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The Criminal is Always the Foreigner?! A Case Study of Minority Signification in German Crime Reporting

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Prejudices against minorities are amplified by distorted media coverage that highlights these groups disproportionally in crime coverage. But while the specifications of alleged criminals' affiliations to minority groups—so-called minority signification—has been studied after key events and between outlets, no research has yet investigated changes over a longer time, including different key events and outlets. Using a partly automated content analysis, our research fills this gap with a case study of minority signification in Germany from 2014 to 2019. We show that first, culturally more distant nationalities are slightly overrepresented while European nationalities are underrepresented in crime news compared with German crime statistics. Second, some spikes in the data could be linked to key events but others remain unexplained. Third, the political-right newspaper mentions minority affiliations most, the tabloid second, and the political-left outlet mentions them least. Surprisingly, this pattern changes over the years.

Keywords: minority signification, key events, automated content analysis

The native general public often has only limited contact with minority groups such as immigrants living in the country. Thus, the media play an important role in creating an indirect experience with them (Bonfadelli & Moser, 2007). At the same time, immigrants are reported on rather little and more negatively in tone than natives (Tort, Guenther, & Ruhrmann, 2016). Often, the coverage contains a problem-oriented approach (Benson & Wood, 2015), as well as frames of criminality, crime, financial burden, and foreign infiltration (Tort et al., 2016). Crime reporting often includes alleged perpetrators' nationalities—if they are foreign. Next to xenophobia, internalized patterns of racism, and biased editorial decisions, this is an easy way to provide information that serves common stereotypes (Hefner, Klimmt, & Daschmann, 2007). But such a biased representation affects prejudices in society (Bonfadelli & Moser, 2007; Czymara & Schmidt-Catran, 2017; Dixon, 2008).

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Research so far has mainly focused on the influence of key events on accentuating minority affiliations in reporting (Arendt, Brosius, & Hauck, 2017; Tort et al., 2016; Yamamoto, 2012) and on the framing of specific minority groups (Alsultany, 2013; Dixon & Linz, 2000; Kroon, Trilling, & Raats, 2020). If and how the portrayals of criminals as parts of minority groups changed over a longer period are not known yet. Meanwhile, events and developments, such as the refugee crisis, the rise of right-wing populism, and terrorist attacks, may have altered the reporting on immigrants in Europe generally and in Germany particularly. With a case study in Germany—a typical European multiparty system with a diverse media landscape—we aim at filling the existing gap by analyzing minority signification—i.e., the mentions of alleged criminals' ethnic affiliations—in newspapers over six years. In particular, we ask: *How did minority signification change in German crime reporting from 2014 to 2019?*

Understanding these temporal dynamics is crucial because it has been shown that negative images of minority groups—such as Blacks (Dixon, 2008), Muslims (Czymara & Schmidt-Catran, 2017), and Kurds (Esser, 2002)—influence the sentiment toward these groups in society and thus affect social cohesion. Further, the research is academically relevant as it examines the change in reporting over several years and thus provides a starting point for more detailed research.

We focus on three subtopics using exploratory research designs. We observe whether different nationalities get misrepresented in crime reporting in comparison with the actual criminality of the group. Further, we examine if and how key events can explain temporary changes in minority signification. Last, we assess how the use of minority signification differs among the researched newspapers.

Theoretical Background

The mentioning of minority affiliations is often based on "othering," a process by which people who differ from the supposed norm—and thus do not fit into the narrative of the majority group—are displayed negatively. The resulting distinctions and stereotypes are introduced, spread, and reinforced through the media (Blumer, 1958). National stereotypes often overlap with ones based on ethnic, religious, or cultural differences or immigrant status (Thiele, 2015), creating outgroups that are distinguished from the majority. Consequently, KhosraviNik (2010) uses the term RASIM to account for refugees, asylum seekers, and immigrants. Nevertheless, e.g., research on the portrayals of Blacks and Latinos in the U.S. media landscape shows that these are not seen as a homogeneous group (Dixon & Linz, 2000; Entman & Rojecki, 2001). Further, studies focused on the portrayals of Muslims in the United States (Alsultany, 2013) and in Germany (Hafez, 1999), and the association of foreign nationalities with negative attributes in Dutch reporting (Kroon et al., 2020), as well as the comparison between portrayal of foreigners and local suspects in Flemish TV reporting (Jacobs, 2016).

Analyzing news coverage for Chinese immigrants, Yamamoto (2012) defines *minority signification* as a process "where the media amplifies the crime and criminality of a minority group" (p. 156). She broadly defines a minority group as a group associated with social stigma and limited political power and distinguishes between *minority crime* as the disproportionally frequent mention of affiliations and *minority criminality* as the use of affiliation as an explanation for the alleged criminal's behavior. We follow Yamamoto

(2012) in calling the concept we study minority signification. However, we focus solely on minority crime in this research.

Crime reporting is popular because events that surprise generally differ from the norm, or entail conflict, threat, and negativity are more newsworthy (Galtung & Ruge, 1965). Thus, events that serve stereotypes about certain minority groups might be culturally meaningful news and thus become newsworthy (Yamamoto, 2012). Especially if groups are associated with problematic pictures like backwardness, criminality, and terrorism repeatedly—as shown for Kurds and the Kurdistan Workers' Party (Partîya Karkerên Kurdistanê [PKK]; Esser, 2002; Scheufele & Brosius, 2001) and Islamic minorities (Hafez, 1999)—minority group membership might be used as a shortcut to explain problematic behavior.

Czymara and Schmidt-Catran (2017) criticize former research for generalizing immigrants as one minority and argue that they are not perceived homogenously but according to the group they belong to. In Germany, the authors find that immigrants from the Middle East and Africa are less accepted than immigrants from Western Europe. Thus, there are differences in the perceptions between culturally close and distant immigrants (see also Esser, 2002). Also, immigrants are often either portrayed as a homogeneous group or categorized by nationality. For instance, East Europeans are framed as criminals more often than other groups in line with common stereotypes (Tort et al., 2016).

The comparison between mentions in news reports and crime statistics shows that the portrayal does not necessarily resemble actual crime numbers. For instance, Blacks are overrepresented as criminals in Californian reporting compared with actual crime numbers (Dixon & Linz, 2000). In Germany, a change in reporting was found after New Year's Eve 2015/2016 (NYE), when mobs of young North African or Arab men sexually assaulted women in Cologne and other German cities (Arendt et al., 2017; Dürr, Märkl, Schiavone, & Verhovnik, 2016). While at the time of their analysis official statistics were not available, Arendt and colleagues (2017) conclude from police status reports that the rise in minority signification is not backed by crime numbers.

Sentiments against minorities might differ considerably because of the stereotypes attributed to them. Thus, whereas previous studies focus either on one event or limited minority groups, we use an extended time frame and investigate references of several ethnic and religious minority groups. We ask:

SQ1: How does the representation of minority groups as criminals differ from their actual perpetrations of crimes?

Studies find different groups to be affected by minority signification—probably influenced by variances in the research design as well as the sampling period. Current events and long-term changes in society may affect the general perception of a minority group. A change in reporting over a longer period has not yet been researched, even though important developments like the rising number of asylum seekers can be expected to have an influence on reporting. Thus, we ask:

SQ2: How does the representation of minority groups as criminals change over time?

The Influences of Key Events

Blumer (1958) theorizes that big events can shape or reshape the perceptions of minority groups. Subsequently, several studies have used the concept of key events to investigate changes in media performance. Prior research supposes that extraordinarily extensive reporting on a certain event temporarily alters the selection criteria for reporting. Selection criteria that are normally formed through news values (Harcup & O'Neill, 2001), as well as influences on the organizational or personal level (Reese & Shoemaker, 2016), then temporarily lose meaning (Arendt et al., 2017). Key events can be either dramatic, unexpected, or spectacular or become such by sensational reporting (Kepplinger & Habermeier, 1995). To test whether this also holds for minority crime reporting, we ask:

SQ3: Can months with higher minority signification be linked to certain key events?

The Influences of Media Types

Different media types can follow different news values and influences on the organizational level (Reese & Shoemaker, 2016). In France, Norway, and the United States, politically right-leaning news outlets portray immigrants more critically than politically left-leaning outlets (Benson & Wood, 2015). In Germany, left-leaning outlets portray immigrants more positively than right-leaning outlets, which also use the notion of threat scenarios more often (Tort et al., 2016). While former research focuses on various frames, no altered use of crime frames for different minorities was found (Tort et al., 2016). We expect:

H1: Right-leaning newspapers include minority signification more often than left-leaning newspapers.

Additionally, tabloids are generally known for reporting in a more lurid way and simplifying connections, fueling stereotypes and sensationalism (Schicha, 2008). Reporting about minorities, tabloids "'harvest' the negative attitudes already existing in the schemata of society" (KhosraviNik, 2010, p. 18). Comparing news coverage of immigrants in public broadcasting and commercial television news, Jacobs, Meeusen, and d'Haenens (2016) define tabloidization as reporting more on soft news and especially on crime and find commercial TV news to use these topics more. Schlier and Lincoln (2014) research the portrayal of people with schizophrenia in German print news. They find that schizophrenic people are more stigmatized in tabloids than in broadsheet papers. Even though schizophrenic people belong to a very specific minority, we can reasonably assume that their findings can be applied to other stigmatized minorities as well. We expect:

H2: Tabloids are more likely to include minority signification in their reporting.

Method

Case: Germany, 2014–2019

The picture of criminal foreigners is deep-seated in the heads of many Germans. While 26% of residents have migration backgrounds, resentments are prevalent, especially against large minority groups

like Turks, Italians, and Greeks, who entered the country as working forces in the 1950s and 1960s, but also others. The refugee crisis amplifies this tendency. Among Germans, 73% are concerned with rising crime numbers and a higher risk of terrorist attacks because of the influx of refugees (Faus & Storks, 2019).

In recent years, several incidents possibly influenced how minority groups were portrayed in German media: In 2014, the Alternative for Germany (AfD)[1] gained support as a new right-wing party, and the movement Patriotic Europeans Against the Islamization of the Occident (Pegida)[2] formed and earned tremendous support by *concerned citizens*[3] (Tort et al., 2016). Meanwhile, the influx of immigrants increased from 2009 onward. Tort and colleagues (2016) use this as a key event, even though the stimulus does not represent a definite date. Furthermore, Arendt and colleagues (2017) found a significant rise in mentions of foreigner-related attributes after NYE. In the following years, other events could have had the same effect: Several Islamist terrorist attacks were carried out all over Europe, such as the one on December 19, 2016, when an adherent of the Islamic State (IS) drove a truck into a Christmas market on the Breitscheidplatz in Berlin, Germany, and killed 12 people. Also, crimes like the (alleged) murders of young women and girls by refugees could have had an effect since they generated national attention. Which of these events influenced the reporting is not researched yet.

The Sample

We collected newspaper articles published between January 1, 2014, and December 31, 2019, using the Dow Jones Factiva database. To avoid biases as a result of the geographical focuses or the publishing rhythms of the outlets, we chose daily national newspapers only. For feasibility reasons, the selection of outlets was restricted to three. Among the outlets with high national importance, *tageszeitung* (*taz*) is politically left, and *Die Welt* politically right-leaning. Additionally, *Bild* represents not only the most sold newspaper but also the largest tabloid in Germany. It can also be considered right-leaning. Since *Bild* and *Die Welt* both belong to the publishing house *Axel Springer SE*, ownership could have an effect that is not controlled for (Reese & Shoemaker, 2016). A comparison with e.g., *Frankfurter Allgemeine Zeitung* was desirable but was not possible because data were not available in the database.

All articles are indexed in the subject "crime/legal action" in the database. Test coding was conducted on 100 articles to distinguish between relevant and irrelevant articles. Consequently, a list of words related to the perpetrator such as *criminal* or *arsonist* was obtained using the words in the sample as well as synonyms (see Appendix). This list was then used to refine the search results and exclude reports about law branches (e.g., tenancy law) that are irrelevant to the research. The region was set to Germany and the language to German. Further, the option to display "full article/report plus indexing" was selected to obtain additional information and facilitate data analysis. In total, the search resulted in 15,452 articles. After the removal of duplicates using respective Factiva settings, the sample consisted of 15,044 news pieces (see Figure 5 in the Appendix for the distribution). All articles were downloaded between March 17 and March 20, 2020, in RTF files containing up to 100 articles.

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[1] Original: Alternative für Deutschland (AfD).

[2] Original: Patriotische Europäer gegen die Islamisierung des Abendlandes (Pegida).

[3] Original: Besorgte Bürger.

Operationalization

Independent Variables

We use the publication date (SQ1–3) and the outlet (H1–2) as independent variables. Dates are grouped by years (SQ1–2, H1–2) or calendar months using the same day in the months before and after events, respectively (SQ3).

Dependent Variables

To measure minority signification in news reporting, we screened the news texts for a list of keywords. We used the operationalization by Arendt and colleagues (2017) as a guideline but modified the categories to assess crime reporting on a broader spectrum independent of the NYE incidents. Analyzing German crime statistics from 2014 to 2019, we selected the 20 foreign nationalities with the most criminality for each year, resulting in a list of 26 nationalities in total (Bundeskriminalamt, 2014, 2015, 2016, 2017, 2018, 2019; Figure 1). We added general terms and regional attributes to the codebook because these might be used especially if the perpetrator is portrayed in a line of criminals from the same region or serves a stereotype (Arendt et al., 2017). Cumulative regional variables were later created. Double nationalities were counted as the foreign ones if specified in the text because explicitly stating the non-German origins produces a differentiation to the majority using the same stereotypes as the mention of foreigners (Arendt et al., 2017). Refugees were counted if the article specified this, e.g., when the alleged criminal lived in a refugee home.

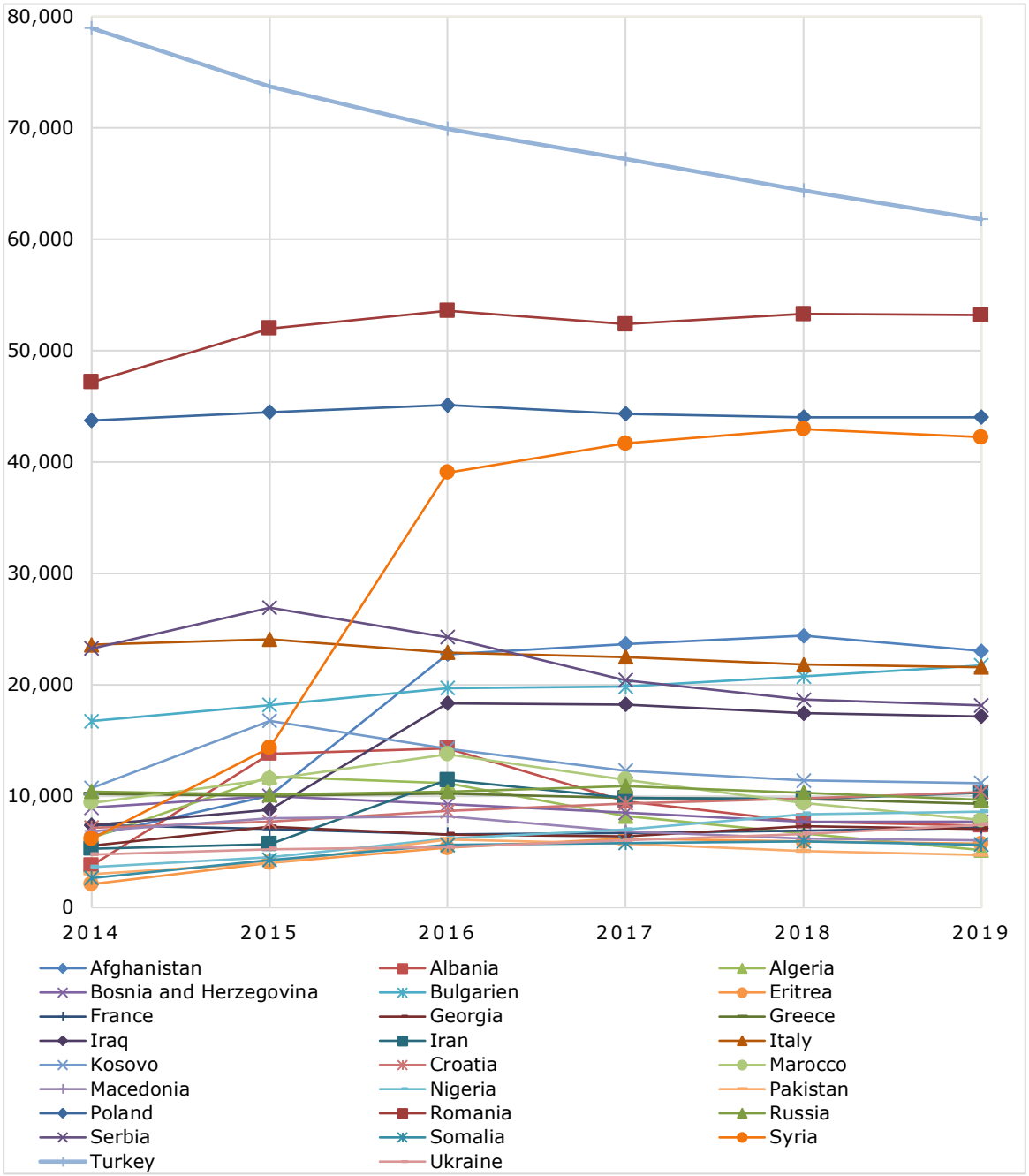

Figure 1. Crimes in Germany by nationality excluding violations of residency and asylum laws and agreement of free movement [Straftaten insgesamt, jedoch ohne Verstöße gegen das Aufenthalts-, das Asylverfahrens- und das Freizügigkeitsgesetz/EU (Schlüssel 725000)] (2014–2019).

Further, ethnic and religious attributes associated with foreigners were coded. Because Tort and colleagues (2016) find that people with Islamic beliefs face higher resentments and are more often associated with criminality, we included Islam in the variables. In a survey by the national antidiscrimination body, almost 50% of the respondents stated that Sinti and Romanies' actions cause animosities (Zentrum für Antisemitismusforschung & Institut für Vorurteils- und Konfliktforschung e.V., 2014). Because these strong and deep-seated prejudices might also influence crime reporting, we included this group. Kurds were included because they represent a politicized group of approximately 1 million people in Germany (Schürer, 2018) and are often treated as identical to the PKK (Esser, 2002). Thus, the dependent variables include nationalities, regional descriptions, Islam, Sinti and Romanies, and Kurds (see Appendix for a full list).

Research Design

We first used automated content analysis (ACA) to preselect articles that might contain minority signification. In a second step, we coded the identified articles manually. This hybrid approach allows us to benefit from the advantages of ACA—in particular, screening a large over-time data set that would otherwise be difficult to handle—but avoid pitfalls, such as the challenges of automatically coding complex constructs of language where one word or term can have different meanings (Boumans & Trilling, 2015). More technically, we profit from the high *recall* of the automated first step before we increase the *precision* by a manual second coding.

The data were analyzed in Python using a combination of regular expressions (RegEx)—a common text processing language—and *SpaCy*—a natural language processing tool (ExplosionAI GmbH, n.d.). We used RegEx for multiple steps. To clean and prepare the data, the raw text was split at the end of each article. We used the indexing to detect sequences such as the headline, main text, outlet, and publication date, among other information (e.g., the subject code) that was used to set the relevancy of all articles about entertainment to zero.

Then we searched for keywords in the articles based on stemming and full word recognition. Using stemming, the ACA recognizes, e.g., "Turkish," "Turk," and "Turkey" all as related to Turks. The full word recognition includes words such as "migration background." With this scheme, articles that contain one of the researched keywords for ethnic groups were selected.

The detected texts were further used for operations with *SpaCy*. The package provides functions that detect semantic connections between subordinate and superordinate words. The *token.subtree* and *token.ancestors* functions were combined to search for connections between a codebook containing words related to criminals or criminal actions and the foreigner-related attributes (see Appendix Figure 6 for an example). In 4,391 articles, semantic connections between foreigner and criminal attributes were found. Comparing the outcome with a hand-coded test sample of 50 articles, a recall of 0.84 and a precision rate of 0.57 were obtained. Thus, 84% of all articles that contained foreigner attributes in descriptions of the criminal were detected by the ACA, but only 57% of the detected articles were actually relevant. These were filtered out in the second step.

The manual coding was conducted by two coders. The first author analyzed 3,703 articles while a second coder analyzed 795 articles. First, only the paragraph containing keywords was read. If the paragraph was not clear in its meaning, the coder read the whole article. If one of the coders was still unsure about the coding of an article, the issue was discussed. Articles were considered relevant if the crime was conducted or legal action took place in Germany. War crimes, letters to the editor, articles about crime statistics, and interviews, as well as articles about crimes that were conducted before 2000, were coded as irrelevant because these would not necessarily represent the newspapers' line of argumentation, contained minority signification per definition, or did not represent the current societal circumstances. The coding unit is the article. If several crimes are mentioned in one article, all of those that were conducted by foreigners were coded. Thus, if an article refers back to other crimes by the same subject or subject group or to a similar crime by another subject group, these were also counted. In a few cases,[4] texts or large parts of them occurred twice in the sample. These were coded only once. Additionally, the tabloid format of *Bild* might have caused faults in the import of the articles, leading to incorrect separation of articles by *Factiva*. In 142 cases, of which 26 contained foreigner attributes, the page number was indexed as the headline. This error is not distributed equally but concentrated on the years 2014 (56 of 106), 2015 (85 of 168), and 2019 (one of 131 articles). While on none of these pages two independently reported foreigner attributes occur (thus attributes were still coded per article, not per page), the number of articles that contain no foreigner attributes might be slightly biased for the outlet.

Sixty-one variables were coded, including 26 nationalities and 13 regional attributes as well as 16 categories for the types of crime[5] (see Table 2 for the coding scheme). Despite coding for these, types of crime were not included in the analysis later. All variables are dummies coded to 1 if the minority group or crime occurred and 0 if not. Additionally, a variable for foreign reports or other topics (e.g., broadcasting of a crime show), a variable for articles that occurred twice and a variable for ambiguous articles were included. Further, two open variables were coded: one for potential key events if a crime was mentioned repeatedly or generated special attention (see Appendix), and one for other nationalities that occurred in the reporting.

To test intercoder reliability, Krippendorff's Alpha between both coders was calculated on a test set of n = 160 cases. Alpha varied between 0.5 and 1.0 (Table 3). Because of the overall high number of variables, not every variable was present in the subsample and thus could be evaluated. Nevertheless, the values for nationalities are important for the analysis because SQ1 and SQ2 directly build on the distinctions of different groups. Further, because the coding effort for all minorities is the same and Krippendorff's Alpha values for the minority variables in the subsample lie between 0.74 and 1.0 (M = 0.94), we expect similar evaluation quality for the other minorities. Therefore, the variables are accepted even though not all could be assessed directly.

[4] *Bild*: 23, taz: 1, *Die Welt*: 6.

[5] "Violations of residency and asylum laws and agreement of free movement" were excluded both in the coding and in the analysis because these are specific to immigrants and mainly concern illegal entrance or stay in Germany. The category confounded the statistics, especially in 2015 and 2016.

Results

Over- and Underrepresentation of Criminal Foreigners

SQ1 asked how the representation of minority groups as criminals differs from their actual committal of crimes. In total, 1,619 articles (10.76%) use at least one minority signification. To determine over- and underrepresentation, the normalized percentage of mentions for each of the 26 nationalities in the sample was subtracted to the percentage of crimes in the crime statistics.[6]

As Figure 2 shows, nationals from North Africa and the Middle East (Afghanistan: M = 5.11%, Algeria: M = 1.34%, Iraq: M = 3.61%, Morocco: M = 3.34%, Syria: M = 7.88%) but also Russia (M = 4.83%) and Albania (M = 1.34%) are overrepresented. Meanwhile, Europeans are rather underrepresented (Poland: M = −4.04%, Romania: M = −7.38%, Serbia: M = −1.24%, Bulgaria: M = −2.45%, Bosnia and Herzegovina: M = −1.01%, Croatia: M = −1.00%, Italy: M = −3.02%, and Greece: M = −1.80%). For all other nationalities, the average difference is smaller than 1%. Thus, criminal affiliations are not represented in relation to the actual committal of crimes by nationals but over- or underrepresented depending on the regional origin. Nevertheless, these differences are on average relatively small.

[6] While we coded also for affiliations with cultural or religious groups as well as regional attributes and societal standing, these are not represented in the crime statistics by the government. Thus, data to compare could be found only for the nationalities.

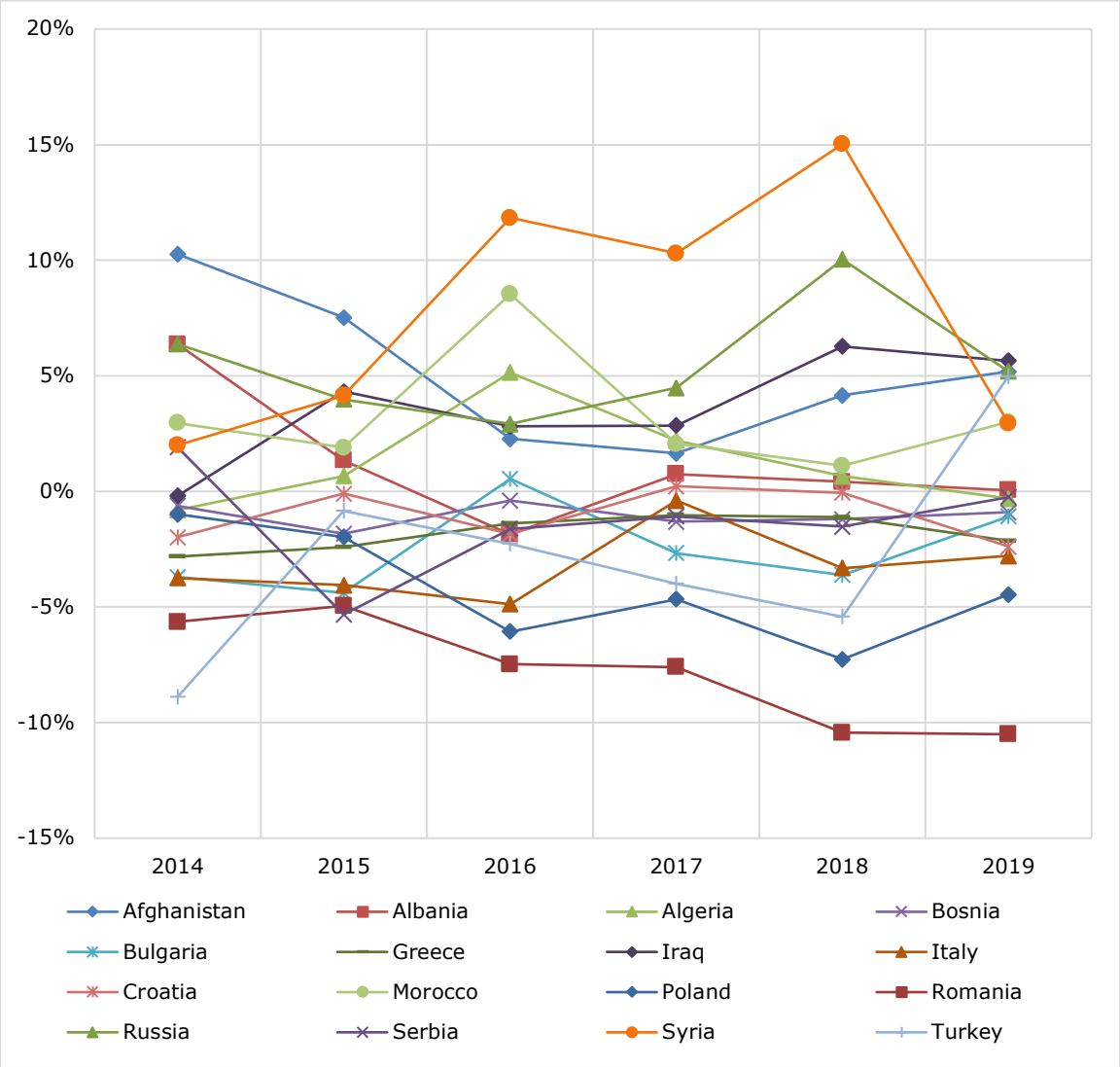

Figure 2. Over- and underrepresentation of criminals in German crime news by nationality. Difference between mentions in reporting in percentage of mentions of all 26 nationalities in reporting and crimes in crime statistics in percentage of crimes by all 26 nationalities. Nationalities with an average absolute difference of <1% were excluded from the figure (Eritrea, France, Georgia, Iran, Kosovo, Macedonia, Nigeria, Pakistan, Somalia, and Ukraine).

SQ2 asked how the portrayal of alleged criminals with foreigner-related attributes changes over time. We note that the misrepresentations are not stable but change from 2014 to 2019. While Syrians are always overrepresented, mentions rise more than the crime statistics would suggest, especially in the years 2016–2018. Also, the overrepresentation of Moroccans and Algerians in crime reporting increases in 2015.

Meanwhile, the mentions of Turkish criminals in crime news show a sharp rise in 2019, going from underrepresentation to overrepresentation.

Influence of Key Events on Reporting

SQ3 asks whether months with high minority signification can be linked to certain key events. To answer this question, we conduct an explorative analysis. We focus on the four months with the highest ratios of minority signification in contrast with total articles per month (Figure 3): January 2016 (21.6%), December 2016 (23.7%), March 2018 (21.3%), and August 2018 (21.8%). The ratios of articles containing minority signification were analyzed for the first and second month after a possible key event in comparison with the month before the event.

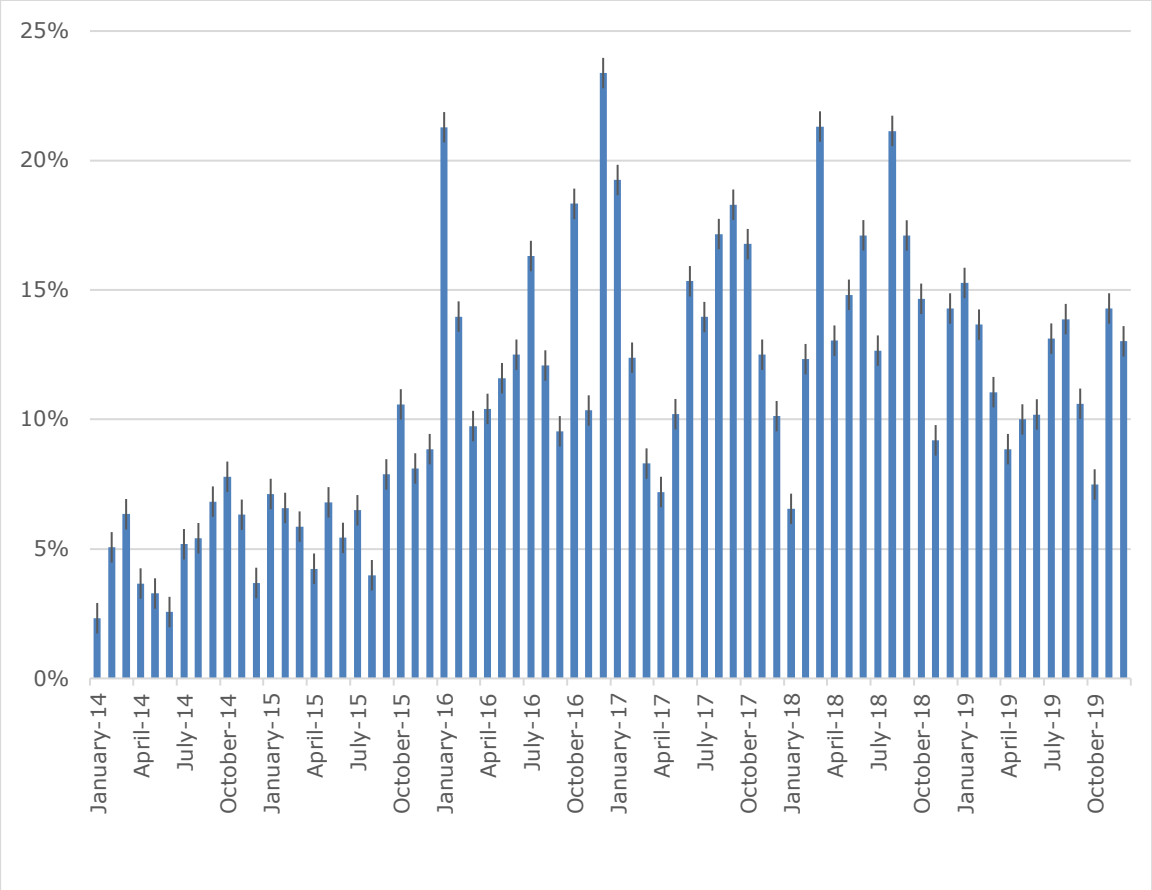

Figure 3. Minority signification in percentage of all articles. Minority signification in percentage of all articles per month (error indicator: standard error).

Table 1 reports logistic regressions for minority signification one month before and the first and second month after possible key events for all models with significance on the 0.10 level. For January 2016,

NYE could constitute a key event. One month before until two months after the incidents, in total 764 articles were analyzed. We found 125 of these to contain minority signification with 41 reporting directly on the assaults. Considering the mentioning of suspects from the Middle East and North Africa (MENA; *LLR p* = 0.055), minority signification rises significantly in February (*exp(B)* = 2.62, *p* = 0.023) but not in January (*exp(B)* = 1.86, *p* = 0.142) compared with December. Nevertheless, the model does not fit the data well (*McFadden Pseudo-*R^2 = 0.015). Considering the Middle East (*LLR p* = 0.374) and North Africa (*LLR p* = 0.001) separately shows that mentions of North Africa drive these results. All models considering other groups were not significant or showed only insignificant changes.

Table 1. Logistic Regression of Minority Signification One Month Before, One Month After, and Two Months After Key Events.

	NYE			*Breitscheidplatz*		
	MENA	North Africa (cumulated)	Asylum seekers/ Refugees	North Africa (direct mention)	Afghanistan	Syria
Prekey	0.04***	0.01***	0.09***	0.00***	0.06***	0.00***
	[0.02–0.09]	[0.00–0.04]	[0.06–0.14]	[0.00–0.03]	[0.03–0.10]	[0.00–0.03]
Postkey 1	1.86	9.78**	1.17	5.93	0.27*	9.00*
	[0.81–4.24]	[1.28–74.63]	[0.64–2.15]	[0.71–49.60]	[0.09–0.82]	[1.13–71.57]
Postkey 2	2.62*	13.64*	0.52+	1.13	0.23*	5.76
	[1.14–6.0]	[1.79–104.26]	[0.24–1.12]	[0.07–28.20]	[0.07–0.82]	[0.67–49.72]
McFadden pseudo-R^2	0.02	0.05	0.01	0.06	0.05	0.05
LLR p-value	0.055	0.001	0.076	0.071	0.009	0.026

	March 2018			*August 2018*					
	MENA	Middle East (cumulated)	Islamist/ Salafist	Afghanistan	Arab	Russia	Foreigner	Asylum seekers/ Refugees	Islamist/ Salafist
Prekey	0.08***	0.07***	0.04***	0.00***	0.01***	0.01***	0.11***	0.06***	0.01***
	[0.05–0.15]	[0.04–0.13]	[0.02–0.09]	[0.00–0.05]	[0.00–0.05]	[0.00–0.05]	[0.06–0.19]	[0.02–0.10]	[0.00–0.06]
Postkey 1	1.35	1.43	1.42	0.93	1.88 [0.34–	3.35	2.05*	1.92	3.80+
	[0.62–2.93]	[0.62–3.29]	[0.49–4.07]	[0.06–14.98]	10.41]	[0.69–16.37]	[1.05–4.01]	[0.81–4.56]	[0.81–17.87]
Postkey 2	1.17*	2.64*	0.17	5.34	4.91*	0.52	1.38	0.50	4.34+
	[1.04–4.53]	[1.21–5.75]	[0.02–1.41]	[0.62–46.25]	[1.04–23.10]	[0.05–5.76]	[0.66–2.90]	[0.15–1.71]	[0.90–20.81]
McFadden pseudo-R^2	0.01	0.02	0.05	0.06	0.04	0.06	0.01	0.03	0.03
LLR p-value	0.098	0.032	0.033	0.094	0.055	0.069	0.09	0.026	0.088

Note. The table displays the odds ratio and respective confidence intervals for the month before the key event, the first and the second month after the key event; NYE: $N = 738$, $df = 735$; Breitscheidplatz: $N = 724$, $df = 735$; March 2018: $N = 457$, $df = 454$; August 2018: $N = 480$, $df = 477$; + $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; ***; $p < 0.001$.

On December 19, 2016, an Islamist terrorist deliberately drove a truck into a Christmas market in Berlin. One month before until two months after the attack, of 766 published articles, 140 contained minority signification. Of these, 37 reported on the attack and were excluded. Conducting logistic regression as above, the model for asylum seekers/refugees (*LLR p* = 0.076), as well as the mentions of North Africa (*LLR p* = 0.071), Afghanistan (*LLR p* = 0.009), and Syria (*LLR p* = 0.026) are significant. For asylum seekers/refugees, minority signification drops slightly but significantly in the second month after the event (*exp(B)* = 0.52, *p* = 0.095). Further, the mentions of Afghans drop significantly in the first (*exp(B)* = 0.27, *p* = 0.021) and second month (*exp(B)* = 0.23, *p* = 0.023) after the attack compared with the month before. Meanwhile, the mentions of Syrians rise significantly in the first month after the attack (*exp(B)* = 9.00, *p* = 0.038).

Besides, two spikes in March and August 2018 are observed. By examining all relevant articles in March, hearings of two murder cases suspecting refugees of committing serious crimes were found as a possible trigger: one about a refugee who raped and killed a student in Freiburg in October 2016 and another one about a refugee who stabbed several people in a supermarket in Hamburg in July 2017. Because no event on a single day was identified, the first postkey period starts on March 1. Excluding all reporting about these events, the models for foreigners in general (*LLR p* = 0.09) showed significant changes in March (*exp(B)* = 2.05, *p* = 0.036), and Islamist/Salafist showed weak but significant changes in March (*exp(B)* = 3.80, *p* = 0.091) and April (*exp(B)* = 4.34, *p* = 0.067).

In August 2018, an alleged rape of a girl in Hamburg by a refugee was reported on but turned out to be false information. Again, no single date could be identified and the analysis starts with the first of the month. The models for MENA (*LLR p* = 0.098), the Middle East (*LLR p* = 0.032), and Arabs (*LLR p* = 0.055) show significant changes. The mentions for these groups rise significantly in September compared with July but not in August. Thus, it can be noted that while some spikes in the data might be explained by a single event such as the sexual assaults on NYE, others are ambiguous.

The Influences of Media Types

H1 suggests that right-leaning newspapers include minority signification more often than left-leaning newspapers. Further, H2 proposes that tabloids are more likely to include minority signification in their reporting. While the reporting of the examined newspapers is based on the same events, and exclusively reports about crimes in Germany were taken into account, the outlets differ in using minority signification. The political-right newspaper *Die Welt* mentions foreigner attributes of alleged criminals the most (12.4%), while the tabloid *Bild* mentions them less (10.3%) and the political-left newspaper *taz* mentions them the least (9.1%). Nevertheless, H1 can be confirmed only for the years 2015, 2016, 2018, and 2019. In 2014 and 2017, the differences between the right-leaning and the left-leaning newspapers are insignificant.

While the political-right outlet mentions foreigner attributes significantly more than the tabloid ($p < 0.001$), the difference between the political-left outlet and the tabloid is not significant ($p = 0.143$). The data also differ tremendously over time (Figure 4). Only in 2018 the tabloid mentions attributes significantly

more than the political left (p = 0.002) and even less in 2014 (p = 0.002). Therefore, H2 can be only partially confirmed.

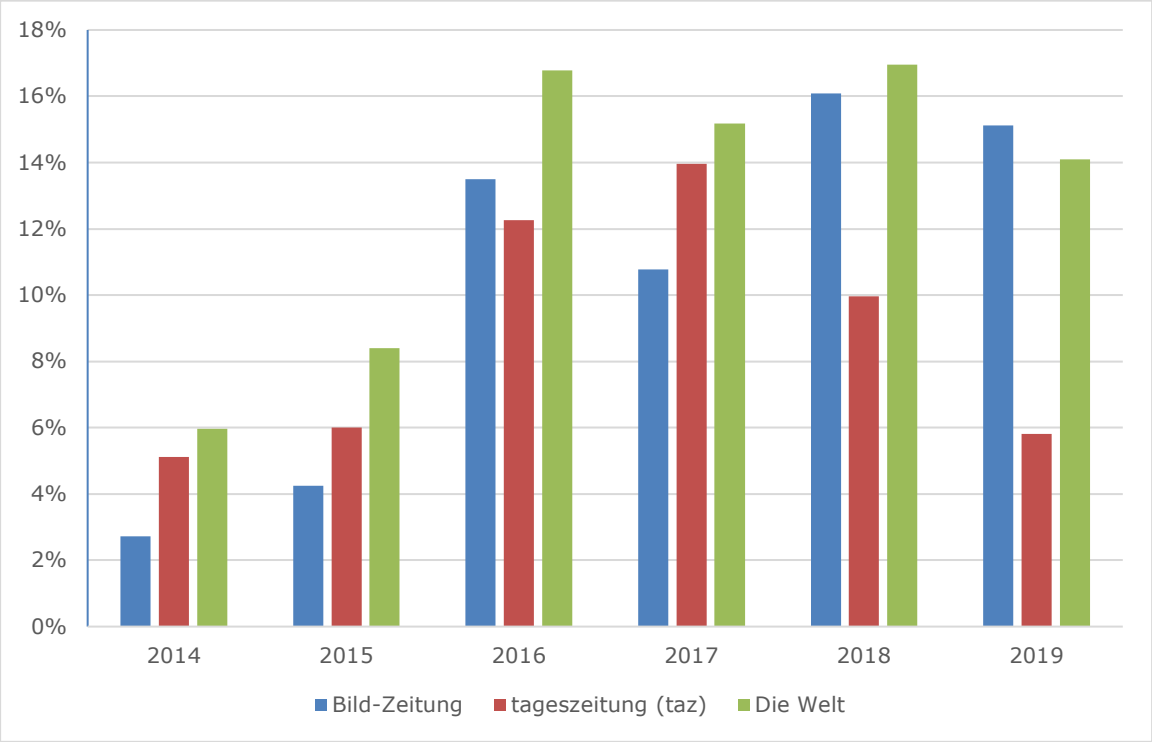

Figure 4. Distribution of minority signification per outlet and year. Percentages in comparison with all examined articles in that time frame and outlet.

Conclusion and Discussion

In this study, we investigate the change of minority signification in German crime reporting. Specifically, we compare the mention of minority suspects with the crime statistics, examine the influences of key events on reporting, and evaluate the influences of media types on minority signification.

Over- and Underrepresentation of Criminal Foreigners

The comparison of foreigner-attributed crime reporting and crime statistics shows that the portrayal of foreigners as criminals in print media differs from actual crime numbers. In this case study, Europeans are found to be underrepresented and non-Europeans mostly from Muslim countries to be overrepresented in the media, even though only marginally.

Over the years, the overrepresentation rises for some non-European nationalities. This increase might be connected to higher reporting about immigrants from war-affected countries generally, which

Bonfadelli and Moser (2007) find to be influenced by an increase in refugee numbers. Our results also provide further support for the findings of Czymara and Schmidt-Catran (2017) inferring that immigrants from the Middle East and Africa are the least accepted and increasingly rejected.

Considering the values for individual years and nationalities (e.g., Syrians in 2018 with 15.02%), the reporting in these years possibly influenced the perceptions of the affected groups, while for other years and groups an influence is questionable because of small differences. The overrepresentation of countries with Muslim majorities also supports findings by Alikhani and Rommel (2017) concluding that the notions of culture and identity that are threatened by migration from culturally different countries reinforce deep-seated racism against Muslims. Nevertheless, further research is needed here. Meanwhile, we cannot explain the sharp rise in mentions of Turkish criminals in 2019. A Turkish minority is established in Germany for decades, and no event occurred that can be connected with the increase.

Influence of Key Events on Reporting

While we find a minority signification ratio of more than 20% in four months, not all spikes can be linked to key events. The analysis of NYE confirms an increase in minority signification, but the findings are only partly comparable with Arendt and colleagues (2017), who include different nationalities in their variables. Our selection of minorities considers more groups and is based on crime statistics instead of a selection adapted to one event making the research more extensive. Different findings can further be explained by the different examined newspapers and sample selection methods. Differences in keywords can be suspected to influence the outcomes since minority groups are displayed differently. Also, the research differs in nuances in coding because here only mentions are counted. Other researchers weigh the articles based on the level of attention that they get in the newspaper by evaluating the space an article takes and the presence of pictures (Arendt et al., 2017) or if signification is used in the headline, lead, or main text (Yamamoto, 2012). Further, it is not counted how often the foreigner attribute is mentioned. These parameters could indicate how dominant minority signification is within the article and thus how much people are affected (Dixon, 2008). This might be interesting for a follow-up study considering also the influences on attitudes toward minorities.

For the attack on the Christmas market, no key event study was conducted yet. Minority signification of asylum seekers and refugees as well as Afghans was found to drop slightly in the second month while minority signification for Syrians rises significantly in the first month. These unsteady findings could be explained by the fact that while the NYE assaults were unexpected, the terrorist threat in Europe was known already before the attack, thus did not start a new debate. Further, the nationality of the assailant—who was Tunisian—was not analyzed directly. Nevertheless, no causal reasons can be drawn from our data, and further research on this event specifically might provide more explanations.

For the spikes in minority signification in March and August 2018, no key event on a single day was found. After excluding articles about the lawsuits and the alleged rape, which were identified as possible key events or cause to the higher values in the months, some groups showed weakly significant changes. Both lawsuits could have triggered more mentions of foreigners in general in the following months, and the hearings about the stabbing in Hamburg could stand in connection with the increased mentions of

Islamists/Salafists. Also, an Islamist attack in France on March 23, 2018, could have led to the rise of mentions in April. While the percentage of minority signification rose in August, no single group showed a significant rise for the month. Only in September the mentions of some groups connected to the Middle East rise significantly. This could be influenced by the homicide of a man in Chemnitz by two refugees—a Syrian and an Iraqi—followed by violent protests against the German migration policy at the end of August. The homicide and the terrorist attack in France were not taken into account here because the events did not fit into the methodology of examining key events in the months with the highest minority signification ratios. While it is unclear why minority signification increased in reporting in March and August, respectively, the homicide and protests were widely debated and thus should be analyzed in future research. In conclusion, the two spikes in March and August 2018 yield ambiguous results.

The exploratory research design is focused on giving a first overview of what could be key events in recent years. Future research could test more extensively under what circumstances incidents function as such. Focusing on single events can have a couple of advantages as the codebook and the sample are fitted to the incident. Also, in this research, we compared relatively long time frames of one month before the event to the first and the second month after the event. While Arendt and colleagues (2017) do the same, effects may be visible only for a shorter time frame.

The Influences of Media Types

We find that the right-leaning newspaper includes minority signification more than the political-left newspaper, thus the results support H1. In general, our results support Tort and colleagues (2016), who find the politically right-leaning outlets to display immigrants as criminals the most. Meanwhile, H2—stating that tabloids are more likely to include minority signification—can be only partially supported. The tabloid does not mention foreigner attributes more than the political-right and in some years not even more than the political-left outlet. These differences from other studies can be influenced in several ways. While KhosraviNik (2010) finds tabloids to use many negative topoi for reporting on immigrants and refugees and use stereotypes more overtly than quality newspapers, he neither analyzes crime news specifically nor compares coverage where immigrants are mentioned with such where they are not mentioned. Jacobs and colleagues (2016) analyze public broadcast and private TV news and thus do not directly examine tabloids. Schlier and Lincoln (2014) research the mention of schizophrenia, which might differ from the reporting on minority stereotypes.

Even though we neither conducted framing nor qualitative content analyses, some differences caught our attention. *Bild* sometimes connects the nationality directly to the threat, e.g., in the title "2 Dead in Frankfurt District Court; The Bloody Weapon of the Killer-Afghan"[7] (Gärtner, 2014). Meanwhile, the *taz* occurs to introduce a societal or political perspective repeatedly and in some cases debunks claims by other media or politicians, e.g., when they explain that a foreign perpetrator could not have been deported because of a review of the application for asylum (Schulze, 2018). They further thematize and criticize the mentioning of perpetrators' foreign nationalities directly (Weissenburger, 2018). In the newspaper *Die Welt*,

[7] 2 Tote in Frankfurter Landgericht; Die blutige Waffe des Killer-Afghanen.

we noticed many reports covering court hearings but otherwise did not spot unique features. A following framing analysis on a subset of the data could clarify this.

Limitations and Future Research

The Factiva category "crime/legal action" used to select articles also includes articles that report primarily on a political debate or entertainment containing crime. Thus, the data contain background noise that was neither filtered out nor coded as relevant, diminishing the minority signification ratio. While this noise is treated as distributed equally across the outlets, the assumption was not tested because of the vast number of articles.

Another limitation arises because the selection of articles was based on keywords for criminals that were derived from a test sample of 100 articles as well as synonyms for "criminal" found in an online synonym database. While all three outlets were used and the selection is supposed to be inclusive, it might be biased. Refining this list or coding all articles that Factiva holds in the category "crime/legal action" was out of scope for this work, especially because only 100 articles can be downloaded at a time and it was not possible to automate this process.

Because of the restrictions in data availability, two newspapers from the same publishing house were selected. Future research should take this into account and test if similar differences among outlets on the political spectrum or between outlet types also occur with another sample. Further, while it is tempting to interpret the data beyond this point, we cannot draw more ambitious conclusions on causes for the findings because of the limitations the data-type poses. Thus, the topic has to be investigated more in future studies.

In future research, additional analysis on the already collected data could be done to examine the framing in the articles that contain minority mentions. Jacobs' (2016) study on the framing of foreigner groups to natives in Flemish crime reporting, or minority criminality as indicated by Yamamoto (2012), could give guidance for this. Future research here might also shed light on the usage of stereotypes connected to minorities in different newspapers where, according to KhosraviNik (2010), it can be expected that tabloids reproduce stereotypes. Further, it remains unclear why some months show higher minority signification in reporting without a clear key event.

Fitzgerald, Curtis, and Corliss (2011) find that crime anxiety leads to negative attitudes toward immigration policies and that this connection is the strongest for politically interested people. It is possible that this attitude does not exist only in general but also toward specific ethnic groups. Since politically interested people also tend to consume more news, the exaggeration of certain minority groups as criminals could have implications for the attitudes toward immigration of these groups. Examining the effects of an overrepresentation of Blacks in Californian crime reporting, Dixon (2008) finds that people who consume news do not evaluate only Blacks more negatively but also criminals whose race is unclear. Jungkunz, Helbling, and Schwemmer (2018) find that conservatives' attitudes toward (Muslim) immigrants became more negative after the terrorist attacks in Paris in November 2015 while the attitudes of liberals did not show negative changes. More research on the correlation between biases in crime reporting and the

changing opinions toward immigrants is needed, also, e.g., following up on Boomgaarden and Vliegenthart (2009), who showed that news coverage of ethnic minorities affected people's attitudes toward immigration in Germany from 1993 to 2005.

Furthermore, because a name can give a clue about the ethnic origin of a person, it might not be necessary to mention the nationality of an alleged criminal explicitly to foster prejudices. Hefner and colleagues (2007) conduct an experiment to compare the evaluation of German and Turkish nationals as criminals and aides. While they mention the Turkish nationality explicitly, it would be interesting to test whether the same effects occur if only the name gives a clue about the origin. Furthermore, Jacobs (2016) finds foreign criminals in TV news to have their names mentioned and pictures shown fewer times than Belgians, which contributes to a homogenization of foreigners that leads to prejudice. Combining content analysis with effect studies could shed light on the consequences of foreigner attributes in crime reporting.

Last, further research is needed to determine in what contexts foreigner attributes of victims are mentioned. Bade (2018) compares the 1990s with the 2010s but rather on a theoretical level than using a consistent research design. While foreigners as criminals were analyzed by several researchers (Arendt et al., 2017; Esser, 2002; Tort et al., 2016), no structured research was done yet on the representation of immigrants as victims in recent years.

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Appendix

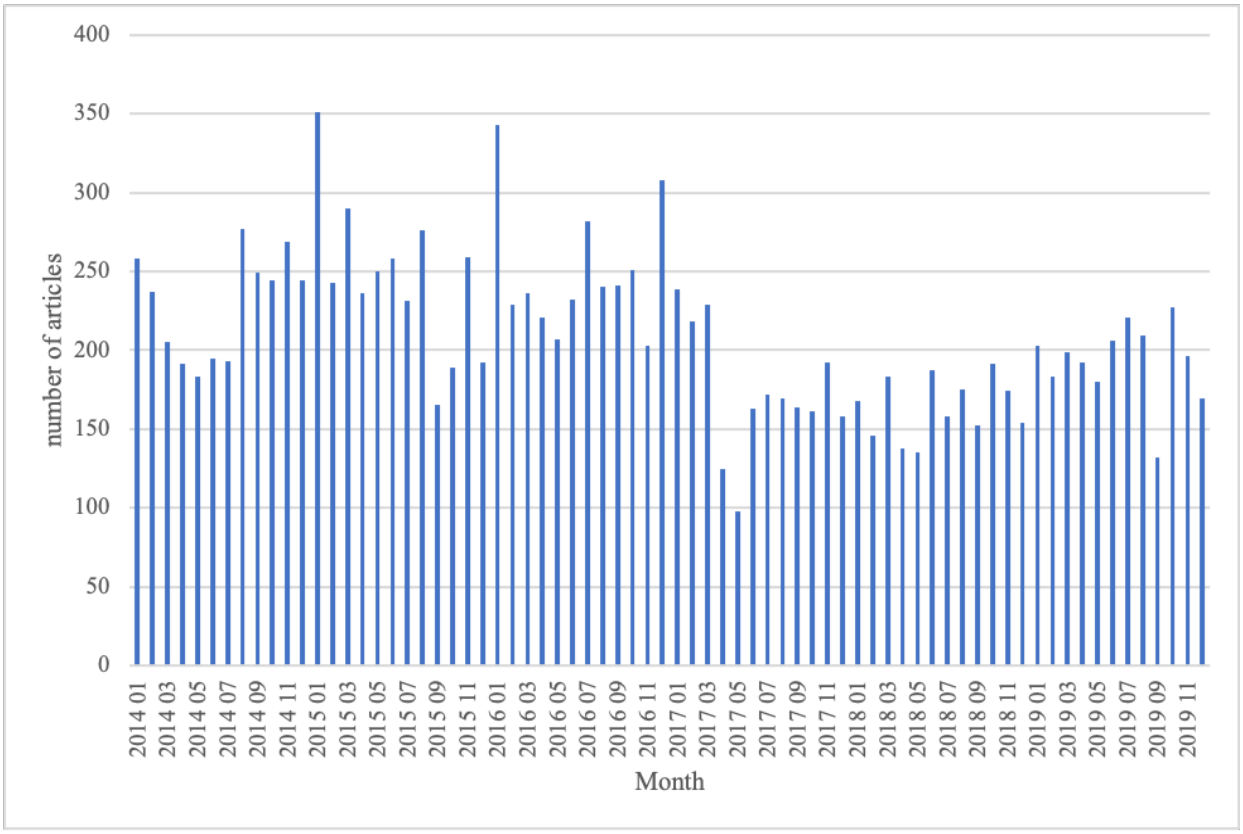

Figure 5. Distribution of articles.

Keywords to Select Articles

(Täter* or Mörder* or Verbrecher* or Gangster or Kriminelle* or Dealer* or Terrorist* or Attentäter* or Delinquent* or Dieb* or Räuber* or Einbrecher* or Ganov* or Langfinger* or Messerstecher* or Hochstapler* or Betrüger* or Verdächtig* or Vergewaltiger* or Randalierer* or Gewalttätige* or Unbekannte* or Brandstifter* or Streith?hn* or Beteiligte*)

Table 2. Coding Scheme.

Affiliation	Example
Nationality: Nationality, immigrational background, regional generalization	Afghanistan Turkey Rumania Syria Poland Iraq Serbia Bulgaria Italy Iran Nigeria Russia Albania Kosovo Ukraine Croatia Morocco Georgia Greece Macedonia Eritrea Bosnia & Herzegovina Pakistan Algeria
Regional attributes	Maghreb North Africa Africa Southern
Cumulated regional attribute	MENA: North Africa, Maghreb, Algeria, Morocco, Arabic, Southerner, Kurd, Afghanistan, Turkey, Iraq, Iran, Pakistan, and Syria Middle East: Arabic, Southerner, Kurds, Afghanistan, Turkey, Iraq, Iran, Pakistan, and Syria. North African: North Africa, Maghreb, Southerner, Algeria, Arabic, or Morocco

	East European: Romanies and Sinti, Albania, Bulgaria, Bosnia, Georgia, Kosovo, Croatia, Macedonia, Rumania, Serbia, Ukraine
Religion: Affiliation to a religious group,	Muslim, Salafist, Islamist
Ethnicity: Affiliation to a people	Arabs
	Kurds
	Romanies and Sinti
Social background: Residence permit status, the reason for being in Germany	Asylum seeker
	refugee
	migration background
Type of crime: in categories used by the crime statistics	terror
	organized crime/clan/mafia
	theft/robbery/burglary
	vandalism
	sex crime
	drugs/substances
	illegal residence/asylum fraud
	arson
	fraud
	harassment/threat
	bodily harm
	homicide
	people smuggling
	forced prostitution
	kidnapping
	human trafficking
Terrorist groups	PKK, Kurd
	Islamic State, Islamist

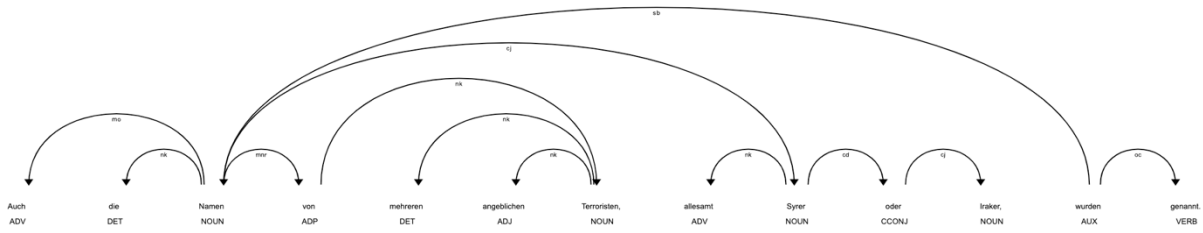

Figure 6. Visualization of the "ancestors" function in SpaCy.

Table 3. Krippendorff's Alpha.

Variable	Alpha	Variable	Alpha
foreigner:	0.88	Macedonia:	nan
uncertain:	0.26	Nigeria:	nan
duplicate:	nan	Pakistan:	1.0
othergenre_foreignreport:	0.55	Poland:	0.85
asylumseeker_refugee:	0.83	Rumania:	1.0
migrationbackground:	1.0	Russia:	0.85
africa:	1.0	Serbia:	1.0
north_africa:	1.0	Somalia:	1.0
arab:	1.0	Syria:	0.81
southerner:	1.0	Turkey:	0.85
maghreb:	nan	Ukraine:	1.0
east_europe_balkan:	1.0	terror:	0.83
romanies_sinti:	nan	organized_clan_mafia:	1.0
kurds:	nan	theft_robbery_burglary:	0.72
islam_muslim:	0.66	vandalism:	1.0
islamist_salafist:	0.86	sexcrime:	0.95
Afghanistan:	0.74	drugs_substances:	0.5
Albania:	1.0	illegalresidence_asylumfraud:	0.66
Algeria:	1.0	arson:	nan
Bulgaria:	nan	fraud:	1.0
Bosnia:	nan	harassment_threat:	0.66
France:	1.0	bodilyharm:	0.7
Eritrea:	1.0	homicide:	0.8
Georgia:	nan	peoplesmuggling:	1.0
Greece:	nan	forcedprostitution:	nan
Italy:	1.0	kidnapping:	nan
Iraq:	0.89	humantrafficking:	nan
Iran:	nan	easteu:	1.0
Kosovo:	nan	mena:	0.85
Croatia:	1.0	nafri:	0.92
Morocco:	0.85	meast:	0.87

Note. Variables for type of crime were not used in the analysis.