Real-World Developments Predict Immigration News in Right-Wing Media: Evidence from Germany

Christian S. Czymara ^{a,b}

^aDepartment of Sociology and Anthropology, Tel Aviv University, Tel Aviv, Israel;

^bDepartment of Sociology with Focus on Quantitative Methods for Social Research, Goethe University Frankfurt, Frankfurt am Main, Germany

ABSTRACT

Exclusionist positions on immigration have become a key component of right-wing ideology in most countries around the world. Combining group threat and news values theory, this study sheds light on the emergence of right-wing discourses on immigration based on one of Germany's most influential right-wing print outlets. I employ supervised and unsupervised machine-learning methods on almost 54,000 articles published between 1998 and 2019 to test whether real-world conditions shape immigration news. Results show that reporting on immigration generally increased over time and peaked during the refugee inflow in 2015/16. Immigration numbers, foreigner crime rates, and Jihadist terror attacks predict the salience of the immigration issue in the overall news as well as discursive shifts within immigration news. During times of high immigration, articles were more likely to address topics related to deportation and closing borders or the criminalization of immigration. Terrorism was more present in immigration news after attacks, especially after attacks in Germany. Foreigner crime did not significantly increase reporting on crime in immigration news. In short, right-wing immigration discourses seem responsive to real-world developments and events that enable exclusionary rhetoric and a threatening portrayal of immigrants.

CONTACT Christian S. Czymara  christian@czymara.com  @cczymara 

 Supplemental data for this article can be accessed online at <https://doi.org/10.1080/15205436.2023.2240307>

© 2023 The Author(s). Published with license by Taylor & Francis Group, LLC.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

Introduction

In recent years, right-wing alternative media have mushroomed in many countries around the globe, challenging “classical” mainstream media as the main source of information for a growing number of people (Atton, 2015; Holt et al., 2019; Rone, 2021). A key component of these outlets is their criticism of generous immigration politics and the seemingly too-liberal reporting on immigration by mainstream media (Klawier et al., 2022). Although the internet contributed to the proliferation of these alternative media, their existence predates the web (Atton, 2015). Holt (2016) coined the term “immigration-critical alternative media” for such outlets, defined by their immigration-critical perspective and accusations of mainstream media as being biased against such a perspective (also see Nygaard, 2019). Since media reporting on immigration can influence attitudes (Meeusen & Jacobs, 2017; Meltzer et al., 2020) and voting (Boomgaarden & Vliegenthart, 2007), the increasing success of right-wing alternative media calls for a systematic, large-scale analysis of the real-world drivers of immigration news in such outlets.

This paper analyzes the relationships between real-world indicators and immigration news in one of Germany’s most popular right-wing outlets, *Junge Freiheit* (JF). I first use validated supervised machine learning to predict articles on immigration based on all articles published between 1998 and 2019. Based on these almost 54,000 articles, I test whether potentially threatening developments, i.e., actual immigration, Jihadist terror attacks, and foreigner crime, predict the salience of immigration in the news overall. Subsequently, I employ unsupervised topic modeling to decompose immigration news into its thematic subcomponents and examine whether these real-world indicators explain discursive shifts within immigration news.

The political right and immigration

In public debates, the political right has become almost perfectly aligned with a more exclusionary stance on immigration. On the level of voters, the predictive power of left/right self-identification regarding anti-immigrant attitudes has increased over time (Abou-Chadi et al., 2021; de Vries et al., 2013). On the level of political parties, the presence of far-right parties has led to a legitimization of such views in national parliaments (Valentim, 2021), to the politicization of the immigration issue (Hutter & Kriesi, 2021), and has increased its salience (Gessler & Hunger, 2021). Both levels are also connected, as indicated by the association between political elite discourses on immigration and public opinion on the matter (Bohman, 2011; Schmidt-Catran & Czymara, 2022).

At the same time, immigration plays an increasingly important role in mass media (Eberl et al., 2018). Newspapers often link immigration

to negative aspects such as crime (Harris & Gruenewald, 2019) or describe immigration in terms of naturalized metaphors such as floods (El Refaie, 2001; Gabrielatos & Baker, 2008). A particularly immigration-hostile position is taken by right-wing alternative media (Holt, 2016; Nygaard, 2019), which became increasingly popular in recent years (Figenschou & Ihlebæk, 2019; Müller & Freudenthaler, 2022). These outlets are dependent on mainstream media to generate their content and “create an appearance of objectivity” (Nygaard, 2019, p. 13). Existing studies on right-wing alternative media have analyzed how they report the news (Müller & Freudenthaler, 2022; Nygaard, 2019), their relationship to mainstream media (Figenschou & Ihlebæk, 2019; Holt et al., 2019; von Nordheim et al., 2019), or how they organize political mobilization (Rone, 2021). The present paper adds to this literature by exploring the drivers of right-wing immigration news over more than two decades.

Explaining right-wing alternative media reporting on immigration

Due to practical limits, journalists and editors must make selection decisions when evaluating what should be covered in the news. By reporting some aspects and neglecting others, newsmakers can create a reality that might not correspond to actual conditions (Lippmann, 1921). Which news gets selected depends on its estimated value and commercial aspects. According to *news value theory*, elements such as negativity and proximity influence an event’s newsworthiness (Jacobs et al., 2018; Vliegthart & Boomgaarden, 2007). Events of negative nature or those that happen closer to oneself are, *ceteris paribus*, expected to attract more journalistic attention than neutral or positive events or events happening further away (Altheide, 1976, 2002).

While news value theory has been developed in the context of mainstream media, it is reasonable to assume that the value of news is also relevant for editors’ selection of content in right-wing alternative media. However, what makes events newsworthy might differ to some degree between mainstream and right-wing alternative media. This is because of the ideological differences between the two, especially regarding the immigration topic, where the far-right is more negative than mainstream media. According to *group threat theory*, exclusionary positions rise the more immigrants are viewed as threatening the majority population (Blumer, 1958; Quillian, 1995). Their anti-immigration position leads to the assumption that right-wing alternative media consider *threat* as a news value. Thus, right-wing alternative media should be particularly likely to respond to developments that have a threatening character, as such threatening developments should be considered newsworthy.

Group threat theory also helps explain which developments are deemed threatening: Those that increase economic competition, trigger fights over norms and values, challenge a country's ethnic homogeneity (Quillian, 1995; Semyonov et al., 2006), or pose a risk to personal or national security (Kovář, 2019). Mainstream media reporting on immigration often corresponds to such themes as it includes the cultural or economic consequences of immigration (Czymara & van Klingeren, 2021; Greussing & Boomgaarden, 2017; Kovář, 2022) and tends to connect immigration to security (Kovář, 2019), crime (Harris & Gruenewald, 2019), and terrorism (Galantino, 2020). Accordingly, mass media reporting correlates with more negative attitudes toward immigration (Czymara & Dochow, 2018; Meltzer et al., 2020; Schlueter & Davidov, 2013), as people are more hostile toward minority groups that are depicted negatively in the news (Meeusen & Jacobs, 2017).

In line with the assumption that threat plays a particularly strong role for right-wing alternative media, Nygaard (2019) qualitatively shows that Scandinavian right-wing alternative media often describe immigration as a “serious threat against the societal peace and order” (Nygaard, 2019, p. 13) and von Nordheim et al. (2019) demonstrate quantitatively that content related to economic and cultural threats that refugees allegedly pose to German society made up a significant share of immigration news in the *Junge Freiheit* in 2015/16. In the following, I will discuss how threat-related content is connected to real-world developments.

Real-world developments as drivers of immigration news

The topics typically associated with immigration threat, i.e., demographic replacement, crime, terrorism, or economic competition, appear to be rooted in real-world conditions. As argued above, a threatening character should increase news value particularly for right-wing alternative media given their anti-immigration position. While, for example, the negative nature of terror attacks makes them newsworthy for mainstream media according to news values theory, Islamist attacks are particularly relevant for right-wing immigration news because it fits their ideology. I analyze three real-world indicators that are relevant according to group threat theory: actual immigration, crime, and terrorism.

Immigration

Immigrant group size is perhaps the most used indicator in research testing group threat theory (see Pottie-Sherman & Wilkes, 2017 for a meta-analysis on its correlation with immigration attitudes). If society is perceived as a zero-sum game, which is an argument regularly found among the far-right, more immigrants imply fewer economic or cultural resources for

natives. Put differently, immigration poses a threat to the majority, which, in turn, increases its news value.

Research on mainstream media in Europe indicates that migrant inflows were addressed in the media during the so-called Migration Crisis (Beckers & Van Aelst, 2019; Gottlob & Boomgaarden, 2020; Greussing & Boomgaarden, 2017), but had limited impact on reporting before 2015 (Jacobs et al., 2018; Lawlor, 2015; Lubbers et al., 1998; Vliegenthart & Boomgaarden, 2007). The influence of immigration numbers on news should be even more pronounced in right-wing alternative media due to their anti-immigration bias (Nygaard, 2019). Hence, I formulate the following hypothesis:

H1a: High immigration numbers are associated with more articles on immigration in right-wing alternative media. (Immigration-Salience-Hypothesis)

Immigration numbers might not only increase the salience of the immigration issue in the news overall but also shape the content within immigration news. Content analyses show that right-wing alternative media tend to report immigration as threatening (Nygaard, 2019; von Nordheim et al., 2019). As this is more plausible during times of high inflow, I test whether actual immigration increases the presence of topics relating to cultural, economic, or security-related threats:

H1b: Rising immigration rates increase threat-related topics within immigration news in right-wing alternative media. (Immigration-Topics-Hypothesis)

Crime

Crime is a recurring topic in media reporting on immigration. News about crime often describes ethnic minority perpetrators as more crime-prone and threatening (Harris & Gruenewald, 2019; Jacobs, 2017) and the focus on crime is even stronger for conservative newspapers (Lubbers et al., 1998). Research from the US suggests that racialized reporting on crime is associated with more concerns and a higher perception of Black people as violent (Dixon, 2008). Concerns about crime also correlate with negative views on immigration in Germany (Fitzgerald et al., 2012). Jacobs et al. (2018) report no effect of crime rates on crime reporting in immigration news in mainstream media. However, Jacobs et al. (2018) use total criminal offenses recorded by the police and do not further differentiate between types of perpetrators. While all crime is negative, crime with foreign

suspects can most clearly be connected to immigration.¹ This, in turn, increases its value, particularly for immigration-critical right-wing alternative media. Thus, I expect that:

H2a: Rising foreigner crime rates are associated with more articles on immigration in right-wing alternative media. (Crime-Saliency-Hypothesis)

H2b: Rising foreigner crime rates increase the crime topic within immigration news in right-wing alternative media. (Crime-Topic-Hypothesis)

Terrorism

Several terrorist attacks conducted in the name of political Islam have hit Europe, including Germany, in recent years (see Helbling & Meierrieks, 2020). The media sometimes connects these attacks to immigration (Galantino, 2020), with public speakers of the right being particularly likely to connect immigration and terrorism. For example, Hungarian Prime Minister Viktor Orbán stated in 2015 that “all the terrorists are basically migrants” (Kaminski, 2015). Chan et al. (2020) show that news about refugees was more related to fear when connected to terrorism. Jacobs et al. (2018) point to a positive but small effect of terrorism on the saliency of terrorism in migration news in mainstream media. One reason for small effects is that undifferentiated measures of terrorism lump together very different attacks. Mixing different attacks is especially problematic when analyzing right-wing media because the effects of right-wing and Islamist terrorism can cancel each other out (cf. Jacobs & van Spanje, 2021). As Islamist attacks can most clearly be connected to immigration, the value of such attacks should be high for right-wing alternative media, as they have an anti-immigration disposition. Therefore, I expect:

H3a: Islamist attacks are associated with more articles on immigration in right-wing alternative media. (Terror-Saliency-Hypothesis)

H3b: Islamist attacks increase the terrorism topic within immigration news in right-wing alternative media. (Terrorism-Topic-Hypothesis)

Another aspect that increases the value of news is the proximity of an event (Altheide, 1976; Vliegenthart & Boomgaarden, 2007). This implies that

¹Foreigners are not identical to immigrants, as the former are defined by citizenship and the latter by migration status. However, this conceptual difference usually plays a minor role in public perceptions. Similarly, refugees are not identical to immigrants and Europeans tend to view refugees more positively than immigrants (De Coninck, 2020), even though this was not always the case (Abdelaaty & Steele, 2022).

terrorist attacks that happen in the home country are particularly newsworthy, which is the final hypothesis:

H3c: Domestic attacks have a greater impact than international attacks. (Domestic Attacks-Hypothesis)

Case selection

A brief history of immigration in postwar Germany

Immigration to West Germany after the Second World War rose in the 1960s when the Federal Republic of Germany signed a contract with Turkey to receive so-called *Gastarbeiter* (“guest workers”), which would fill temporary labor shortages but ultimately lead to long-term immigration (Ellermann, 2015). Until the 1990s, Germany’s national identity was rather exclusionary even though the country became increasingly diverse (Kurthen, 1995). In the investigated period of this study, immigration peaked in late 2015, when Germany received five times as many asylum applications as any other EU country (Burmamann & Valeyathepillay, 2017). During this time, media influence on concerns about immigration was especially strong (Vestergaard, 2020). Rage against Germany’s handling of the refugee inflows among the far-right further intensified after refugees were connected to the sexual assaults in Germany on New Year’s Eve in 2015/16 (Czymara & Schmidt-Catran, 2017, p. 737 f.; Schwemmer, 2021), which caused a rise in anti-refugee violence (Frey, 2020; Jäckle & König, 2018). After 2016, immigration to Germany ebbed again. Nevertheless, the Alternative für Deutschland (AfD), a right-wing party advocating for stricter immigration laws, became the third largest party in the 2017 federal election and has remained in the parliament since (Arzheimer, 2015; Mushaben, 2020).

The Junge Freiheit

Established in 1986, the *Junge Freiheit* (JF) is Germany’s largest right-wing print outlet. With a circulation of over 30,000 sold copies each quarter (IVW, 2021), JF is the fifth-largest weekly newspaper in Germany. In fact, it is one of the very few examples of print media for which circulation numbers are increasing. Between 2008 and 2019, the circulation of paid copies almost doubled, rising from roughly 16,600 to over 31,000, as Figure 1 shows. At the height of the so-called Migration Crisis, the JF sold more than 43,500 copies.

Ideologically, the JF is located between the conservative and the far-right, often bridging democratic conservatism and the radical right (Braun et al.,

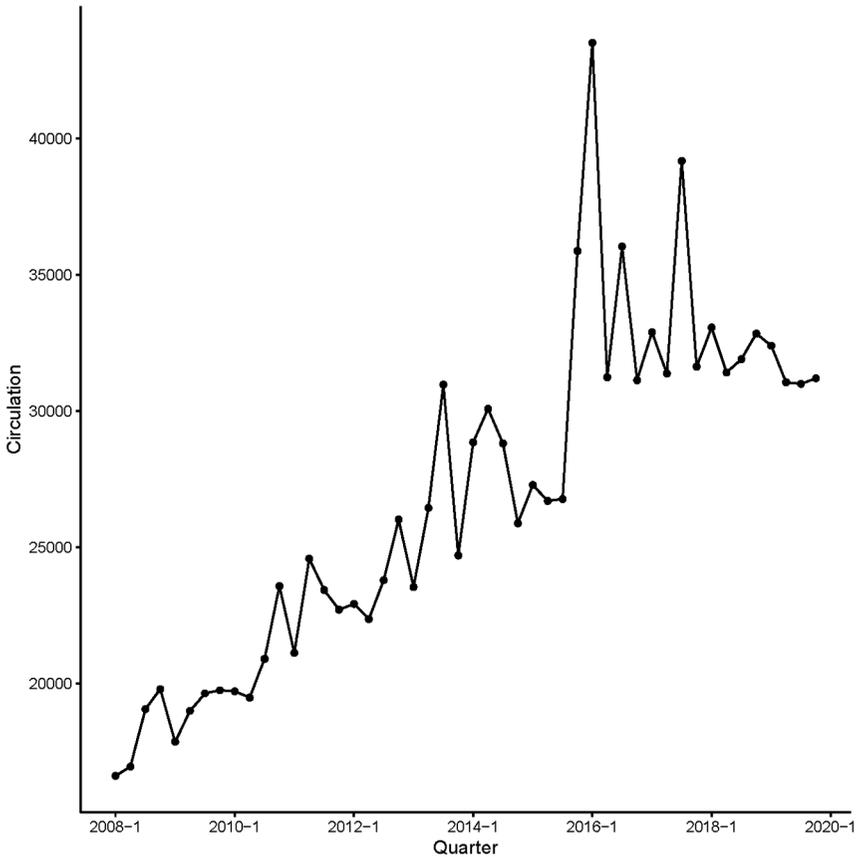


Figure 1. Circulation of *Junge Freiheit* over time.

Source: IVW (Data only available from 2008 onward)

2007; Czymara & Bauer, 2023). It has been described as “one of the sharpest weapons in the arsenal of the New Right” in Germany (Braun et al., 2007, p. 17).² The JF often refers to itself as challenging the leftist mainstream in politics and media, which is reflected in its slogan “Wochenzeitung für Debatte” (“Weekly for Debate”). Albeit officially unaffiliated, the JF also has a strong connection with the AfD. *The Economist* described the relationship between JF and AfD as overlapping “much as Fox News does with America’s Republicans” (The Economist, 2016). Its outreach, ideological position, and political influence make the JF a relevant case for studying right-wing news on immigration.

²All translations by the author.

Data & method

Identifying immigration news

I draw upon web-scraped data from the online archive of *Junge Freiheit*, which provides all articles published in its print edition from 1997 to the present. For the period between 1998 and 2018, for which data on the covariates were available, this resulted in almost 54,000 unique articles in total. To identify articles about immigration, I first used regular expressions to select articles that mention at least one keyword.³ Manually evaluating this sample revealed that some articles were unrelated to immigration. To tackle this, I drew a random sample of 600 articles, which were manually coded by a student assistant. In the next step, I trained a Naive Bayes classifier using Benoit et al. (2021) to detect articles about immigration in the overall dataset. Using an unseen part of the hand-coded data for validation shows that the machine caught almost all relevant articles in the validation data (recall: 0.97) while selecting primarily relevant articles only (precision: 0.78).⁴ Employing the trained model on the test data resulted in 5,695 positive predictions. Thus, about 10.6% of articles were predicted to be immigration news.

Real-world indicators

Immigration is measured by the number of immigrants to Germany with non-EU citizenship (Eurostat's table *migr_imm1ctz*). Further disaggregating citizenship by country, unfortunately, is not possible, because such data is not available for the period before 2008.

To measure *Crime*, I draw upon the Police Crime Statistics of Germany provided by the Federal Criminal Police Office (BKA, 2021). I use the share of reported crimes committed by non-German suspects because this statistic is particularly relevant for immigration-related group threat. More detailed information on the nature or the severity of foreigner crime is unfortunately not available.

For *Terrorism*, I draw upon data from the Fondation pour l'innovation politique (Fondapol), which collects information on Islamist attacks throughout the world (see Fondapol, 2021: 10f. for their definitions of terrorism and Islamism). To select the most relevant events, I focus on attacks that had at least one casualty and happened in either Western

³The regular expression is "*migran*t|fl(u|ü)cht|asyl|(ein|zu)wander|ausländer|integration|aufenthaltsgenehmigung|einbürgerung.*"

⁴These scores are similar but somewhat exceed von Nordheim et al. (2019), who use a search string-based approach to identify articles on the Migration Crisis in the JF. Alternatively, I also trained a support vector machine, which performed a little better regarding precision (0.82) but worse regarding recall (0.84).

Table 1. Descriptive statistics ($n = 53,818$).

	Mean	Std. dev.	Min	Max
Outcome				
p(Immigration article)	0.106	0.308	0	1
Explanatory variables				
Immigration numbers	0.231	0.214	0	1
Foreigner crime rate	0.315	0.315	0	1
Terror attacks (West)	0.07	0.255	0	1
Terror attacks (Germany)	0.004	0.065	0	1

Europe or the US. Given the weekly nature of the JF publications, I created a binary variable with the value 1 for the two weeks following at least one attack and 0 if no attack happened in the two weeks before. To test H3c, I also generated a version of this variable that captures only attacks in Germany.

For the regression models, I rescaled immigration and crime rates to range from 0 to 1 to ensure the comparability of coefficients. Table 1 shows descriptive statistics of all variables and Figure A1 in the [supplemental materials](#) plots the correlations between these variables.

Method

To test the influence of real-world indicators on the overall *salience* of immigration in the news, I run a set of models that regress the binary outcome (1: article is about immigration vs. 0: article is not about immigration) on each real-world indicator based on the whole corpus ($N = 53,818$ articles). To account for the potential clustering of articles published in the same issue, I employ hierarchical linear probability models that estimate a random intercept on the issue (i.e.: week) level using Bates et al. (2015). All models control a yearly trend. The results are stable to other modeling choices, as I report in more detail below.

For my second aim, I analyze whether real-world indicators change the *composition* of immigration news. To answer this question, I draw upon the subset of articles that are about immigration, i.e. the ones with the value 1 in the outcome of the previous analysis ($N = 5,695$). To decompose immigration news into its thematic subcomponents, I use Structural Topic Modelling (STM) (Roberts et al., 2019), an unsupervised machine-learning method that identifies word clusters that often represent latent themes (*topics*). STM yields, first, the probability for each term in each topic and, second, the probability of each topic in each article. Each topic consists of all terms, terms, with varying probabilities, and each article consists of all topics, topics, with varying probabilities. I run models that estimate 30 topics in total. Appendix A documents this decision. After identifying relevant topics, I run a set of models that regress the probability

of each topic on each real-world indicator (see the `estimateEffect()` function of Roberts et al. (2019) for more details).

Results

Descriptive overview

Plotting articles over time in [Figure 2](#) (black line) shows that immigration-related content has increased in the past 20 years. In 1998, the first year of the analyzed period, the average number of weekly articles on immigration issues was merely 2.37. During the peak of the refugee debate in 2016, this number increased more than sixfold to 15.1. After 2016, there is a downward tendency, but attention remains at significantly higher levels

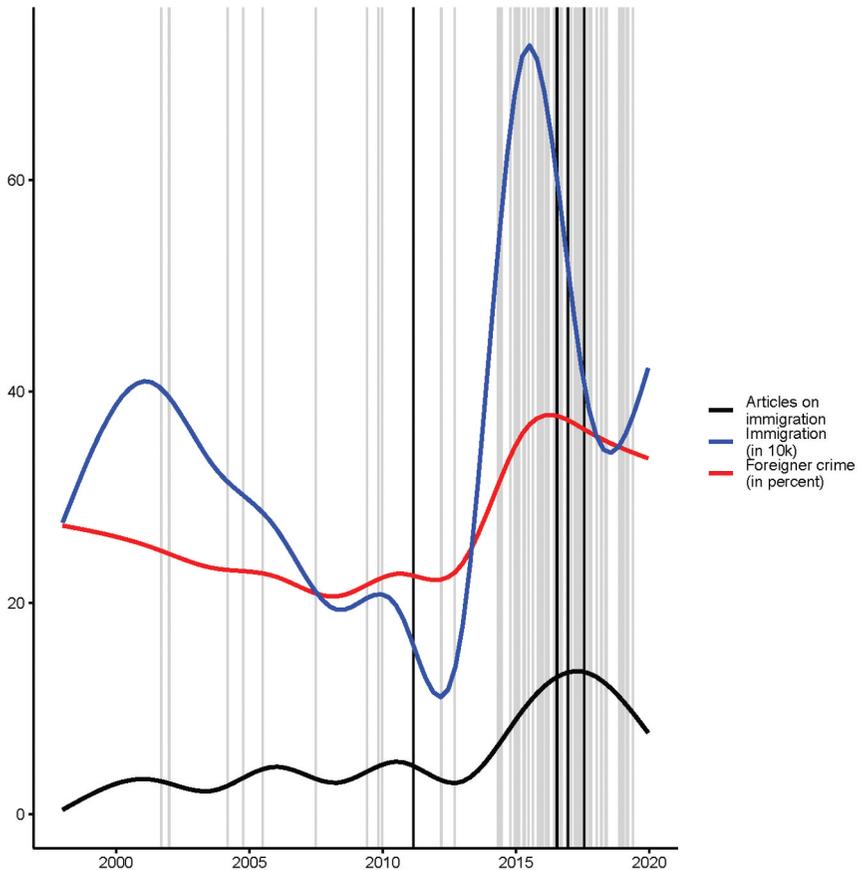


Figure 2. Development of immigration news in *Junge Freiheit*, actual immigration numbers, foreigner crime rates, and terror attacks.

LOESS for rescaled variables for readability. Grey vertical lines are Jihadist attacks in Western countries, black vertical lines are attacks in Germany.

compared with the period before 2015. In 2019, there were still roughly 10 articles on immigration in an average week, while the overall output of the JF remained largely stable.

The importance of immigration in right-wing media has increased over time, which mirrors prior research on far-right parties (Abou-Chadi et al., 2021) and voters (de Vries et al., 2013). The Migration Crisis seems to have worked as a catalyst in this respect. Figure 2 reveals that real-world immigration (blue line) and foreigner crime (red line) seem to follow similar trends. To test these relationships more thoroughly, I turn to the regression models.

The relationship between issue salience and real-world indicators

All four predictors are positively associated with the overall issue salience of immigration ($p < .01$ in all cases). Figure 3 shows the coefficients of the four hierarchical linear probability models (full models shown in Table A1 in the

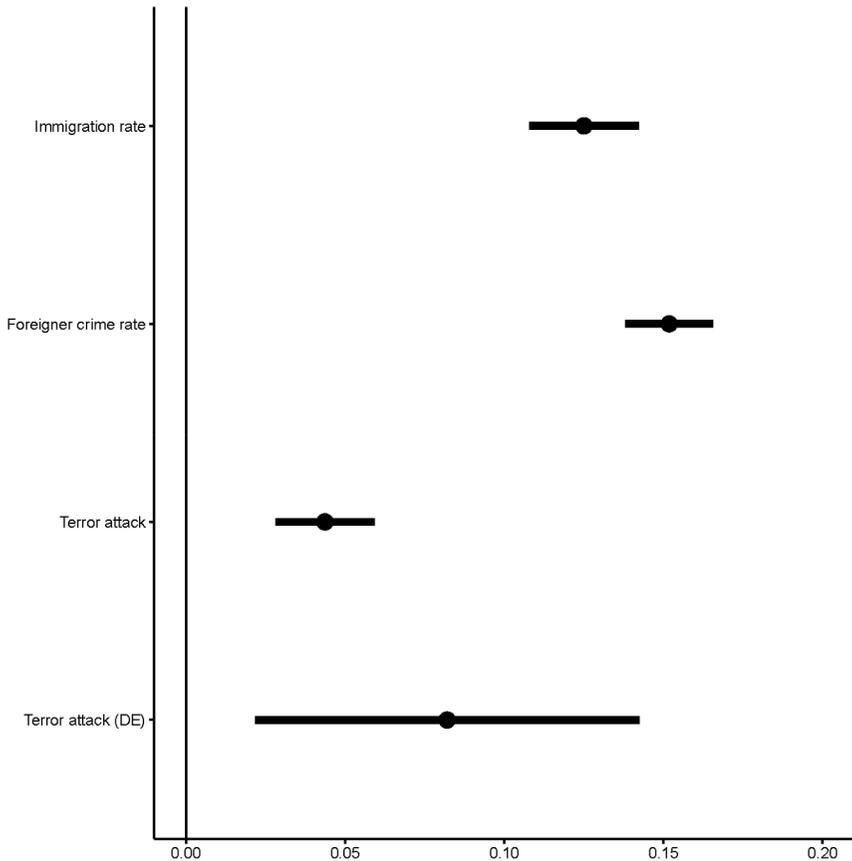


Figure 3. Predictors of immigration news.

appendix). All effect sizes are comparable as the continuous variables were standardized. The relationship is strongest for the foreigner crime rate, where moving from the minimum value to the maximum implies a 15% point increase in the probability that an article is about immigration, 95% CI [.14, .17]. With an estimated effect of 13 percentage points, the effect is similar in size but slightly weaker for immigration rates, 95% CI [.11, .14]. These associations are sizable and resemble roughly half a standard deviation of the outcome ($SD = 0.31$).⁵

Articles that are published two weeks after an Islamist terror attack in the West have a four points higher probability of addressing immigration compared to those that are not published after an attack. While this effect is statistically significant, it is not very large. In comparison, the effect doubles when such an attack happened in Germany. Due to the limited number of attacks, however, the effect of attacks in Germany is estimated with high statistical uncertainty, 95% CI [.02, .14].

H1a, H2a, and H3a stated that actual immigration numbers, foreigner crime, and terror attacks, respectively, predict higher salience of immigration in the news. The results support these expectations. The correlations are substantial and, interestingly, immigration and foreigner crime rates outperform terror attacks in these models. H3c argued that domestic attacks have a greater impact than international ones. The data also confirms this, as the estimated effect for domestic attacks is roughly twice as strong as the effect for attacks in the West in general. A likelihood ratio test confirms the statistical difference between both models at $p < .0001$.

These results are stable to numerous modeling choices. In the [supplemental materials](#), I present hierarchical logistic instead of linear probability models (Table A2), models that allow the effect of the respective predictor to vary across issues (i.e. include a random slope) (Table A3), models without a time trend (Table A4), models that control for the exceptional years 2015/16 (Table A5), or that drop 2015/16 altogether (Table A6). All conclusions above hold.

Discursive shifts in immigration news and real-world indicators

After establishing that the real-world indicators correlate with overall issue salience, I turn to the topic models to examine whether they also influence the composition of articles within the immigration discourse. I coded the topics based on their most probable terms as well as articles. [Table 2](#) shows

⁵These estimates are based on separate models for each predictor since my interest lies in the total relationship between each predictor and issue salience and one should generally refrain from substantively interpreting multiple coefficients of the same model (cf. Westreich & Greenland, 2013).

the relevant topics and their most probable terms. Six topics directly relate to immigration (*German immigration policy, EU immigration policy, Integration/citizenship, Asylum, Illegal immigration, Demography*), two correspond to cultural (*Religion, National identity*), and two to economic (*Economy, Welfare state*) issues, and one is *Ethnic violence*. Moreover, there is also one topic particularly addressing *Terrorism* and a *Crime* topic.⁶

Figure 4 plots the coefficients of the models that regress the articles' probabilities for each topic on actual immigration. The two topics most

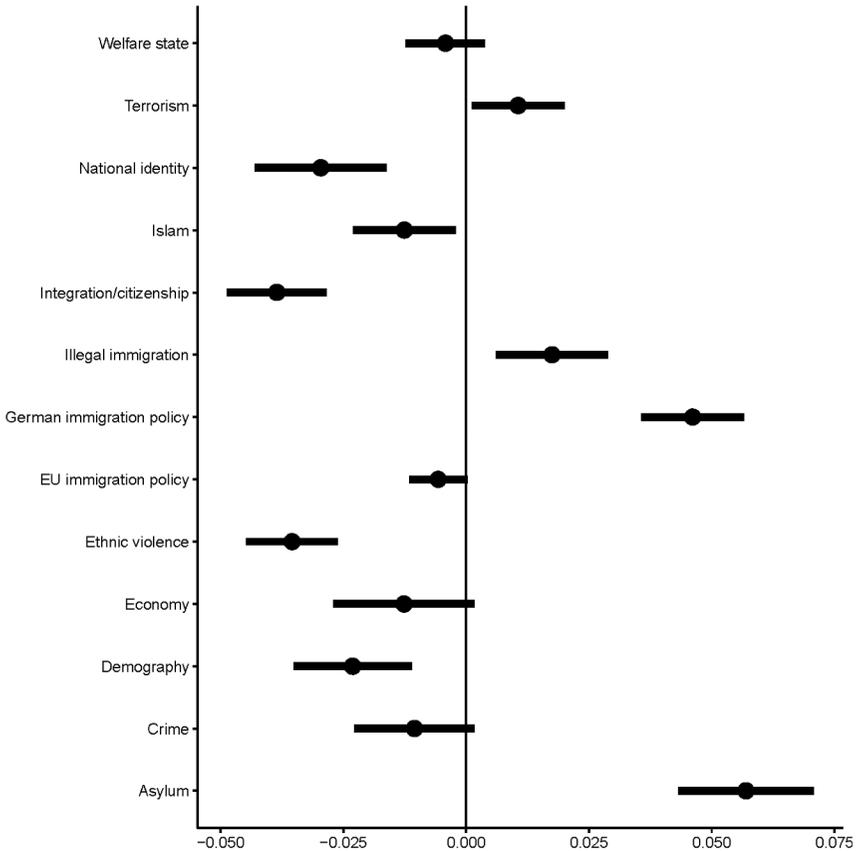


Figure 4. Topic probabilities and immigration.

⁶Note that not all 30 topics are theoretically relevant, including for example content related to certain countries. Finding irrelevant topics is common when applying topic modeling to journalistic texts (Jacobi et al., 2016, p. 11) and is to be expected, as news articles most often cover more than one topic (Grimmer & Stewart, 2013, p. 272). The full set of topics is available in Table A7 in the appendix. I refrain from labeling the other topics in Table A7 to avoid imposing structure on unclear topics.

strongly correlating with real-world immigration are *Asylum* and *German immigration policy*. Comparing times of lowest immigration with those of highest immigration roughly equals a 5.7-point increase in the probability that an article covers the *Asylum* topic and a 4.6-point increase that it includes the *German immigration policy* topic (both $p < .001$). *Illegal immigration* is weaker but still positively associated with immigration ($p = .003$). The other topics are either negligibly or negatively correlated with immigration. For example, the JF appeared to write less about culture (*National identity, Religion*), security (*Crime, Ethnic violence*), or economy (*Economy, Welfare state*) when immigration numbers are high. Note, however, that this is a relative decrease vis-à-vis all other content. Still, this implies that the JF did not react to immigration by turning to cultural, economic, or security topics, which are the classical domains in the group threat literature. H1b stated that right-wing media reporting includes more threat-related topics when immigration is high. The evidence is somewhat ambiguous: On the one hand, topics related to cultural, economic, or security threats are not more present when immigration is high. On the other hand, immigration increases the salience of several topics that deal with deporting immigrants and closing borders.

Do actual foreigner crime rates and terror attacks increase the prevalence of the *Crime* respectively the *Terrorism* topic within immigration news? I estimate three additional models to answer this question (analogous to the models of Figure 4): one regresses the *Crime* topic on the crime rate, one regresses the *Terrorism* topic on terror attacks in general, and one regresses the *Terrorism* topic on terror attacks in Germany. The results are in Figure 5.

Contrary to theoretical expectations, there is no evidence that crime reporting in immigration news is related to real-world crime developments. While the estimated effect is positive, it is not statistically significant ($p = .104$). H2b, that crime reporting in immigration news responds to foreigner crime rates, is thus refuted.

Finally, reporting on terrorism is more present in immigration news after an attack. Figure 5 shows that attacks in Western countries lead to an increase in the *Terrorism* topic by about 1.2 percentage points ($p = .004$). Moreover, attacks that happened in Germany increased the *Terrorism* topic strongly by about 6.5 points ($p < .001$). The *Terrorism* topic thus reacted more than five times stronger when an attack happened in Germany. However, this effect is again estimated with much statistical uncertainty due to the relatively low number of attacks, 95% CI [.03, .10]. H3b and H3c stated that terrorism is featured more in right-wing immigration news after an attack and that this is especially true for attacks in Germany. The results clearly show this: Islamist terrorism in the West generally increased media attention and attacks conducted in Germany had the strongest effect.

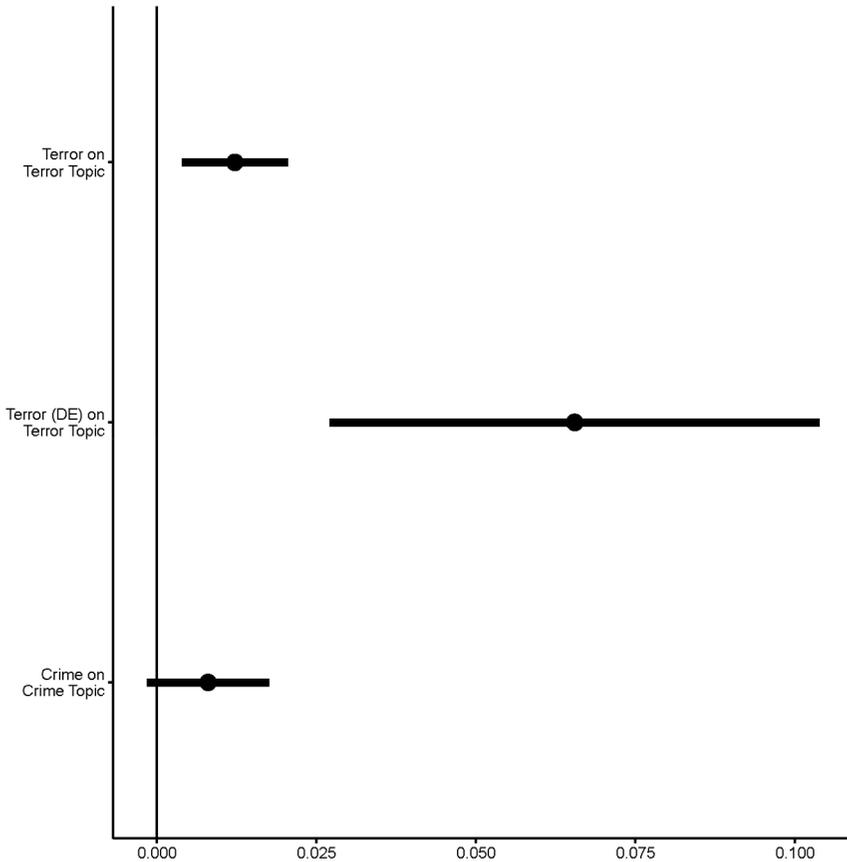


Figure 5. Crime and terrorism models.

Conclusion

With the politicization of the immigration issue, the far-right has gained momentum in recent years (Hutter & Kriesi, 2021). Alternative media play a key role in shaping right-wing discourses (Figenschou & Ihlebæk, 2019; Holt et al., 2019; Rone, 2021). While existing research has focused on the way right-wing alternative media report immigration news (Müller & Freudenthaler, 2022; Nygaard, 2019), compared them to mainstream media (Figenschou & Ihlebæk, 2019; Holt et al., 2019; von Nordheim et al., 2019), and examined their mobilization strategies (Rone, 2021), the present paper extends this literature by looking at the patterns of immigration news and their relationship with real-world developments. Right-wing alternative media is most likely to report developments that are understood as threatening the ethnic majority (Quillian, 1995; Semyonov et al., 2006) because such media should see

these developments as particularly newsworthy (Altheide, 2002) due to its anti-immigration ideology (Nygaard, 2019; von Nordheim et al., 2019).

Analyzing almost 54,000 articles published in Germany's most popular alternative right-wing outlet *Junge Freiheit* between 1998 and 2019 using supervised and unsupervised machine learning reveals several insights. Firstly, reporting on immigration has increased over time, peaking during the so-called Migration Crisis in late 2015 and 2016. Secondly, real-world immigration numbers, foreigner crime rates, and terror attacks all predict the salience of immigration in the overall corpus of articles. Thirdly, these real-world indicators correlate with discursive shifts within immigration news. During times of high immigration, topics related to deportation, closing borders, or the criminalization of the migration process increased the most. Articles were more likely to discuss terrorism after fatal Islamist attacks, especially if attacks happened in Germany. However, foreigner crime rates were not significantly related to the crime topic in immigration news.

To some degree, these findings might come as a surprise, as it is sometimes argued that mainstream media reporting hardly follows real-world developments (Jacobs et al., 2018; Lawlor, 2015; Lubbers et al., 1998), but rather key events (Vliegenthart & Boomgaarden, 2007). Moreover, one could think that right-wing media would want to keep the immigration issue on the agenda no matter what, leading to ceiling effects. The present analysis suggests, however, that this is not the case: Right-wing alternative media reporting on immigration ebbs and flows with certain real-world events and developments, including immigration itself. Fearing that newcomers threaten the status quo of the majority population can be considered more plausible when actual immigration or foreigner crimes are high, or after Islamist terror attacks. Thus, the value of immigration news for right-wing alternative media is higher under these conditions, and the salience of the issue increases. Moreover, different sub-topics in immigration news respond to real-world developments and events, and thus the immigration discourse shifts when real-world conditions change. Topic models show that several exclusionary topics are more visible during times of high real-world immigration.

These findings have implications for future research on real-world developments and media reporting on immigration. First, it appears that alternative media follow somewhat different logic compared to mainstream media due to its anti-immigration position that makes threat a news value. Prior research has argued that right-wing alternative media primarily responds to the mainstream press (Holt, 2016; Nygaard, 2019; von Nordheim et al., 2019). The present paper shows that right-wing alternative media also respond to the real world. Second, it seems crucial to use specific

indicators of real-world developments, such as foreigner crime or Jihadist attacks, instead of broad and undifferentiated measures often used in prior research. Third, moving from mere issue salience to topic-specific shifts in news content leads to additional insights. Fortunately, rapidly developing computational methods will increasingly allow detailed analyses of large amounts of text.

While the *Junge Freiheit* is a relevant case to study, it is hard to assess how well it represents conservative or right-wing media in general or across different political contexts. Thus, the generalizability to other right-wing alternative media remains an open question. Future research could take a comparative perspective and analyze differences across countries with different histories or political systems. Analyzing news valence or stance could also be a promising endeavor. The most probable terms of many topics suggest a negative framing (e.g., illegal, violent, uncontrolled), but future research may want to quantify tone or emotion. Finally, the number of articles about immigration roughly resembles the trend in circulation, with both correlating with 0.65. However, whether addressing immigration topics *causes* a rise in sales remains speculation due to the observational nature of this study. Future research might address this question using a natural experimental design.

Acknowledgments

I presented this paper at the 72nd Annual International Communication Association Conference, the European Consortium for Sociological Research Annual Conference 2022, and the European Consortium for Political Research General Conference 2022. I thank all discussants there as well as Laura Jacobs for helpful comments and feedback on a previous version of the paper, Leo Bauer for writing the scraper, and Jannik Track for annotating the training data.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

Data cannot be shared publicly because of Germany's copyright law, which allows scraping of openly available data for scientific purposes but not sharing copy-protected material. Interested researchers can download the data from <https://jf-archiv.de/> using the following scraper: <https://github.com/leo-bauer/junge-freiheit-scraper>. The author had no special access privileges others would not have.

Open scholarship



This article has earned the Center for Open Science badge for Open Materials. The materials are openly accessible at <https://doi.org/10.17605/OSF.IO/BWH78>

Notes on contributor

Christian S. Czymara is a postdoc at the Department of Sociology and Anthropology, Tel Aviv University, and the Department of Sociology with Focus on Quantitative Methods for Social Research, Goethe University Frankfurt. His research focuses on immigration, media, political communication, and public opinion and has been published in journals such as *Social Forces*, *European Sociological Review*, *Journal of Ethnic and Migration Studies*, and *Communications*.

ORCID

Christian S. Czymara  <http://orcid.org/0000-0002-9535-3559>

References

- Abdelaaty, L., & Steele, L. G. (2022). Explaining attitudes toward refugees and immigrants in Europe. *Political Studies*, 70(1), 110–130. <https://doi.org/10.1177/0032321720950217>
- Abou-Chadi, T., Cohen, D., & Wagner, M. (2021). The centre-right versus the radical right: The role of migration issues and economic grievances. *Journal of Ethnic and Migration Studies*, 48(2), 366–384. <https://doi.org/10.1080/1369183X.2020.1853903>
- Altheide, D. L. (1976). *Creating reality: How television news distorts events*. Beverly Hills.
- Altheide, D. L. (2002). *Creating fear: News and the construction of crisis*. Transaction Publishers.
- Arzheimer, K. (2015). The AfD: Finally a successful right-wing populist eurosceptic party for Germany? *West European Politics*, 38(3), 535–556. <https://doi.org/10.1080/01402382.2015.1004230>
- Atton, C. (2015). *The Routledge companion to alternative and community media*. Routledge London. <https://doi.org/10.4324/9781315717241>
- Bates, D., Mächler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using {lme4}. *Journal of Statistical Software*, 67(1), 1–48. <https://doi.org/10.18637/jss.v067.i01>
- Beckers, K., & Van Aelst, P. (2019). Did the European migrant crisis change news coverage of immigration? A longitudinal analysis of immigration television news and the actors speaking in it. *Mass Communication and Society*, 22(6), 733–755. <https://doi.org/10.1080/15205436.2019.1663873>
- Benoit, K., Watanabe, K., Wang, H., Perry, P. O., Lauderdale, B., Gruber, J., & Lowe, W. (2021). *quanteda.textmodels: Scaling models and classifiers for textual data*. <https://CRAN.R-project.org/package=quanteda.textmodels>

- BKA. (2021). *PKS 2020—Zeitreihen*. https://www.bka.de/DE/AktuelleInformationen/StatistikenLagebilder/PolizeilicheKriminalstatistik/PKS2020/PKSTabellen/Zeitreihen/zeitreihen_node.html
- Blumer, H. (1958). Race prejudice as a sense of group position. *The Pacific Sociological Review*, 1(1), 3–7. <https://doi.org/10.2307/1388607>
- Bohman, A. (2011). Articulated antipathies: Political influence on anti-immigrant attitudes. *International Journal of Comparative Sociology*, 52(6), 457–477. <https://doi.org/10.1177/0020715211428182>
- Boomgaarden, H. G., & Vliegenthart, R. (2007). Explaining the rise of anti-immigrant parties: The role of news media content. *Electoral Studies*, 26(2), 404–417. <https://doi.org/10.1016/j.electstud.2006.10.018>
- Braun, S., Geisler, A., & Gerster, M. (2007). Die „Junge Freiheit“ der „Neuen Rechten“. In *Die Wochenzeitung „Junge Freiheit“* (pp. 15–41). Springer. https://doi.org/10.1007/978-3-531-90559-4_1
- Burmann, M., & Valeyatheepillay, M. (2017). Asylum recognition rates in the top 5 EU Countries. *CESifo DICE Report*, 15(2), 48–50.
- Chan, C., Rinke, H., Wessler, E. M., Welbers, K., Atteveldt van, W., & Althaus, S. (2020). How combining terrorism, Muslim, and refugee topics drives emotional tone in online news: A six-country cross-cultural sentiment analysis. *International Journal of Communication: IJoC*, 14(4), 285–305. <https://doi.org/10.1080/19312458.2020.1812555>
- Czymara, C. S., & Bauer, L. (2023). Discursive Shifts in the German Right-Wing Newspaper *Junge Freiheit* 1997–2019: A Computational Approach. *German Politics*, 1–28. <https://doi.org/10.1080/09644008.2023.2231353>
- Czymara, C. S., & Dochow, S. (2018). Mass media and concerns about immigration in Germany in the 21st century: Individual-level evidence over 15 years. *European Sociological Review*, 34(4), 381–401. <https://doi.org/10.1093/esr/jcy019>
- Czymara, C. S., & Schmidt-Catran, A. W. (2017). Refugees unwelcome? Changes in the public acceptance of immigrants and refugees in Germany in the course of Europe’s ‘immigration crisis’. *European Sociological Review*, 33(6), 735–751. <https://doi.org/10.1093/esr/jcx071>
- Czymara, C. S., & van Klingeren, M. (2021). New perspective? Comparing frame occurrence in online and traditional news media reporting on Europe’s “Migration Crisis”. *Communications the European Journal of Communication Research*, 47(1), 136–162. <https://doi.org/10.1515/commun-2019-0188>
- De Coninck, D. (2020). Migrant categorizations and European public opinion: Diverging attitudes towards immigrants and refugees. *Journal of Ethnic and Migration Studies*, 46(9), 1667–1686. <https://doi.org/10.1080/1369183X.2019.1694406>
- de Vries, C. E., Hakhverdian, A., & Lancee, B. (2013). The dynamics of voters’ left/right identification: The role of economic and cultural attitudes. *Political Science Research and Methods*, 1(2), 223–238. <https://doi.org/10.1017/psrm.2013.4>
- Dixon, T. L. (2008). Crime news and racialized beliefs: Understanding the relationship between local news viewing and perceptions of African Americans and crime. *Journal of Communication*, 58(1), 106–125. <https://doi.org/10.1111/j.1460-2466.2007.00376.x>
- Eberl, J.-M., Meltzer, C. E., Heidenreich, T., Herrero, B., Theorin, N., Lind, F., Berganza, R., Boomgaarden, H. G., Schemer, C., & Strömbäck, J. (2018). The European media discourse on immigration and its effects: A literature review.

- Annals of the International Communication Association*, 42(3), 207–223. <https://doi.org/10.1080/23808985.2018.1497452>
- The Economist. (2016). *Politisch inkorrekt*. <https://www.economist.com/europe/2016/10/06/politisch-inkorrekt>
- El Refaie, E. (2001). Metaphors we discriminate by: Naturalized themes in Austrian newspaper articles about asylum seekers. *Journal of Sociolinguistics*, 5(3), 352–371. <https://doi.org/10.1111/1467-9481.00154>
- Ellermann, A. (2015). Do policy legacies matter? Past and present guest worker recruitment in Germany. *Journal of Ethnic and Migration Studies*, 41(8), 1235–1253. <https://doi.org/10.1080/1369183X.2014.984667>
- Figschou, T. U., & Ihlebæk, K. A. (2019). Challenging Journalistic Authority: Media criticism in far-right alternative media. *Journalism Studies*, 20(9), 1221–1237. <https://doi.org/10.1080/1461670X.2018.1500868>
- Fitzgerald, J., Curtis, K. A., & Corliss, C. L. (2012). Anxious publics: Worries about crime and immigration. *Comparative Political Studies*, 45(4), 477–506. <https://doi.org/10.1177/0010414011421768>
- Fondapol. (2021). *Islamist terrorist attacks in the world 1979-2021*. Fondation pour l'innovation politique. <https://www.fondapol.org/en/study/islamist-terrorist-attacks-in-the-world-1979-2021/>
- Frey, A. (2020). 'Cologne changed everything'—the effect of threatening events on the frequency and distribution of intergroup conflict in Germany. *European Sociological Review*, 36(5), 684–699. <https://doi.org/10.1093/esr/jcaa007>
- Gabriellatos, C., & Baker, P. (2008). Fleeing, sneaking, flooding: A corpus analysis of discursive constructions of refugees and asylum seekers in the UK Press 1996–2005. *Journal of English Linguistics*, 36(1), 5–38. <https://doi.org/10.1177/0075424207311247>
- Galantino, M. G. (2020). The migration–terrorism nexus: An analysis of German and Italian press coverage of the 'refugee crisis'. *European Journal of Criminology*, 19(2), 259–281. <https://doi.org/10.1177/1477370819896213>
- Gessler, T., & Hunger, S. (2021). How the refugee crisis and radical right parties shape party competition on immigration. *Political Science Research and Methods*, 10(3), 524–544. <https://doi.org/10.1017/psrm.2021.64>
- Gottlob, A., & Boomgaarden, H. (2020). The 2015 refugee crisis, uncertainty and the media: Representations of refugees, asylum seekers and immigrants in Austrian and French media. *Communications*, 45(s1), 841–863. <https://doi.org/10.1515/commun-2019-2077>
- Greussing, E., & Boomgaarden, H. G. (2017). Shifting the refugee narrative? An automated frame analysis of Europe's 2015 refugee crisis. *Journal of Ethnic and Migration Studies*, 43(11), 1749–1774. <https://doi.org/10.1080/1369183X.2017.1282813>
- Grimmer, J., & Stewart, B. M. (2013). Text as data: The promise and pitfalls of automatic content analysis methods for political texts. *Political Analysis*, 21(3), 267–297. <https://doi.org/10.1093/pan/mps028>
- Harris, C. T., & Gruenewald, J. (2019). News media trends in the framing of immigration and crime, 1990–2013. *Social Problems*, spz024. <https://doi.org/10.1093/socpro/spz024>
- Helbling, M., & Meierrieks, D. (2020). Terrorism and migration: An overview. *British Journal of Political Science*, 1–20. <https://doi.org/10.1017/S0007123420000587>

- Holt, K. (2016). Alternativmedier?: En intervjustudie om mediekritik och mediemisstro. In L. Truedson (Ed.), *Migrationen i medierna* (pp. 113–149). Institutet för mediestudier.
- Holt, K., Ustad Figenschou, T., & Frischlich, L. (2019). Key dimensions of alternative news media. *Digital Journalism*, 7(7), 860–869. <https://doi.org/10.1080/21670811.2019.1625715>
- Hutter, S., & Kriesi, H. (2021). Politicising immigration in times of crisis. *Journal of Ethnic and Migration Studies*, 1–25. <https://doi.org/10.1080/1369183X.2020.1853902>
- IVW. (2021). *JUNGE FREIHEIT* (woe). <https://www.ivw.eu/aw/print/qa/titel/8020>
- Jäckle, S., & König, P. D. (2018). Threatening events and anti-refugee violence: An empirical analysis in the wake of the refugee crisis during the years 2015 and 2016 in Germany. *European Sociological Review*, 34(6), 728–743. <https://doi.org/10.1093/esr/jcy038>
- Jacobi, C., Van Atteveldt, W., & Welbers, K. (2016). Quantitative analysis of large amounts of journalistic texts using topic modelling. *Digital Journalism*, 4(1), 89–106.
- Jacobs, L. (2017). Patterns of criminal threat in television news coverage of ethnic minorities in Flanders (2003–2013). *Journal of Ethnic and Migration Studies*, 43(5), 809–829. <https://doi.org/10.1080/1369183X.2016.1217152>
- Jacobs, L., Damstra, A., Boukes, M., & De Swert, K. (2018). Back to reality: The complex relationship between patterns in immigration news coverage and real-world developments in Dutch and Flemish newspapers (1999–2015). *Mass Communication and Society*, 21(4), 473–497. <https://doi.org/10.1080/15205436.2018.1442479>
- Jacobs, L., & van Spanje, J. (2021). Not all terror is alike: How right-wing extremist and Islamist terror threat affect anti-immigration party support. *International Journal of Public Opinion Research*, 33(4), 737–755. <https://doi.org/10.1093/ijpor/edaa037>
- Kaminski, M. (2015). *All the terrorists are migrants*. Politico.Eu. <https://www.politico.eu/article/viktor-orban-interview-terrorists-migrants-eu-russia-putin-borders-schengen/>
- Klawier, T., Prochazka, F., & Schweiger, W. (2022). Comparing frame repertoires of mainstream and right-wing alternative media. *Digital Journalism*, 10(8), 1387–1408. <https://doi.org/10.1080/21670811.2022.2048186>
- Kovář, J. (2019). A security threat or an economic consequence? An analysis of the news framing of the European Union's refugee crisis. *International Communication Gazette*, 1–24. <https://doi.org/10.1177/1748048519832778>
- Kovář, J. (2022). Media framing of immigrants in Central Europe in the period surrounding the refugee crisis: Security, negativity, and political sources. *Communications*. <https://doi.org/10.1515/commun-2020-0087>
- Kurthen, H. (1995). Germany at the crossroads: National identity and the challenges of immigration. *International Migration Review*, 29(4), 914–938. <https://doi.org/10.1177/019791839502900404>
- Lawlor, A. (2015). Local and national accounts of immigration framing in a cross-national perspective. *Journal of Ethnic and Migration Studies*, 41(6), 918–941. <https://doi.org/10.1080/1369183X.2014.1001625>
- Lippmann, W. (1921). *Public opinion* (10th ed.). Project Gutenberg. <http://www.gutenberg.org/ebooks/6456>

- Lubbers, M., Scheepers, P., & Wester, F. (1998). Ethnic minorities in Dutch newspapers 1990-5: Patterns of criminalization and problematization. *Gazette (Leiden, Netherlands)*, 60(5), 415–431. <https://doi.org/10.1177/0016549298060005004>
- Meeusen, C., & Jacobs, L. (2017). Television news content of minority groups as an intergroup context indicator of differences between target-specific prejudices. *Mass Communication and Society*, 20(2), 213–240. <https://doi.org/10.1080/15205436.2016.1233438>
- Meltzer, C. E., Eberl, J. M., Theorin, N., Heidenreich, T., Strömbäck, J., Boomgaarden, H. G., & Schemer, C. (2020). Media effects on policy preferences toward free movement: Evidence from five EU member states. *Journal of Ethnic and Migration Studies*, 47(15), 3390–3408. <https://doi.org/10.1080/1369183X.2020.1778454>
- Müller, P., & Freudenthaler, R. (2022). Right-wing, populist, controlled by foreign powers? Topic diversification and partisanship in the content structures of German-Language alternative media. *Digital Journalism*, 10(8), 1363–1386. <https://doi.org/10.1080/21670811.2022.2058972>
- Mushaben, J. M. (2020). A spectre haunting Europe: Angela Merkel and the challenges of far-right populism. *German Politics and Society*, 38(1), 7–29. <https://doi.org/10.3167/gps.2020.380102>
- Nygaard, S. (2019). The appearance of objectivity: How immigration-critical alternative media report the news. *Journalism Practice*, 13(10), 1147–1163. <https://doi.org/10.1080/17512786.2019.1577697>
- Pottie-Sherman, Y., & Wilkes, R. (2017). Does size really matter? On the relationship between immigrant group size and anti-immigrant prejudice. *International Migration Review*, 51(1), 218–250. <https://doi.org/10.1111/imre.12191>
- Quillian, L. (1995). Prejudice as a response to perceived group threat: Population composition and anti-immigrant and racial prejudice in Europe. *American Sociological Review*, 60(4), 586. <https://doi.org/10.2307/2096296>
- Roberts, M. E., Stewart, B. M., & Tingley, D. (2019). Stm: An R package for structural topic models. *Journal of Statistical Software*, 91(2), 1–40. <https://doi.org/10.18637/jss.v091.i02>
- Rone, J. (2021). Far right alternative news media as ‘indignation mobilization mechanisms’: How the far right opposed the Global Compact for Migration. *Information, Communication & Society*, 25(9), 1333–1350. <https://doi.org/10.1080/1369118X.2020.1864001>
- Schlueter, E., & Davidov, E. (2013). Contextual sources of perceived group threat: Negative immigration-related news reports, immigrant group size and their interaction, Spain 1996-2007. *European Sociological Review*, 29(2), 179–191. <https://doi.org/10.1093/esr/jcr054>
- Schmidt-Catran, A. W., & Czymara, C. S. (2022). Political elite discourses polarize attitudes toward immigration along ideological lines. A comparative longitudinal analysis of Europe in the twenty-first century. *Journal of Ethnic and Migration Studies*, 49(1), 85–109. <https://doi.org/10.1080/1369183X.2022.2132222>
- Schwemmer, C. (2021). The limited influence of right-wing movements on social media user engagement. *Social Media + Society*, 7(3), 13. <https://doi.org/10.1177/20563051211041650>
- Semyonov, M., Raijman, R., & Gorodzeisky, A. (2006). The rise of anti-foreigner sentiment in European societies, 1988-2000. *American Sociological Review*, 71(3), 1988–2000. <https://doi.org/10.1177/000312240607100304>

- Valentim, V. (2021). Parliamentary representation and the normalization of radical right support. *Comparative Political Studies*, 54(14), 2475–2511. <https://doi.org/10.1177/0010414021997159>
- Vestergaard, K. T. (2020). The battle for the public perception: How increases in asylum seekers and media framing affected the perception of the refugee crisis and support for additional measures across the left-right spectrum. *Journal of Contemporary European Studies*, 28(4), 411–433. <https://doi.org/10.1080/14782804.2020.1773775>
- Vliegthart, R., & Boomgaarden, H. G. (2007). Real-World indicators and the coverage of immigration and the integration of minorities in Dutch newspapers. *European Journal of Communication*, 22(3), 293–314. <https://doi.org/10.1177/0267323107079676>
- von Nordheim, G., Müller, H., & Scheppe, M. (2019). Young, free and biased: A comparison of mainstream and right-wing media coverage of the 2015/16 refugee crisis in German newspapers. *Journal of Alternative and Community Media*, 4(1), 38–56. https://doi.org/10.1386/joacm_00042_1
- Westreich, D., & Greenland, S. (2013). The table 2 fallacy: Presenting and interpreting confounder and modifier coefficients. *American Journal of Epidemiology*, 177(4), 292–298. <https://doi.org/10.1093/aje/kws412>