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On the Influence of Online Media Coverage on the Perception of (In)security

A social media case study from Bremen

Michael Adelmund and Eric Nissen

Introduction to the Topic

Generally speaking, the sense of safety in Germany remains at a high level overall, and the police enjoy a high degree of trust. Nevertheless, research on the fear of crime shows that there are areas of daily life in which the sense of safety is significantly compromised. The portrayal of criminally relevant behaviors in media discourse is of paramount importance in this regard: Serious and rare offenses, in particular, appear to be heavily overrepresented in the media, which can lead to crime being overestimated on a crime-specific basis: For decades now, criminological studies have examined the influence that media coverage exerts on perceptions of (in)security, demonstrating that "the nature, extent, and placement of crime reports" can give rise to a highly distorted perception of crime. Fundamentally, this problem stems from the fact that recipients incorporate relevant reports about the victimization of others into their own assessment of a potential victimization experience in the future. This can have far-reaching consequences, which may manifest, for example, in an exaggerated need for protection and avoidance behavior, or a decline in social control and the associated risk of detection of criminal behavior. This can trigger spirals of crime and lead to the emergence of no-go areas, which generate additional fear of crime and result in a significant loss of trust in the police and the rule of law. The destabilizing effects that can arise from this become particularly evident in extremist contexts, where crime-related reporting is seized upon to fuel relevant narratives such as those regarding crime by foreigners or police violence, thereby reinforce dichotomous, anti-democratic patterns of argumentation.

Zusammenfassung

In dieser Fallstudie wird das Spannungsfeld zwischen tatsächlicher und empfundener Kriminalitätslage durch Online-Medienberichterstattung untersucht. Mit Hilfe von text- und interaktionsanalytischen Verfahren aus dem Forschungsfeld Computational Crimin(ologic)al Sciences lassen sich zentrale Faktoren herausarbeiten, die nachhaltig Empfindungen von Unsicherheit begünstigen und die Wahrnehmung von Kriminalität in der Gesellschaft beeinträchtigen.

Computational Crimin(ologic)al Sciences, subjektive Sicherheit, Medienberichterstattung, Kriminalität, Medienkompetenz, Medienverantwortung

Abstract

This case study examines the tension between the actual and perceived crime situation as shaped by online media coverage. Using text and interaction analysis methods from the field of Computational Crimin(ologic)al Sciences, the study identifies key factors that contribute to sustained feelings of insecurity and influence the perception of crime in society.[1]

Computational Crimin(ologic)al Sciences, Subjective Security, Media Coverage, Crime, Media Literacy, Media Responsibility

[1] This is an open-source version of the original German text, in which proper nouns and quotations have also been automatically translated in some cases to facilitate the broadest possible reading comprehension (see 'Kriminalforschung im Wandel. Über den Einfluss von Online-Medienberichterstattung auf die Wahrnehmung von (Un-)Sicherheit.' Polizei & Wissenschaft. Ausgabe 3/2026. Frankfurt 2026. S. 57-78).

The very nature of the matter already harbors fundamental potential for conflict with regard to media coverage of crime, for on the one hand, it is part of the media's role to report on current events and issues, to critically examine them, and thereby to convey knowledge for the formation of opinion and for exchange.[2] On the other hand, however, it is inherent in the functional logic of the media to appeal to strong emotions, such as fear, and to generate attention from this.[3] This can lead to a focus on crime as a segment of reality that is then given disproportionate coverage in media reporting and is presented in a particular way, sometimes in a sensationalized manner.[4] This phenomenon is reflected above all in the extensively researched areas of the tabloid press: Empirical studies have shown, among other things, that the fear of becoming a victim of criminal assault was higher among frequent readers of the tabloid press,[5] led to avoidance behavior,[6] and was closely linked to a desire for punishment,[7] such as greater support for the death penalty.

Effects of this kind can be particularly amplified within the context of social networks, where a homogeneous perception of the problem of crime and an exchange among like-minded individuals can be observed, leading to a solidification of crime-related attitudes and feelings of insecurity.[8] Undoubtedly, the fundamental architecture of social media platforms also plays a role here, as it is designed to significantly influence its users, since "widely shared hatred, outrage, agitation, or empathetic solidarity"[9] also increase dwell time and usage intensity. As a result, high-quality journalism is coming under increasing pressure.[10] With the growing flood of information and media-specific selection and processing processes,[11] commercial interests[12] are gaining influence over journalistic activities. Revenues from newspapers, magazines, and advertising journals have steadily declined in recent years and cannot be offset by rising digital advertising revenues.[13] At the same time, it is becoming apparent that the number of publishers in Germany and the number of employees in editorial offices is declining, with market concentration increasing and diversity in reporting content decreasing.[14]

A multitude of (immediate and indirect) factors and (digital) conditions come into play when it comes to the challenges associated with crime-related media coverage on social networks

2 See Chill, Hanni, Meyn, Hermann (1996). Functions of the Mass Media in Democracy. In: Information on Political Education, Issue 260, 3/1996.

3 See Baier, Dirk/ Kemme, Stefanie/ Hanslmaier, Michael/ Doering, Bettina/ Rehbein, Florian/ Pfeiffer, Christian (2011). Fear of Crime, Demand for Punishment, and Perceived Crime Trends (Issue 117). Lower Saxony Institute for Criminological Research, p. 125.

4 See ibid.

5 See Smolej, M., Kivivuori, J. (2006). The Relation between Crime News and Fear of Violence. Journal of Scandinavian Studies in Criminology and Crime Prevention, 7, 211–227, cited in Dirk Baier, Stefanie Kemme, Michael Hanslmaier, Bettina Doering, Florian Rehbein, Christian Pfeiffer; "Fear of Crime, Demand for Punishment, and Perceived Crime Trends," Results of Representative Population Surveys from 2004, 2006, and 2010, Research Report No. 117, Criminological Research Institute of Lower Saxony, p. 126.

6 See ibid.

7 See Demker, M., Towns, A., Duus-Otterstrom, G., Sebring, J. (2008). Fear and Punishment in Sweden: Exploring Penal Attitudes. Punishment & Society, 10, 319-332; cited in Dirk Baier, Stefanie Kemme, Michael Hanslmaier, Bettina Doering, Florian Rehbein, Christian Pfeiffer (2021). Fear of Crime, Demand for Punishment, and Perceived Crime Trends. Results of Representative Population Surveys from 2004, 2006, and 2010, Research Report No. 117, Criminological Research Institute of Lower Saxony e.V., p. 125.

8 See Fischer, Thomas/Willems, Diana, Social Media and Fear of Crime, German Prevention Day; https://www.praeventionstag.de/nano.cms/archive-of-presentations/id/5135.

9 See Lüneborg, Margreth (2021). Social Media, Emotions, and Affects, Handbook of Social Media, J.-H. Schmidt, M. Taddicken (eds.), Springer Fachmedien Wiesbaden GmbH, part of Springer Nature.

10 See National Academy of Sciences Leopoldina (2021). Statement. Digitalization and Democracy. www.leopoldina.org/uploads/tx_leopublication/2021_Stellungnahme_Digitalisierung_und_Demokratie_web_01.pdf.

11 See Hahne, Michael; Hempel, Leon; Pelzer, Robert (2020). Feelings of (In)security and Subjective Safety in Urban Areas. Berlin Forum on Violence Prevention, No. 70, Issue 2. www.berlin.de/lb/lkbgg/_assets/bfg-70_heft-2.pdf, p. 46.

12 See Petre, Caitlin. (2021). All the News That's Fit to Click: How Metrics Are Transforming the Work of Journalists, Princeton: Princeton University Press. https://doi.org/10.1515/9780691228754

13 The Situation of the Local Press in Germany and the Challenges It Faces in the Age of Digitalization, Expert Report Commissioned by the Federal Government Commissioner for Culture and the Media (BKM), Berlin, September 8, 2022, www.bundesregierung.de/resource/blob/974430/2182890/36596999f2fe36061b335f262c3799b6 /2023-03-31-gutachten-zur-situation-der-lokalen-presse-data.pdf?download=1

14 See ibid.

and the resulting perceptions of (in)security, such as the emergence of so-called "fear zones", increased need for protection, avoidance behavior, and a loss of trust in a functioning rule of law.

The tension between the actual and perceived crime situation as shaped by online media coverage was the focus of a case study prepared for the Periodic Security Report of the State of Bremen , funded by the Free Hanseatic City of Bremen.[15] The following analysis is based primarily on data science observations regarding crime within the information spectrum of social mediain the State of Bremen and provided new and concrete insights into how relevant posts are composed, whether and which relevant forms of crime are depicted or appear overrepresented therein, and which factors may significantly contribute to the establishment of a growing tension between the actual and perceived crime situation.

Methodological Approach

To obtain a suitable dataset for these investigations, social media profiles from the news or media sectors for the state of Bremen were first researched.[16] The data collection process proved to be particularly time-consuming: due to the high number of posts on some profiles, multiple attempts, tests, and adjustments to the collection procedures were necessary. As a result, a suitable baseline dataset was obtained, consisting of eleven relevant accounts[17] and comprising 17,602 posts for the period from April 2022 to March 2023.

Content and response analyses on the topic of crime

During the study period, an average of 1,467 posts per month (City of Bremen: 911; Bremen-North region: 191; Bremerhaven: 364) were published on Facebook profiles in the state of Bremen; that is just under 50 posts per day and slightly more than two posts per hour.

On average, each of these posts was shared 3.9 times,[18] commented on 17.4 times,[19] and received 38.8 reactions,[20] such as "Likes".

Most posts were published on the WESER-KURIER profile[21] (6,678 posts), followed by the NORDSEE-ZEITUNG[22] (3,572 posts) from Bremerhaven and Die Norddeutsche[23] (2,130 posts), a regional daily newspaper in and around the Bremen-North area. The highest interaction rates per post and associated reach were achieved by buten un binnen,[24] Bremen-Nord News[25] and the WESER-KURIER.

The significance of crime-related content (word frequency and cluster analyses)

To gain initial insights into the prominence of crime-related topics in online media coverage in the state of Bremen and to understand the composition of their content, the first step

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15 See First Periodic Security Report of the State of Bremen. Institute for Police and Security Research. Bremen University of Applied Sciences. Senator for the Interior and Sports. Free Hanseatic City of Bremen (ed.). Bremen 2024. (https://www.inneres.bremen.de/sixcms/media.php/13/Erster%20Periodischer%20Sicherheitsbericht%20im%20Land%20Bremen.33341.pdf).

16 Due to their number, range of variables, and high volume of posts, the Facebook pages provided the most comprehensive and thus the most suitable basis for data science analysis. The identified profiles were opened in a browser window, scrolled through, temporarily saved, and then evaluated.

17 These profiles are as follows: BILD Bremen, Bremen-Nord News, Bremen News, Bremen.News, Bremennews, Bremerhaven News, buten un binnen, Cuxhavener Nachrichten, Die Norddeutsche, Kreiszeitung Redaktion Bremen, NORDSEE-ZEITUNG, WESER-KURIER.

18 The average number of shares was 4.8 shares per post in the city of Bremen, 1.2 shares per post in the Bremen-Nord region, and 3.2 shares per post in Bremerhaven.

19 The average number of comments was 25.7 comments per post in the city of Bremen, 1.8 comments per post in the Bremen-Nord region, and 4.7 comments per post in Bremerhaven.

20 The average number of reactions was 53.5 reactions per post in the city of Bremen, 6.2 reactions per post in the Bremen-North region, and 19.2 reactions per post in Bremerhaven.

21 The WESER-KURIER is a daily newspaper published by BREMER TAGESZEITUNGEN AG (see www.weser-kurier.de/impressum).

22 See www.nordsee-zeitung.de.

23 See www.weser-kurier.de/regionalausgaben/die-norddeutsche.

24 Buten un binnen is a news channel "for Bremen, Bremerhaven, and the surrounding area" produced by Radio Bremen (see www.facebook.com/butenunbinnen/about_details).

25 According to its own information, Bremen-Nord News has stood since 2011 for "current news, facts, and history surrounding Bremen-Nord" (see www.instagram.com/bremennord.news).

Facebook Profile	Posts	Reactions (per post)	Comments (per post)	Shares (per post)	Reactions (total)	Comments (total)	Shares (total)
WESER-KURIER	6,678	42	21	3	278,114	143,164	20,345
NORDSEE-ZEITUNG	3,572	19	5	3	67,994	17,372	10,098
Die Norddeutsche	2,130	1	0	0	2,844	327	696
BILD Bremen	1,360	16	6	1	21,294	8,080	1,534
bremennews	1,283	30	11	3	38,747	13,976	3,925
buten un binnen	1,041	238	111	25	247,330	115,169	26,268
Bremerhaven News	801	20	4	5	15,795	3,341	3,722
Kreiszeitung Redaktion Bremen	520	0	0	0	95	40	17
Bremen-Nord-News	161	71	24	12	11,472	3,895	1,991
Bremen News	46	2	0	0	100	16	23
Bremen.News	10	2	0	0	16	2	0

Table 1: Post and engagement figures for online media profiles in the state of Bremen (April 2022 to March 2023).

was to identify patterns in the unstructured textual data. To this end, frequency and cluster analyses[26] as well as methods for identifying so-called co-occurring terms, i.e. words that frequently appear together, such as "SERIOUS" and "INJURED", "VICTIM" and "PERPETRATOR" or "YEAR-OLD" and "VICTIM" within the collected text corpora.

Analysis of word frequencies reveals that, excluding so-called stop[27] and filter words,[28] the term "POLICE"[29] ranks first among the most frequent words and was thus included in posts more often than, for example, "CORONA",[30] "WERDER",[31] "PINGUINS"[32] or "UKRAINE".[33] Across the entire spectrum of the most frequent terms, in addition to the term "POLICE", "INJURED",[34] "ACCIDENT",[35] "FIRE DEPARTMENT",[36] "PERPETRATOR"[37] and "WITNESSES"[38] also underscored the prominent significance of crime-related topics, which thus appeared fundamentally suited to influence perceptions of "(in)security" (see figure 1).

[26] So-called cluster analyses are used for the algorithmic identification of similarity groups within large datasets; in the present cases, a word matrix was created from text corpora, which can be visualized in a tree diagram by calculating word frequencies with the shortest distances between them.

[27] Stopwords are frequently occurring terms that add no value in quantitative analysis, such as "AND", "THE", "A", "BECAUSE", "HIMSELF" or "IN".

[28] A preliminary analysis of word frequencies revealed that subscription notices or advertisements from the respective media, as well as general location references such as "BREMEN", "BREMER", or "BREMERHAVEN," do not provide any additional insight for identifying thematic focal points as defined by the task, and were therefore filtered out of this analysis.

[29] "POLICE" (1st place): Absolute frequency: 1,917; Term contained in articles: 1,256.

[30] "CORONA" (2nd place): Absolute frequency: 1,841; Term included in posts: 871.

[31] "WERDER" (3rd place): Absolute frequency: 1,019; Term included in posts: 461.

[32] "PINGUINS" (4th place): Absolute frequency: 748; Term appearing in posts: 280.

[33] "UKRAINE" (15th place): Absolute frequency: 405; Term appearing in posts: 278.

[34] "INJURED" (8th place): Total frequency: 442; Term appearing in posts: 323.

[35] "ACCIDENT" (19th place): Absolute frequency: 325; Term appearing in posts: 230.

[36] "FIRE DEPARTMENT" (11th place): Absolute frequency: 521; Term included in posts: 302.

[37] "PERPETRATOR" (10th place): Total frequency: 425; Term appearing in posts: 318.

[38] "WITNESSES" (18th place): Absolute frequency: 315; Term appearing in posts: 237.

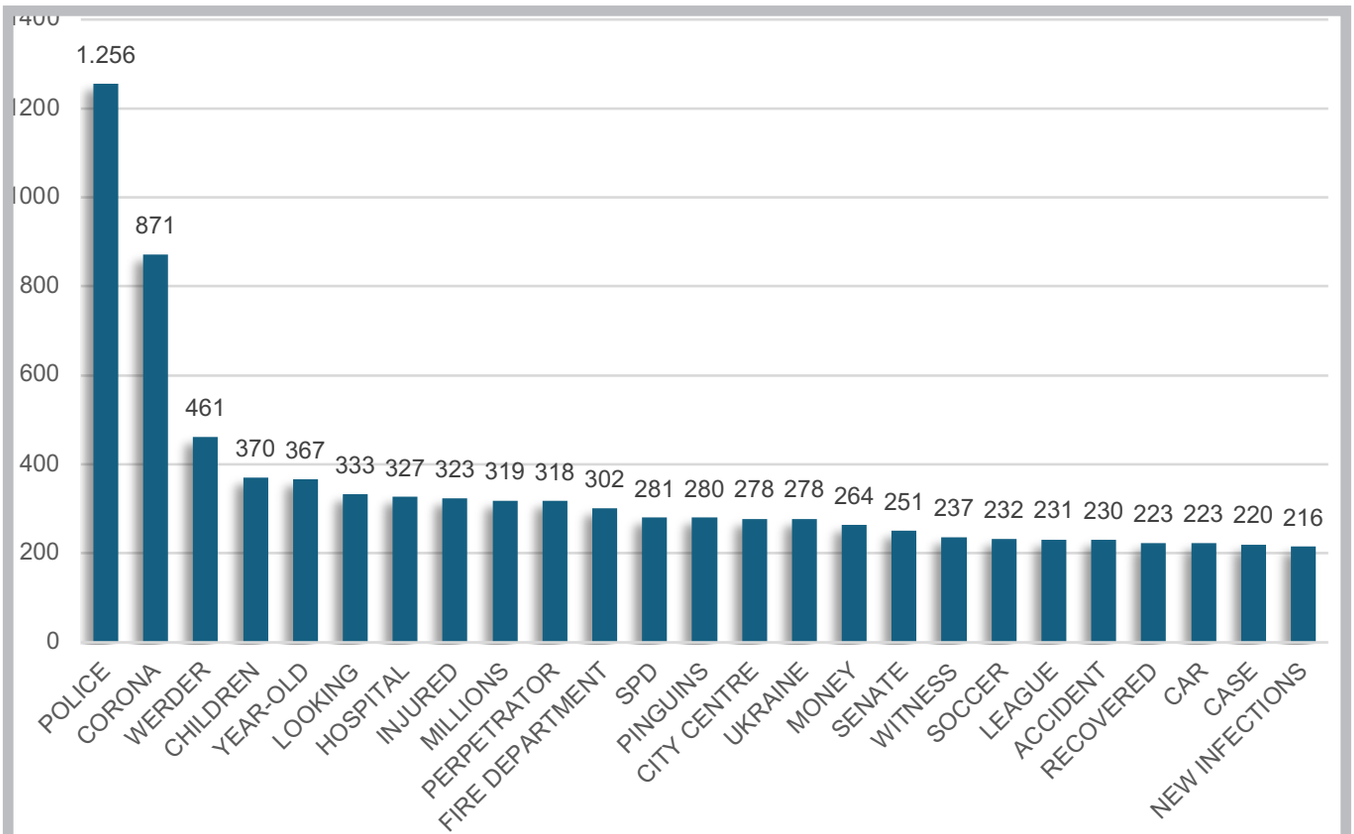

Figure 1: Word frequencies and number of posts for the TOP 25 terms.

The network visualization of the top words and the terms most frequently associated with them[39] not only reveals how firmly crime-related themes are anchored in online media coverage, which can influence individual assessments of potential threats to personal legal interests.

This also reveals the significance to be attributed to media coverage of (traffic) accidents, particularly those involving serious injuries, which are also relevant in terms of the portrayal of crime and the resulting perceptions of " (in)security". This arises, for example, from offenses against physical integrity,[40] which may have been caused by negligence, in relation to crimes endangering the public[41] in the areas of arson, interference with or endangering road traffic, and leaving the scene of an accident without permission.[42] Media portrayals of crime are also characterized by terms associated with criminal proceedings, such as "PUBLIC PROSECUTOR'S OFFICE", "DISTRICT COURT" or "VERDICT".

Since the relationships between the respective words and news sources are depicted in this overview,[43] it is already evident from the graphic at this point that the media profiles Bremerhaven News and Bremennews exhibit a particular thematic proximity to crime-related media coverage in the state of Bremen.

[39] The words that most frequently appear alongside a given term provide initial visual clues in the overview regarding its potential relevance to the task at hand. For example, the term "BIRTHDAY BOY" is most frequently associated with the terms "POLICE", "INJURED", "PERPETRATOR" or "TRAFFIC ACCIDENT".

[40] See Criminal Code, Section Seventeen, §§223 ff.

[40] See Criminal Code, Section Seventeen, §§223 ff.

[41] See Criminal Code, Section 28, §§306 ff.

[42] See Criminal Code, § 142.

[43] Only minor adjustments were made to improve the readability of the visualization.

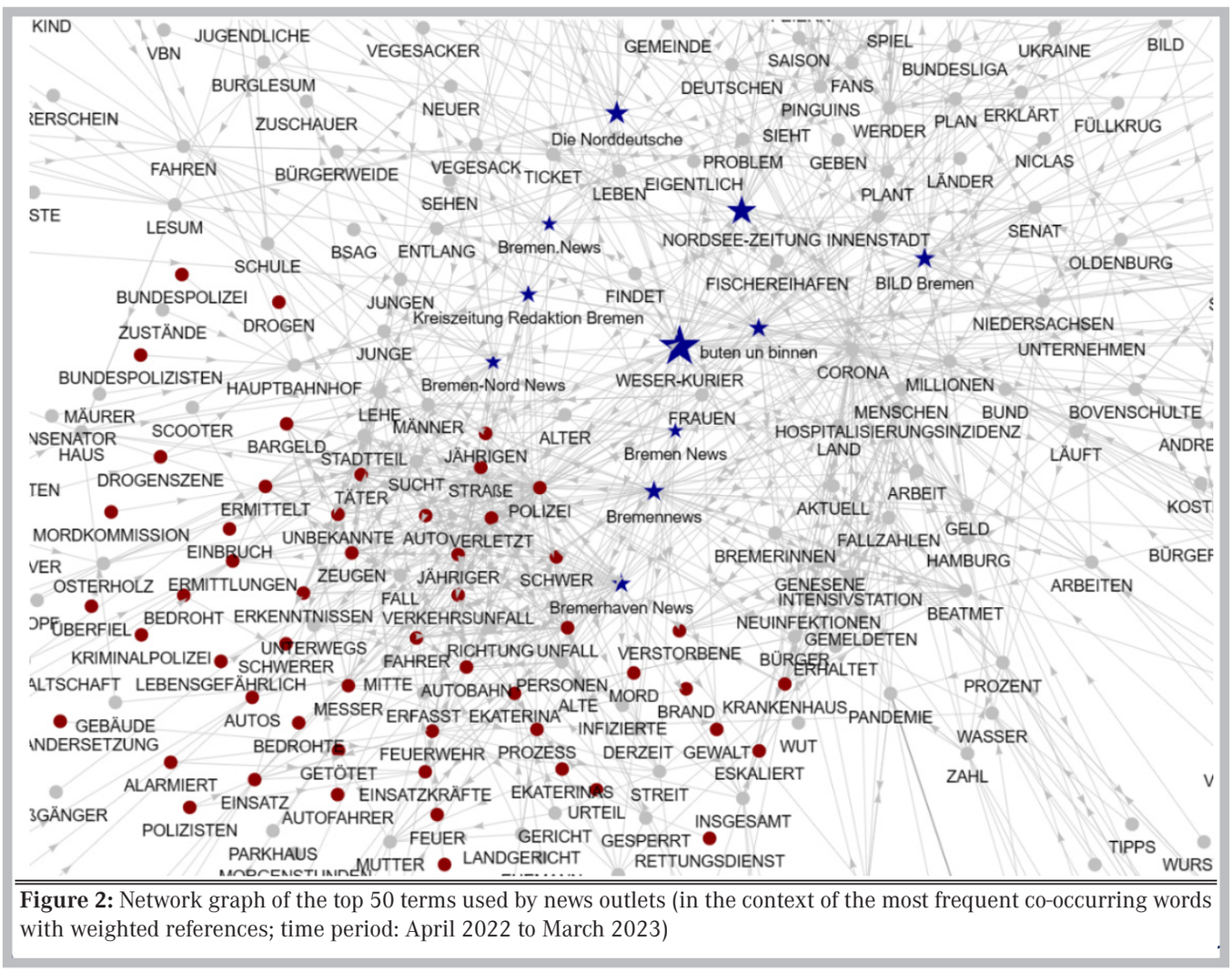

Figure 2: Network graph of the top 50 terms used by news outlets (in the context of the most frequent co-occurring words with weighted references; time period: April 2022 to March 2023)

Bremen, Bremen-Nord, and Bremerhaven: A Comparison of Thematic Focus Clusters

The thematic clusters[44] in online media coverage did show differences in detail between the city of Bremen and the Bremen-Nord and Bremerhaven regions. Nevertheless, comparable priorities in the coverage could be identified, in which "CORONA" as well as sports (especially "WERDER" or the "PINGUINS") but above all coverage of the "POLICE" or police-related content ("INJURED", "FIRE DEPARTMENT", "PERPETRATOR", "ACCIDENT" or "WITNESS") were given central importance. These varied only in their respective rankings, as the following clusters demonstrate.

In online media coverage of the city of Bremen, measured by word frequencies and the resulting clusters,[45] the greatest significance was attributed to the thematic areas surrounding the terms "POLICE"[46] and "CORONA",[47] followed by "CITY CENTRE",[48] "UKRAINE",[49] and "CHILDREN".[50]

[44] This refers to word clusters that exhibit a close, statistically determined proximity within the analyzed text corpora.

[45] This consisted of 10,938 text documents containing 36,245 different terms.

[46] In online media coverage of the city of Bremen, the term "POLICE" appeared in 770 articles during the study period.

[47] In online media coverage of the city of Bremen, the term "CORONA" appeared in 690 articles during the study period.

[48] In online media coverage of the city of Bremen, the term "CITY CENTRE" appeared in 232 articles during the study period.

[49] In the city of Bremen's online media coverage, the term "UKRAINE" appeared in 196 articles during the study period.

[50] In the online media coverage of the city of Bremen, the term "CHILDREN" appeared in 213 articles during the study period.

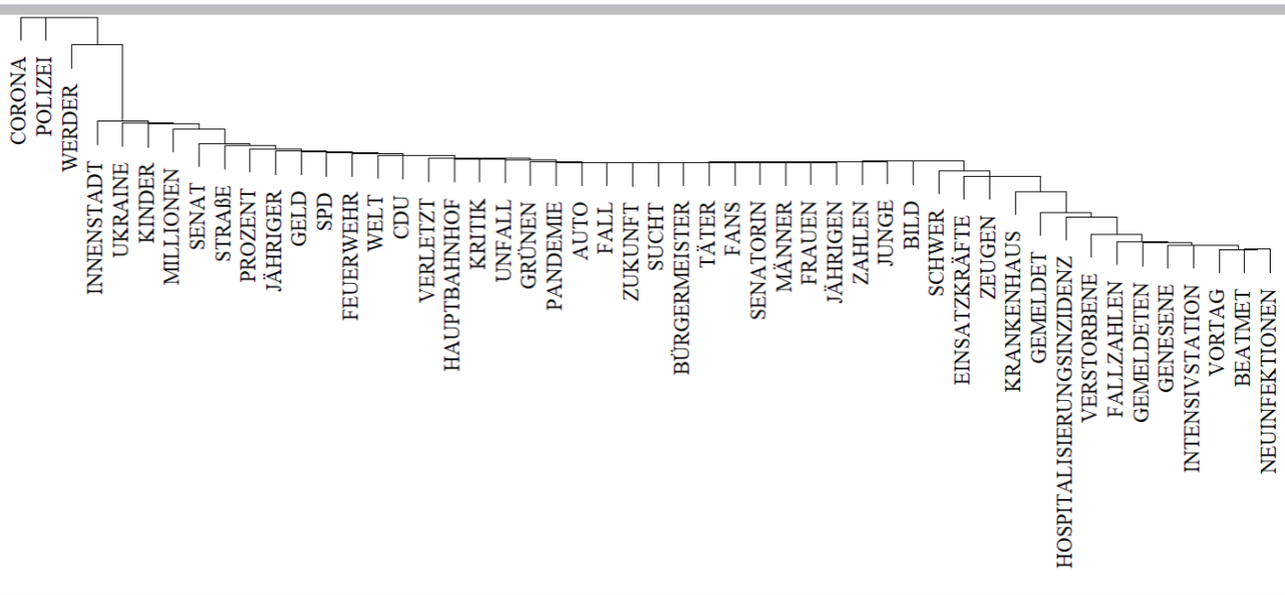

Figure 3a: Cluster analysis for Bremen (Hierarchical tree diagram; April 2022 to March 2023).

In online media coverage in the Bremen-North[51] region , the term “POLICE” was assigned the highest priority. Following that, “CHILDREN”, the “ADVISORY BOARD”, “SOCCER” and “CORONA” were at the forefront of the coverage. The cluster in Bremen-North showed a strong association between the terms “PERPETRATOR” and “WITNESS”.

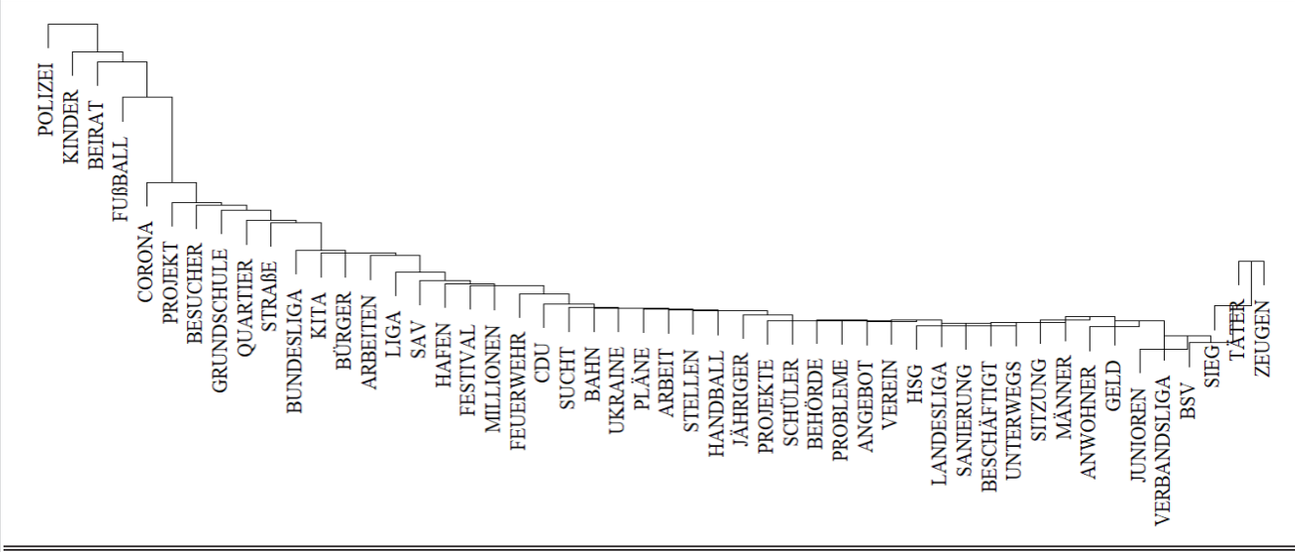

Figure 3b: Cluster analysis for Bremen-North (Hierarchical tree diagram; April 2022 to March 2023).

[51] Dataset: 2,291 text documents; 12,245 distinct terms.

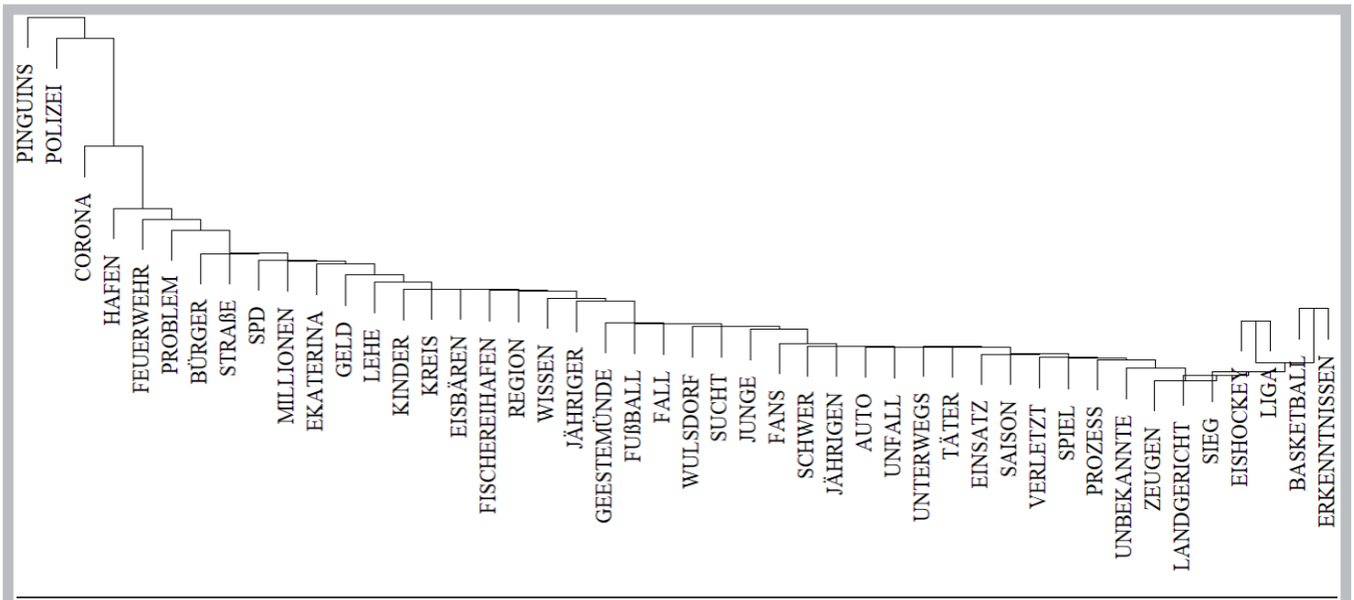

Figure 3c: Cluster analysis for Bremerhaven (Hierarchical tree diagram; April 2022 to March 2023).

The close connection between the terms "PERPETRATOR" and "WITNESS" emerged both from reporting on specific manifestations of crime in which, for example, witness statements could contribute to solving or preventing a crime and from police press releases aimed at recruiting witnesses.

The Bremerhaven cluster showed a clear priority on the "PINGUINS", closely followed by the "POLICE".[52] Following "CORONA" and the "PORT" was the "FIRE DEPARTMENT", which was thus assigned a slightly higher priority in social media coverage in the ranking comparison than was the case in the Bremen-North region.

In addition to the terms "PERPETRATOR", "WITNESSES" and "OPERATION" the co-occurrence analyses revealed that in Seestadt as well, the terms "BIRTHDAY BOY",[53] "CASE",[54] "ACCIDENT",[55] "SERIOUS"[56] and "INJURED"[57] were relevant to crime in online media coverage. As specific locations "LEHE" and "GEESTEMÜNDE" were at the forefront of the coverage: Both neighborhoods appeared primarily in connection with the terms "POLICE", "PERPETRATOR", "WITNESSES", "FIRE DEPARTMENT" or "FINDINGS" and also reflected a clear relevance to crime in this context.

Resonance and reach effects regarding crime-related topics (Word frequency rates)

Sorted by the highest sharing rates, it became apparent that the term "POLICE" not only topped the list of words most frequently mentioned overall in online media coverage in the state of Bremen, but also ranked at the very top among

[52] Dataset: 4,373 text documents; 24,033 distinct terms.

[53] The ten most common terms associated with the word "YEAR-OLD" were "POLICE", "LEHE", "INJURED", "TRAFFIC ACCIDENT", "ROAD", "WITNESSES", "SERIOUS", "DRIVING", "FINDINGS", "LEGALLY COMPETENT".

[54] The ten most common terms associated with the word "CASE" were "POLICE", "EKATERINA", "ASKS", "COURT DATE", "INVESTIGATING", "WITNESSES", "DISTRICT COURT", "TRIAL", "CLUES", "WITNESS CLUES".

[55] The ten most common terms associated with the word "ACCIDENT" were "TRAFFIC ACCIDENT", "INJURED", "BIRTHDAY BOY", "LEHE", "SERIOUS", "ROAD", "POLICE", "FINDINGS", "INJURED", "HIGHWAY".

[56] The ten most common terms associated with the word "SERIOUS" were "INJURED", "BIRTHDAY BOY", "POLICE", "CONFRONTATION", "ROAD", "ROAD", "HIGH SCHOOL", "PERPETRATOR", "LLOYD", "LEHE".

[57] The ten most common terms associated with the word "INJURED" were "SERIOUS", "POLICE", "BIRTHDAY BOY", "TRAFFIC ACCIDENT", "ROAD", "ACCIDENT", "FINDINGS", "LEHE", "PERPETRATOR", "CONFRONTATION".

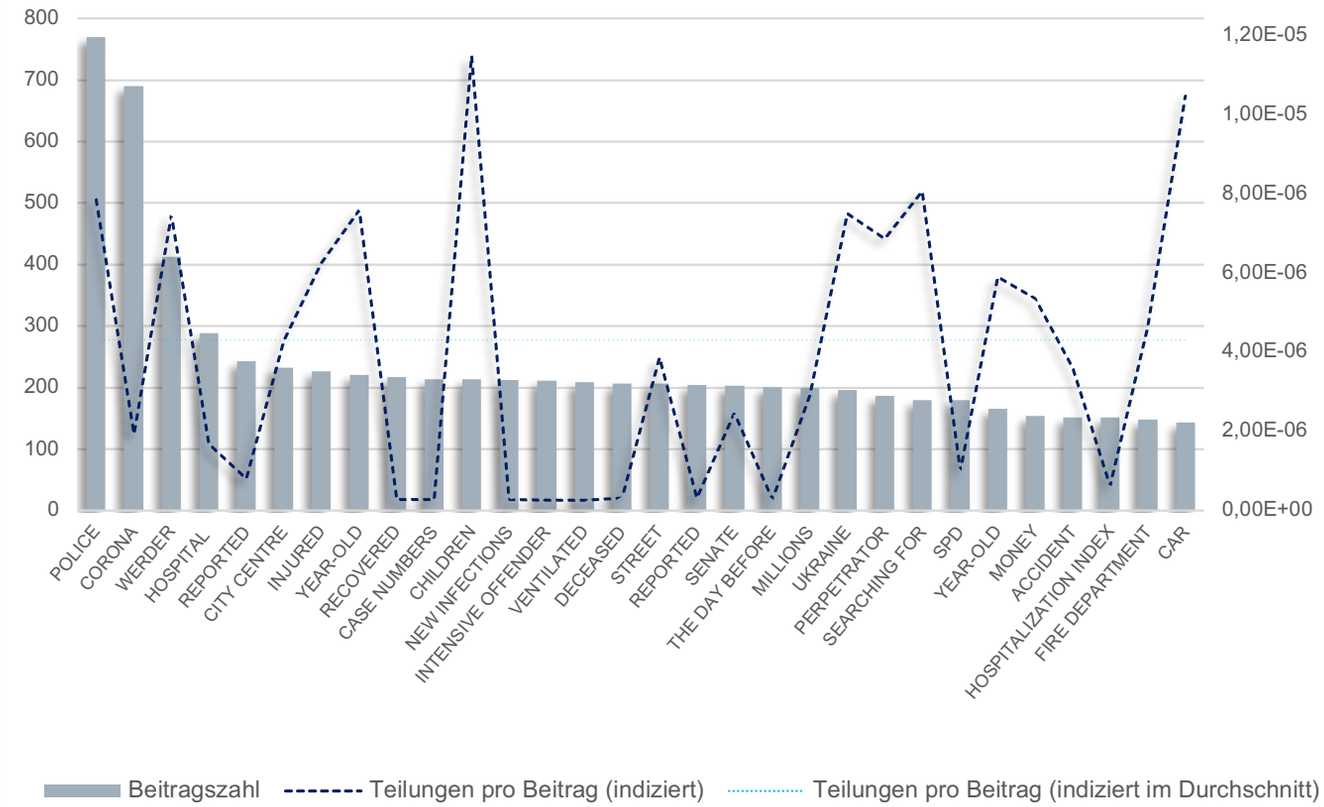

Figure 4a: Indexed sharing rates for the top terms (Bremen).

the most frequently used words that most often led to such articles being shared[58] by readers, thereby expanding their reach.

The greatest interest, as measured by sharing rates in online media coverage in the city of Bremen during the study period, was directed toward the word "CHILDREN", which was primarily used in connection with "DAYCARE", "SCHOOL", "FAMILY", "PARENTS" but also indirectly flowed into the realm of crime-related topics via "YOUTH" and "POLICE." In second place during the study period was "CAR" which, among the top co-occurrences, was almost without exception paired with crime-related terms such as "POLICE", "ACCIDENTS", "INJURED" or "WITNESSES" and, in less frequent cases, with "USE", "EXPERIMENTS", or "CITIZENSHIP ELECTION". "WERDER" and "UKRAINE" also received significant attention from the audience.

Otherwise, the terms were largely crime-related and generated above-average attention in the form of shares, such as "POLICE", "INJURED", "YEAR-OLD", "PERPETRATOR" or "SEARCH".

In Bremerhaven, the terms "PINGUINS", "FANS" and "FISHING HARBOR" topped the list of most frequently shared terms. In Bremerhaven as well, crime-related terms such as "POLICE", "INJURED", "PERPETRATOR", "CASE", "SEARCH", "FIRE DEPARTMENT" or "ACCIDENT" were associated with above-average sharing rates.

[58] To determine the content-related reach effects, the top 100 terms were first selected from all posts within the study period, and then individual extracts containing these terms were generated for each term. In the second step of this analysis, the average sharing rates were then compared to the respective number of subscribers. Since all terms in each individual post had the same probability of contributing an equal share to the respective sharing, these were, in a third calculation step, put into relation to the total number of terms used in each post text. The results of this calculation allow us to list, in descending order, the words that provide the strongest evidence of having exerted a relevant influence on the decision to share and the associated reach effect. See Adelmund, Michael / Engel, Uwe (2021). Public Opinion Formation on the Far Right. Published in: Uwe Engel, Anabel Quan-Haase, Sunny Liu, Lars E Lyberg (eds.): Handbook of Computational Social Science. Theory, Case Studies and Ethics. 1st ed. 2 vols. London (1), pp. 373–379.

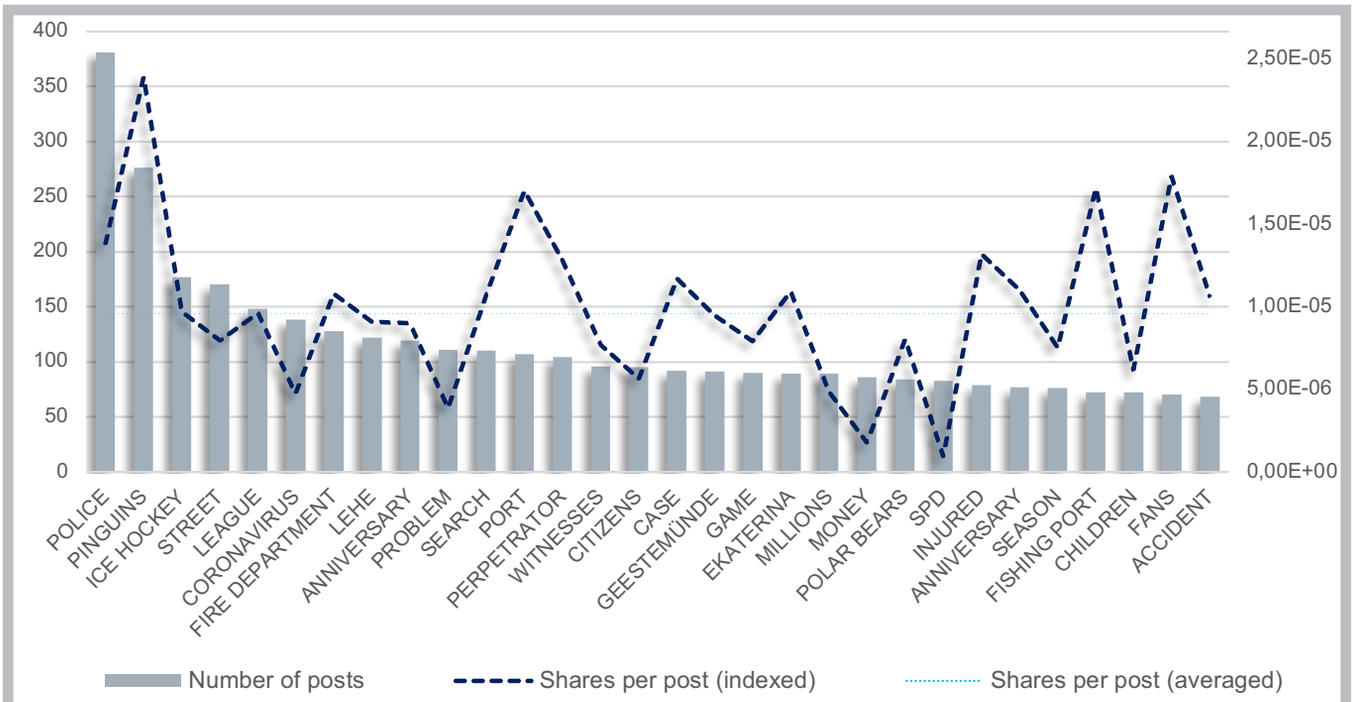

Figure 4b: Indexed sharing rates for the top terms (Bremerhaven).

Particular interest in crime-related topics on the part of the audience was also evident in the increased sharing rates for the name "EKATERINA", which was mentioned particularly frequently in media coverage in Bremerhaven.

In Bremen-North, the central topics of interest to the audience were primarily reflected in the terms "WORK", "HOUSING", "MILLIONS" and "PROJECT", which primarily dealt with the costs of various urban development projects. Here, it was the closely related terms "POLICE" and "ADDICTION" that achieved above-average share rates.

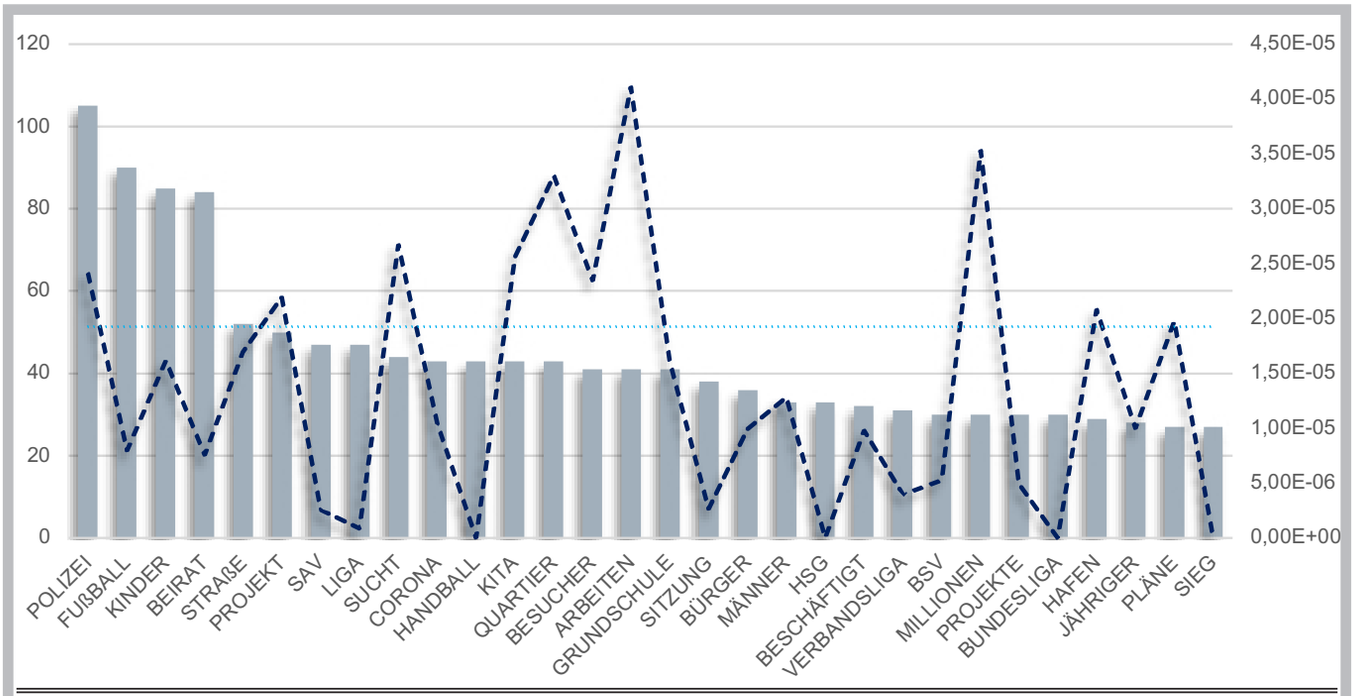

Figure 4c: Indexed sharing rates for the top terms (Bremen-Nord).

In the overall analysis, the media coverage of crime-related information intended to assess potential threats to individual legal interests (as measured by sharing rates) was not only consumed by the audience at an above-average frequency, but also achieved comparatively high reach as a result. For example, posts containing the term "POLICE" showed a higher probability of being shared by recipients in all three sub-analyses than coverage linked to the term "CORONA". In particular, a noticeable focus of audience interest on crime-related media coverage was observed in the cities of Bremen and Bremerhaven.

Structural analyses of crime-related articles

In order to gain as concrete an understanding as possible of how the topic of crime is structured within the information spectrum of online media coverage in the state of Bremen, whether and which relevant depictions of crime appear overrepresented therein, and which factors significantly influence the tension between the actual and perceived crime situation, it was first necessary to process the unstructured textual data of the base dataset accordingly.

To this end, a method had to be developed to identify crime-related content in online media coverage and extract it from the overall corpus.[59] Since the content relevance of the posts was determined by word combinations, vocabulary lists of relevant terms were created for this purpose, consisting of terms most frequently identified on police department profiles as well as in randomly selected media reports. Following several tests runs and content reviews to verify the crime-related nature of the posts, all social media posts were then extracted that contained at least three relevant terms, such as "ATTACKED", "THREATENED" or "THEFT".[60] The post extract obtained as described at was verified using a randomly generated sample test (n=500). This revealed that the error rate of this dataset was well below one percent (only three misclassifications[61] were identified and removed from the dataset). Posts containing fewer than three relevant

[59] The research report will be available for download starting in spring 2024: Periodic Security Report Bremen - IPoS - Research.

[60] These terms are: "AGGRESSIVE", "ALARM SYSTEM", "ALERTED", "ALARM", "ALIBI", "UNDER THE INFLUENCE OF ALCOHOL", "INTOXICATED", "HIT", "ATTACKED", "ACCUSED", "ATTACKER", "ATTACK", "FEAR", "ATTACK", "ANTI-TERROR", "MALICE", "ATTACK", "ATTACKED", "ASSASSINATION", "ASSASSIN", "ALTERCATION", "CAR", "GANG", "CASH", "THREATENED", "HARASSED", "HARASSMENT", "INSULT", "DAMAGED", "SEIZURE", "SEIZED", "ACCUSED", "STOLEN", "FRAUD", "FRAUDULENT", "FRAUDSTER", "LOOT", "ARMED", "PROBATION", "EVIDENCE", "FIRE", "BRUTAL", "COURAGE", "COURAGEOUS", "CYBERCRIME", "DARKNET", "CRIME", "THIEF", "SERVICE DOG", "DRUGS", "THREAT", "SEARCH", "BURGLAR", "BURGLARY", "BURGLARIES", "BROKEN INTO", "OPERATION", "OPERATIONS", "STOLEN", "STRANGLED", "FINDINGS", "IDENTIFICATION UNIT", "INVESTIGATED", "INVESTIGATOR", "INVESTIGATION", "MURDERED", "BLACKMAILER", "BLACKMAILED", "BLACKMAIL", "BEATEN TO DEATH", "STABBED TO DEATH", "STRANGLED", "EXHIBITIONIST", "EXPLODED", "EXPLOSION", "INVESTIGATOR", "INVESTIGATES", "INVESTIGATION", "DRIVER", "DRIVER'S LICENSE", "VEHICLE DRIVER", "ARRESTED", "ARREST", "FIRE", "FLAMES", "FLIGHT", "FLIGHT", "ESCAPED", "IMPRISONMENT", FEAR", DANGER", "ENDANGERED", "DANGEROUS", "ESCAPED", "INJURED", "BEATEN", "SPEED", "BLOWN UP", "STALKED", "STOLEN", "FELL", "KICKED", "VIOLENCE", "GUN", "ACCIDENT", "CRASHED", "HEROIN", "CLUES", "IN CUSTODY", "ISLAMISM", "ISLAMIST", "ANNIVERSARY", "CLINIC", "COCAINE", "COLLIDED", "COLLISION", "DETECTIVE", "HOSPITAL", "CRIMINAL INVESTIGATION DEPARTMENT", "CRIME PREVENTION", "CRIMINAL", "CORPSE", "CORPSE NAME", "LEFT-WING EXTREMIST", "LEFT-WING EXTREMISM", "MACHETE", "MARIJUANA", "SCAM", "MASKED", "MASKED", KNIFE", "ABUSE", "MURDER", "MURDERER", "ALLEGED", "COERCION", "EMERGENCY CALL", "VICTIM", "SKETCH", "GUN", "EJECTED", "POLICE", "POLICE OFFICER", "TRIAL", "RADICALIZED", "ROBBERY", "ROBBER", "RIGHT-WING EXTREMISM", "RIGHT-WING EXTREMIST", "REICH CITIZEN", "RESCUER," "RESCUES," "RESCUE," "PRECINCT," "REVOLVER," "SALAFIST," "DAMAGE," "DAMAGES," "FIGHT," "SERIOUS," "SEIZED," SEIZURE, "BLAST", "TRACE", "STALKING", "PENALTY", "CRIME", "CRIMINAL", "CRIMINAL PROCEEDINGS", "STRANGLED", "STREET", "PATROL CAR", "PERPETRATOR", "CRIME SCENE", "SUSPECTED CRIME", "TIME OF THE CRIME", "TERRORISM", "TERRORIST", "KILLS", "BEAT TO DEATH", "MURDERER", "MURDER", "FRAUD", "FRAUDSTER", "RUN OVER", "ASSAULT", "ATTACKED", "CONVICTED", "MURDERED", "UNKNOWN", "ACCIDENT", "PRE-TRIAL DETENTION", "CRIME", "CRIMINAL", "SUSPICION", "SUSPECT", Pursuit, "rapist," "raped", "rape", "poisoned", "traffic obstruction", "traffic control", "traffic violation", "traffic violations", "INJURED", "INJURY", "MISSING", "DIED", "DEAD", "CAUSER", "CAUSED", "CAUSATION", "POLICE STATION", "WEAPON", "WARNING", "WITNESS".

[60] An example of an error is the following article text, in which the respective search terms have been highlighted for visualization: "Marlon from class 4b is DEAD. And the list of those who did not like the nine-year-old, who was extremely AGGRESSIVE, is long [...] CRIME SCENE in Ludwigshafen: Angry, misunderstood, and very lonely"; see www.facebook.com/10159010030692712 post from May 8, 2022.

terms, such as "The POLICE are asking for your help..." possibly with a reference to an image or a link, were therefore not included, in this analysis. Of the 1,532 posts containing two (but not three or more) relevant terms, a significant proportion also appeared to be relevant. These posts were merely, to the extent they were identified during testing, transferred to the partial extract. It can therefore be assumed that, against this backdrop, the proportion of crime-related content within the total number of posts is actually higher than what is reflected in this analysis.

The Central Importance of Crime-Related Topics

The result of this partial analysis comprises 3,182 crime-related posts. More than one in six posts in online media coverage within the study period in the state of Bremen thus had the potential to influence perceptions of (in)security and dealt with police and fire department operations, serious crimes or (traffic) accidents, perpetrators and victims, as well as ongoing criminal proceedings in court.[62] The structured analysis of the broader topic of crime thus underscores the central importance of crime in social media coverage in the state of Bremen. In Bremerhaven, the percentage of relevant coverage was 22.5%, which was more than 4 percentage points higher than in Bremen (18.2%). In the Bremen-North region, the percentage of crime-related posts in social media coverage was the lowest in the regional comparison at 9.3%.

Sorted by news source, the percentage of crime-related posts on the surveyed Facebook profiles—measured according to these criteria—was as follows (see table 2)

Die Norddeutsche (7.51%), buten un binnen (9.22%), and the WESER-KURIER (12.7%)[63] had the lowest proportions of crime-related social media posts on their profiles. The most noticeable focus on the broader topic of crime was observed on the profiles of Bremerhaven News[64] (56.3%) and Bremen-news (44.51%).[65]

In-depth exploratory case analyses of crime-related posts

Exploratory case analyses of the systematically recorded posts offer the opportunity to generate concrete added value in terms of insights beyond the passive news value[66] of crime-related posts in social media reporting in the state of Bremen, i.e. to gain indications of which content was considered particularly newsworthy by the audience. The interaction metrics for the respective posts by news providers can serve as indicators for this. The risk that can be identified here is whether news providers may respond to the measurable interest of recipients by focusing on relevant content. This would not only lead to a limitation of the overall diversity of information offered: a multitude of similar content could also foster feelings of insecurity and further fuel fears.

As the resonance measurements regarding the terms used in social media reporting have already indicated, an increased interest on the part of the audience in posts that primarily focus on terms such as "POLICE", "PERPETRATOR", "ADDICTION", "SERIOUS", "INJURED" or "VICTIM". Against this backdrop, exploratory sentiment analyses were first conducted using crime- or measure-specific word categories for the respective news sources, based on the evaluations of the most frequently used terms. This analysis revealed that, particularly in the crime category of robbery and extortion[67] (n = 325 posts), interaction rates68 were 31.68% higher on average compared to other social media coverage on the profiles surveyed.

Among the posts with the highest interaction rates, in comparison within the respective crime category, were the following:

"Assault on 15-Year-Old: Manhunt with Photo of Suspected Perpetrators at the end of July, a 15-year-old was assaulted, robbed, and injured near the main train station."[69]

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[62] There were no measurable interactions on 261 of these posts (8%), which, conversely, does not prove that these posts were not nevertheless viewed.

[63] Only ten posts from Bremen.News were included in the survey during the study period, one of which was security related.

[64] Bremerhaven News is a profile in the News & Media Website category that links to the domain www.bremerhaven-news24.de.

[65] Bremennews also falls under the News & Media Website category. Its Facebook profile links to the website www.bremennews.de. Borgmeier Media Gruppe GmbH in Delmenhorst is listed as the responsible entity (see www.facebook.com/bremennews.de).

[66] "Newsworthiness determines whether an event is selected by the media as newsworthy. The value of a news item can be roughly determined using a list of criteria, known as news factors. These include, for example, surprise (unpredictability, rarity), negativity (e.g., accidents, disasters), or references to prominent figures." See Lippmann, Walter 1922, cited in "Media Policy – Glossary: 'News Value' (www.bpb.de).

[67] "ASSAULT", "ATTACK", "ROBBERY", "ROBBER".

[68] This calculation incorporated all forms of interaction with a post, such as shares, comments, or "likes," in proportion to the respective number of subscribers.

[69] See www.facebook.com/605704048230124; post dated February 1, 2023.

Profile Name	Posts (security-related)	Posts (total)	Reactions (total)	Comments (total)	Shares (total)	First Post	Last Post	Share (in %)
Bremerhaven News	451	801	7,736	1,582	1,944	April 1, 2022	March 31, 2023	**56.30**
Bremennews	571	1,283	20,753	8,284	2,196	April 1, 2022	March 31, 2023	**44.05**
Bremen News	17	46	58	6	12	April 13, 2022	January 8, 2023	**36.96**
Bremen-Nord News	52	161	2,603	1,165	804	July 4, 2022	March 10, 2023	**23.30**
Kreiszeitung Redaktion Bremen	129	520	28	19	3	April 1, 2022	March 31, 2023	**24.81**
BILD Bremen	315	1,360	4,176	2,005	442	April 1, 2022	March 3, 2023	**23.16**
NORDSEE-ZEITUNG	529	3,572	5,443	2,614	1,621	April 1, 2022	March 31, 2023	**14.81**
WESER-KURIER	848	6,678	29,963	17,331	4,055	April 4, 2022	March 31, 2023	**12.70**
Bremen.News	1	10	3	1	0	Decembe r 11, 2022	December 11, 2022	**10.00**
buten un binnen	96	1,041	17,164	10,556	2,425	April 5, 2022	2023-03-28	**9.22**
Die Norddeutsche	160	2,130	157	27	57	April 5, 2022	March 31, 2023	**7.51**

Table 2: Percentage of crime-related content in total articles.

"Street robbery: Gang of thugs attacks man in Bremen's Vahr district."[70]

"Woman beaten unconscious and robbed at a bus stop."[71]

"Four robbers injure man with a knife and hit him on the head with a rock. Four men attacked a 41-year-old man from Bremen in Sebaldsbrück on Tuesday afternoon. The robbers injured their victim with a knife and stole [...]."[72]

"Robbery in Bremerhaven-Grünhöfe: [...] A 75-year-old woman was the victim of a brutal robbery in her home late Friday afternoon, February 24."[73]

In particular, when the description of the incident indicated that perpetrators used weapons,[74] such posts saw high sharing rates (+67.93%, n = 388 posts).

Among the posts with the highest interaction rates in the context of "weapons" were, among others:

"Shooting at a school in Bremerhaven: Police believe it was a lone gunman. An armed assailant injured one person at the Lloyd Gymnasium in Bremerhaven."[75]

"16-Year-Old Hit by Five Shots from Police Machine Gun - WESER-KURIER A teenager is said to have attacked a police officer with a knife. At least five shots were fired; shortly afterward, the 16-year-old died in the hospital."[76]

[70] See www.facebook.com/649343917199470; post dated March 30, 2023.

[71] See www.facebook.com/5848263608595228; post dated Dec. 8, 2022.

[72] See www.facebook.com/5938383672916554; post dated January 5, 2023.

[73] See www.facebook.com/755871082768262; post dated February 28, 2023.

[74] WEAPON, ARMED, KNIFE, PISTOL, RIFLE, BASEBALL BAT, AX, MACHETE, CROSSBOW, SHOT, SHOOTER, SHOT DEAD, SHOT, STABBED TO DEATH.

[75] See www.facebook.com/5203666823004601; post dated May 19, 2022.

[76] See www.facebook.com/10159155801207712; post dated August 9, 2022.

"Death threat against bus driver On Tuesday evening, a 58-year-old bus driver and a 31-year-old motorist got into an argument on Walliser Straße over the traffic situation, which escalated violently to the point of a knife being held to the bus driver's throat, accompanied by a death threat!"[77]

With regard to the measures described in the reports, all forms of police intelligence gathering attracted exceptional reader interest (+66.2%).

"Rape in Bürgerpark: On Tuesday evening, an unknown man accosted a female jogger in Bürgerpark and raped her. The police are seeking witnesses."[78]

"Assault on 15-Year-Old: Manhunt with Photo of Suspected Perpetrators At the end of July, a 15-year-old was assaulted, robbed, and injured near the main train station."[79]

"Suspect on the run after shooting in Bremen's Neustadt A 32-year-old man is alleged to have shot a young man following an argument. The police homicide unit is searching for the suspected shooter."[80]

"Beaten out of a tram: Police are seeking witnesses to a dangerous assault that occurred on Sunday evening in Utbremen: Unknown perpetrators beat and kicked the victim from within a group.[81]

For other categories of crime, including arson and burglary, interaction metrics indicated that readers showed somewhat less interest in some cases. There was also a particularly high level of interest in crimes against sexual autonomy; however, due to the low number of cases reported, cannot make a valid statement on this (n = 17). With regard to reporting on crimes against life, the results were not very meaningful: various forms of reporting came into play here. In some cases, the reports were linked to efforts to identify perpetrators, witnesses, and leads, or they referred to relevant court proceedings that were covered repeatedly and over long periods of time.

In general, the severity of a crime and, in particular, the resulting consequences for the victims appear to be of particular relevance across all categories of crime when it comes to the attention and willingness to engage on the part of the audience and the associated reach effects. The textual and visual presentation of crime-related reporting by news outlets, as well as the composition of their respective readerships, which, for example, consists more of tabloid readers than of those who follow business, cultural, or political news and general societal circumstances, such as a pandemic or crisis, constitute significant influencing factors against this backdrop, which can affect fear of crime at any time.

A core problem regarding crime-related reporting, as seen in the context of audience response measurements, appears to be that increased interest among the audience leads to effects on the part of news outlets, which are reflected in a growing focus on relevant content. The profiles that exhibited the highest percentage of crime-related reporting in the base dataset provide the primary impetus for an exploratory study on this topic. A long-term analysis of the posts published on the Bremerhaven News profile[82] reveals that the percentage of crime-related content generally showed an upward trend, but declined significantly at least temporarily with the onset of the COVID-19 pandemic, particularly under the influence of the first lockdown:

An extended trend analysis of the Bremennews profile[83] makes it clear that this news source has also increasingly published crime-related posts. A detailed examination reveals that the proportion of relevant posts on Bremennews already showed an increase from 37.5% to 55.2%[84] within the basic study period. A broader analysis shows that the topic of crime has been gaining increasing prominence on this profile since August 2020.

On both profiles, posts involving the crime category "robbery and extortion" achieved the highest share rates among recipients (Bremennews: +31.7%; Bremerhaven News: +48.9%). In these cases, as well, the fact that perpetrators were armed, as well

[77] See www.facebook.com/5412143578873902; post dated July 8, 2022.

[78] See www.facebook.com/5274960779258850; post dated May 19, 2022.

[79] See www.facebook.com/605704048230124; post dated February 1, 2023.

[80] See www.facebook.com/5973664992671443; post dated February 6, 2023.

[81] See www.facebook.com/5563065053781753; post dated August 30, 2022.

[82] The Bremerhaven News profile is assigned to the News & Media Website category and links to the domain www.bremerhavennews24.de. See www.facebook.com/BremerhavenNews.

[83] The Bremennews profile is assigned to the News & Media Website category and links to the domain www.bremennews.de. See www.facebook.com/bremennews.de.

[84] In April 2022, 36 out of 96 posts were classified as crime-related. In March 2023, this figure was 64 out of 116 (55%).

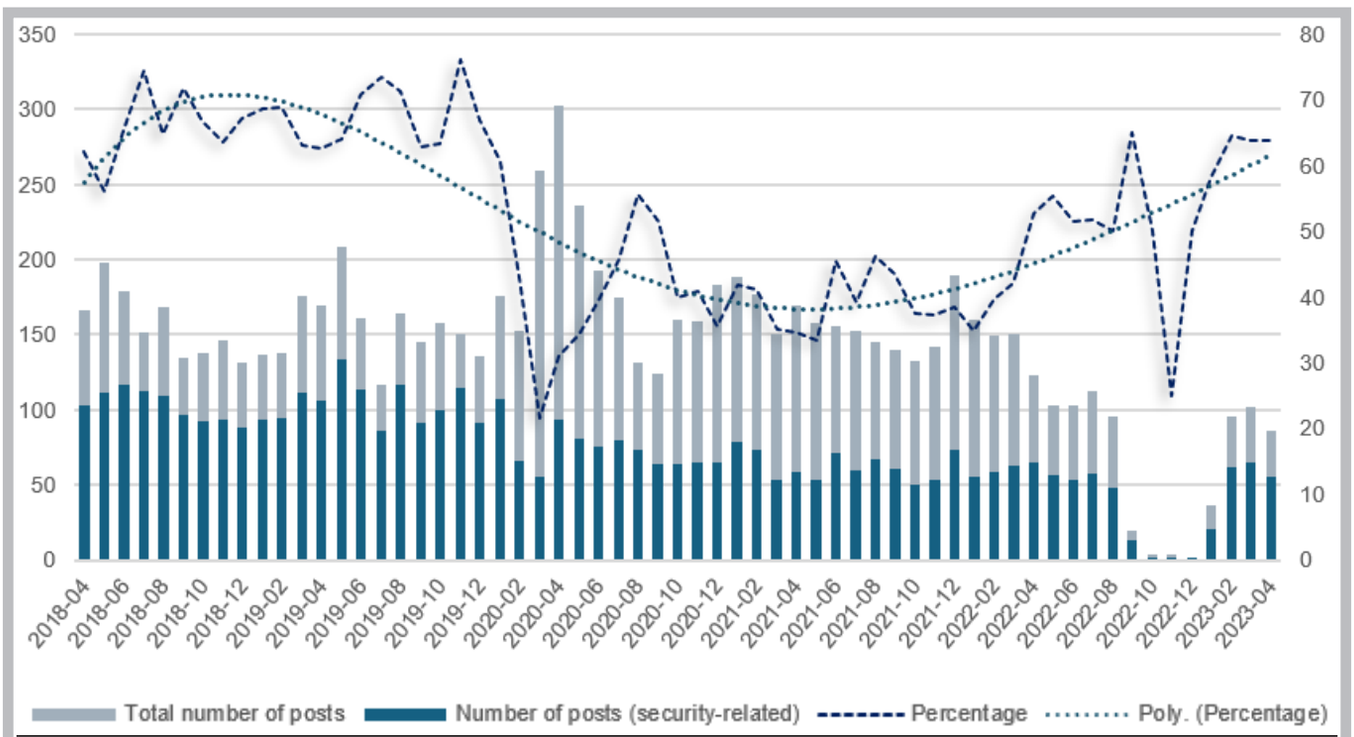

Figure 5a: Number of posts and percentage of security-related posts (Profile: Bremerhaven News).

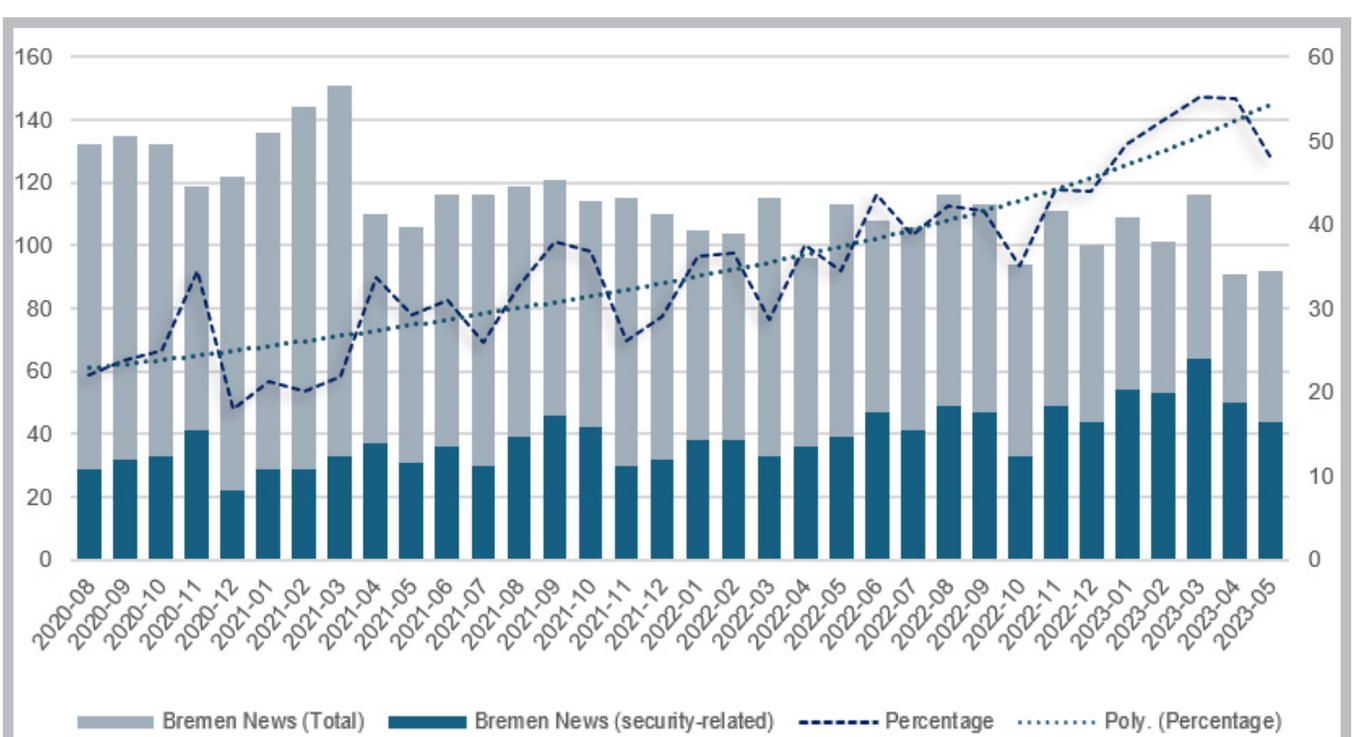

Figure 5b: Number of posts and percentage of security-related posts

as measures to identify perpetrators, witnesses, or gather tips, were reflected in increased sharing rates. Burglary offenses or traffic accidents achieved negative sharing rates compared to the average of other reporting on these profiles.

Factors in social media coverage that contribute to fear of crime

Both the content analysis of unstructured text information and the analysis of the structures of crime-related social media coverage offer various possibilities for deriving factors that may contribute to the emergence or reinforcement of fear of crime.

To gain insights into the relationship between crime-related depictions of reality in relevant social media coverage and those of the police in the state of Bremen, and to determine whether and to what extent the two differ from one another, structural comparisons of both profile categories were first conducted. To do this, the profiles of the Bremen Police and the Bremerhaven Police also had to be collected, and crime-related extracts had to be derived from them. Otherwise, posts about job openings or events, for example, would also have been captured and included in the study.

Even a look at the overall trends in the respective post counts shows that there is no significant correlation between the number of online press releases issued by the police and related social media coverage. Crime-related topics saw an upward trend in online media coverage during the study period, a trend that is not reflected on the police's social media profiles. While the number of crime-related posts by police authorities increased, with fluctuations ranging from 30 posts in April 2022 to 49 posts in March 2023 (a 63% increase), this figure in online media coverage rose from 163 posts increasing almost continuously to 392 articles (an increase of 140%):

Conclusions could be drawn from the most frequently used terms in the respective text corpora regarding the differences in content between the respective perspectives of media coverage and those of the authorities.

To this end, the respective word counts were compared by filtering out those words that appeared in only one of the two text corpora. The results of this analysis revealed which content-related factors significantly contribute to discrepancies in the portrayal of crime-related depictions of reality in Bremen.

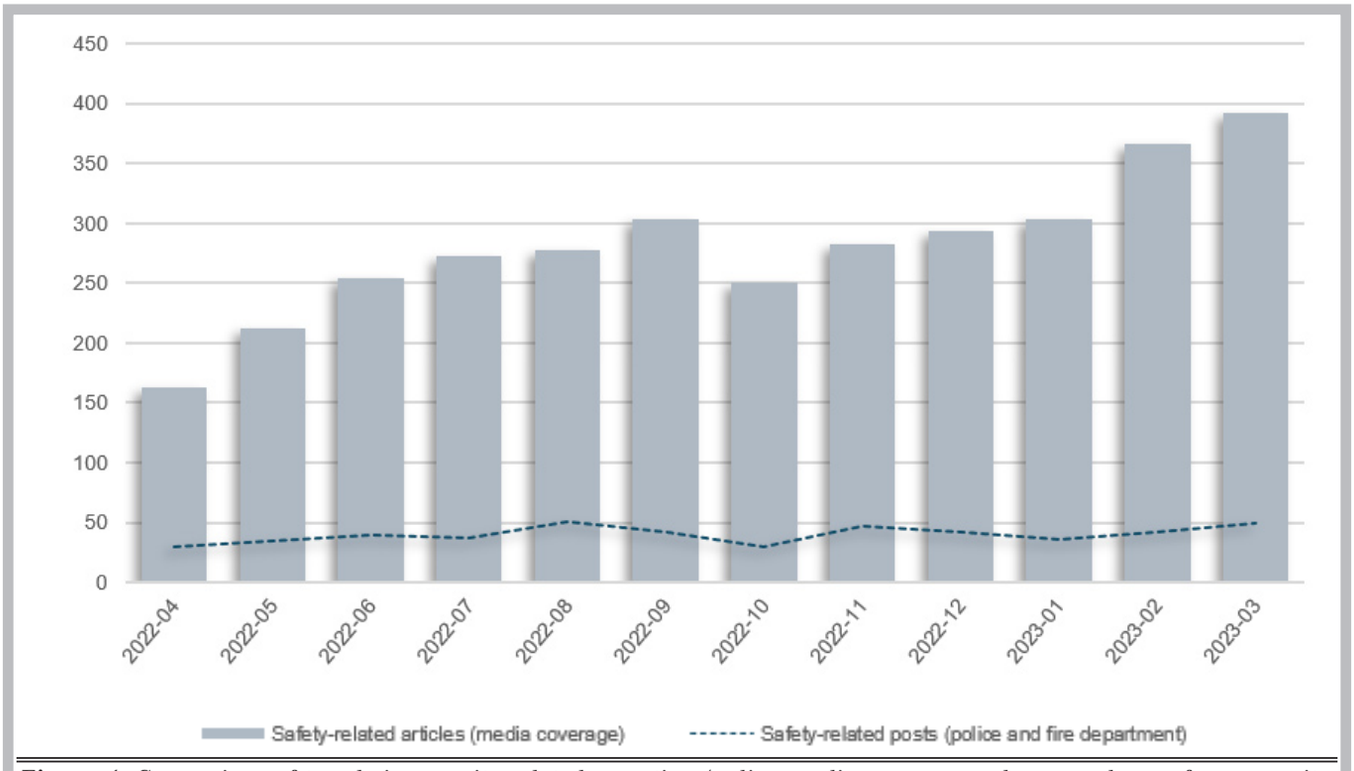

Figure 6: Comparison of trends in security-related reporting (online media coverage and press releases from security authorities; April 2022 to March 2023).

These include, in particular, the following aspects, such as the

- the frequency with which issues with supra-regional geographical references are addressed,
- reporting on legal proceedings concerning high-profile, serious, and media-sensational crimes,
- the use of emotionally charged language in the context of crime,
- the importance of measures to identify perpetrators, witnesses, or leads, as well as an
- overrepresentation of categories of serious and high-profile crime.
- Issues with supra-regional geographical relevance in social media reporting

The coverage of cases with supra-regional geographical references

Online media coverage includes numerous location references among the most frequent terms not used on police profiles (e.g. “STADE”, “GEESTLAND”, “SCHWANEWEDE”, “LAMSTEDT”, “HECHTHAUSEN”), which have no direct connection to Bremen.

With regard to the differing perspectives in the portrayal of crime-related depictions of reality, it is notable that online media coverage addresses issues that appear to be at least supra-regional in scope, whereas police posts are largely limited to specific local jurisdictions or potential connections to the state of Bremen.

An analysis of location references within the post texts shows that in Bremen, the Bremen-North region, and Bremerhaven, approximately 83% of crime-related social media coverage (n = 1,559 posts with identified location references) had concrete connections to the state of Bremen. Posts that concerned multiple cities or federal states were assigned solely to the state of Bremen, provided they had at least one reference to Bremen. Nearly one in five posts about crime in the state of Bremen’s social media coverage concerns other federal states, particularly Lower Saxony, Hamburg, North Rhine-Westphalia or Berlin. A similar analysis of the profiles of law enforcement agencies in the state of Bremen yielded a result of 100% (n = 1,416 posts with identified location references).

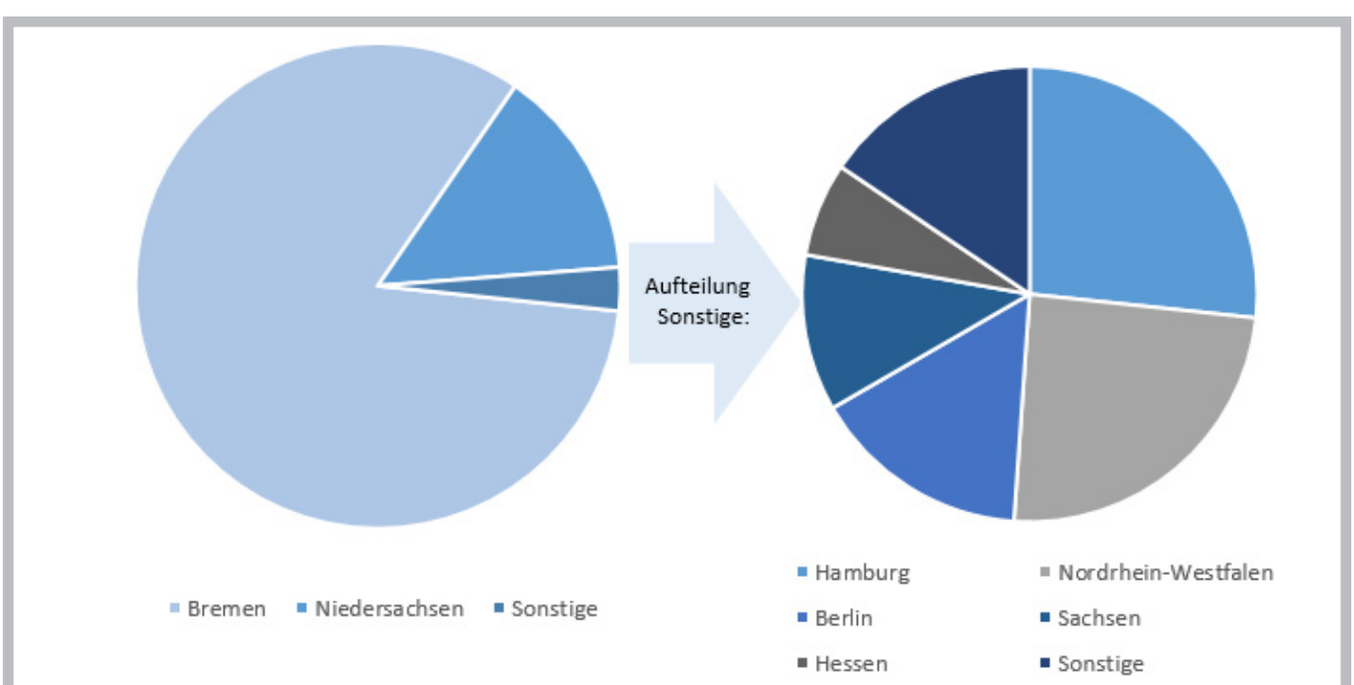

Figure 7: Distribution of location references within crime-related online media coverage.

In addition to content relevant to Bremen, social media coverage also addressed crimes that primarily affected the surrounding areas of Lower Saxony and were mostly in the context of serious or high-profile offenses.

"The double murder in Delmenhorst [...] Defendant wants to speak with expert again".[85]

"Delmenhorst: Man shoots at moving car driver seriously injured [...]. Police are conducting an intensive manhunt for the fugitive perpetrator."[86]

"Achim: Major police operation following an altercation on Monday evening [...] Around 20 patrol cars from various precincts were on the scene impressions from the operation in our video."[87]

"Customs investigators search Lilienthal chemical company: Chemical weapons for Russia?"[88]

Police search for man after homicide [...] Police are conducting an intensive manhunt in Nordrhein-Westfalen and Niedersachsen for a 36-year-old man."[89]

Perceptions of (in)security related to crime can therefore be addressed more frequently in social media reporting because the volume of information is not limited to local content references in the same way as it is in official reports based on local jurisdictions.

Using the Bremerhaven News profile as an example, a long-term analysis shows that the percentage of posts containing textual references to Bremen in crime-related reporting has declined. The profile increasingly relied on external crime-related content.

A similar trend was also observed on the Bremennews profile.

News outlets striving to meet their audience's interest in crime-related social media coverage on their profiles therefore run the risk, for example, of providing more relevant posts by expanding the local scope of information. Especially in urban and densely populated areas, this can have a detrimental effect on the emergence or intensification of fear of crime, because less attention is paid to the lack of local context in the volume of reports. In less populated and rural regions, however, the limited volume of information with specific local references appears to compete with a multitude of reports on crime in metropolitan areas. In extreme cases, both scenarios can have manipulative effects on crime-related perceptions of (in)security.

Reporting on legal proceedings

A significant proportion of online media coverage is devoted to criminal proceedings involving high-profile crimes (e.g. "TRIAL", "DISTRICT COURT", "DEFENDANT" or "VERDICT").

Another factor that can lead to distorted perceptions of reality in this context is that a significant portion of security-related content in online media coverage pertains to legal proceedings involving high-profile crimes. Such proceedings can, in turn, attract considerable public interest over long periods of time and thereby continuously influence perceptions of (in)security.

This is illustrated by the following example:

During the study period from July 2022 to March 2023, a total of 110 articles covered the case of the murdered Ekaterina B. from Bremerhaven, who was drugged and treacherously strangled by her husband.[90] In addition, there were, among others, 38 reports from May 2022 to March 2023 about a crossbow shooter who fired at a school employee in Bremerhaven. Coverage of both cases overlapped for several months. This led to significant overlaps, which were simultaneously enriched by (supra-)regional manifestations of crime, picked up on by the public, and in some cases discussed, thereby further contributing to a lasting negative impact on perceptions of (in)security.

[85] See www.facebook.com/5853770481306454; post dated May 9, 2022.

[86] See www.facebook.com/640213308109420; post dated February 10, 2023.

[87] See www.facebook.com/10159157381702712; post dated August 10, 2022.

[88] See www.facebook.com/5564004960354429; post dated August 30, 2022.

[89] See www.facebook.com/10159080814337712; post dated June 19, 2022.

[90] See Henkenberens, Carolin, Ekaterina B. murder trial: Life imprisonment for husband, www.tagesschau.de (as of May 23, 2023).

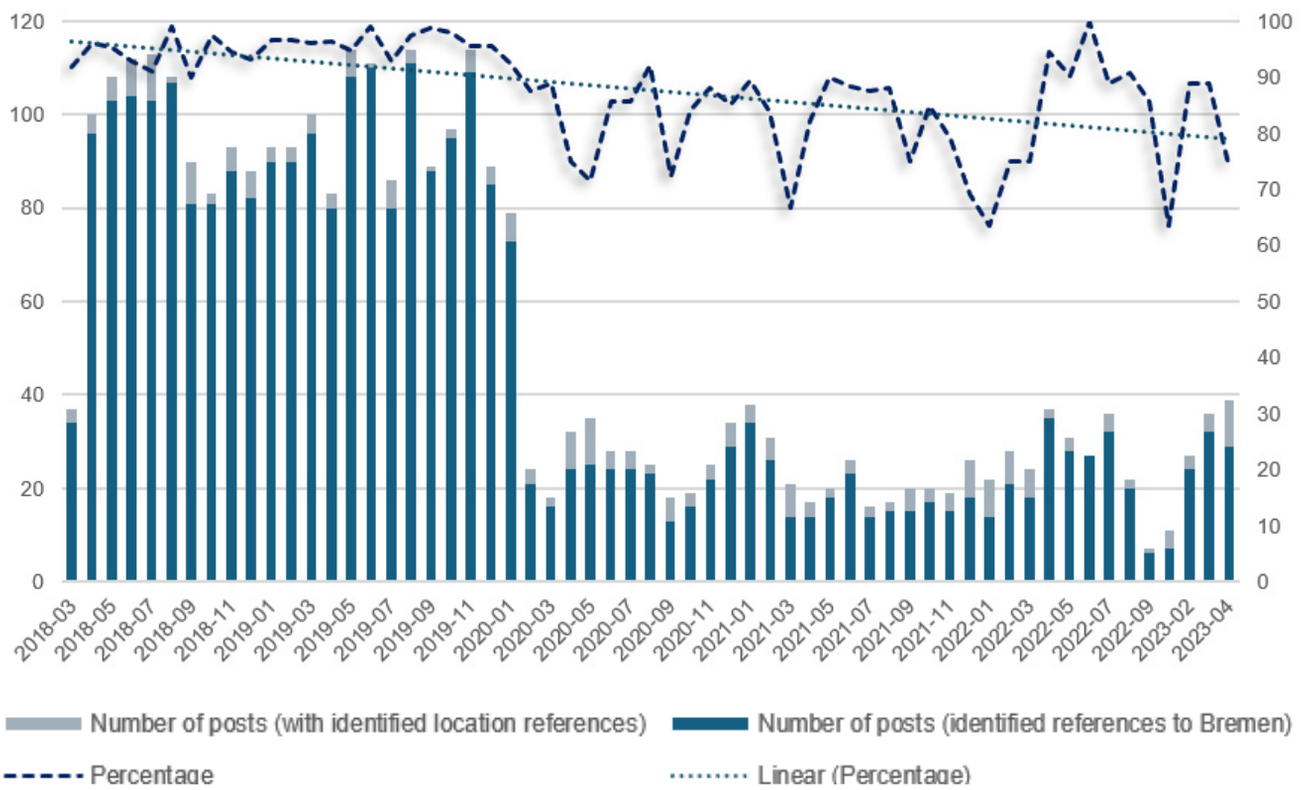

Figure 8: Development of the percentage of textual local references (Bremerhaven News).

Prolonged trial durations in court can thus not only be associated with longer periods of stress for victims and their families; they may also have a lasting impact on the public's sense of (in)security. This is particularly true in cases heard before the regional court due to the exceptional severity of the crime and the associated public attention. There, the average duration of proceedings in 2017 was 7.3 months. By 2021, this figure had nearly doubled to 14.2 months.[91]

"Reporting on legal proceedings involving high-profile, serious, and high-profile crimes" thus constitutes another key factor that influences fear of crime and the resulting perceptions of (in)security in the state of Bremen. Here, too, fostering media literacy and responsibility, alongside optimizing resource-intensive court proceedings for serious and high-profile crimes, are crucial criteria for reducing the existing tension between perceived and actual security conditions and thereby strengthening the rule of law.

Linguistic Emotionalization in the Context of Crime

In social media reporting significantly more frequently than on official profiles terms can be identified that suggest high news value[92] (e.g. "BRUTAL", "DEADLY", "MANHUNT").

[91] "The Current State of the Bremen Judiciary in Figures"; see Senate press release dated June 7, 2022; Printed Paper 20/1491 (regarding Drs. 20/1464), BREMEN STATE PARLIAMENT, State Legislature, 20th Legislative Session. www.bremische-buergerschaft.de/dokumente/wp20/land/drucksache/D20L1491.pdf.

[92] See Lippmann, Walter (1922). "Public Opinion." New York: Harcourt, Brace and Company: "Newsworthiness determines whether an event is selected by the media as newsworthy. The newsworthiness of a story can be roughly determined using a list of criteria known as news factors. These include, for example, surprise (unpredictability, rarity), negativity (e.g., accidents, disasters), or relevance to prominent figures".

In addition to differences in content, which stem from coverage of national issues and the reporting on high-profile criminal trials, the manner of reporting also exhibits distinct features that differ from official accounts on social media. While the textual presentation of facts in the context of journalistic work aims to attract the attention and interest of the audience, official statements are concerned with carrying out public relations work within the framework of legal mandates and providing information in the best possible, factual, and neutral manner. The additional emotionalization of situations that are often already moving can also affect the audience's perception of crime and the resulting feelings of (in)security.

This becomes clear, among other things, through the use of terms such as "BRUTAL", which are generally not used in police reports because they do not add any factual value. Such words can appeal to the imagination of readers in a judgmental and emotionally charged manner [sic!]:

"Bremen brutal: In broad daylight, three people attacked the man from behind in Vegesack [...]."[93]

"Police seek witnesses: Brutal attack in Lehe. A brutal attack has shaken the city of Bremerhaven! [...]."[94]

"Ekaterina's dismemberment murder: Before the murder, he served her fish and rosé wine. This brutal crime shocked: [...]."[95]

The growing emotionality in the engagement with crime-related content is simultaneously linked to a particular persistence in subjective perception: Emotional arousal triggers the release of the neuromodulator norepinephrine in the human brain, thereby influencing memory regulation.[96]

[93] See www.facebook.com/6113572775397642; post from March 2, 2023.

[94] This example also highlights a connection arising from the interplay between official measures to identify perpetrators, witnesses, and leads and social media reporting: Police posts are supplemented with their own content, both textually and visually, to attract greater attention. See www.facebook.com/759772555711448, post dated March 6, 2023.

[95] See www.facebook.com/6567747913242037; post dated Dec. 29, 2022.

[96] See Hu, Hailan / Real, Elenore / Takamiya, Kogo / Kang, Myoung-Goo / Ledoux, Joseph / Huganir, Richard L. / Malinow, Roberto (2007). Emotion enhances learning via norepinephrine regulation of AMPA-receptor trafficking; Volume 131, Issue 1; pp. 160–173.

If articles from online media coverage, for example, suggest that safety or physical integrity might be threatened and thereby evoke strong emotions, such content not only achieves particularly high reach but also remains all the more firmly and lastingly in the memory of the audience. In this context, it was observed during the survey period that the perception-relevant portrayal of crime in the articles has deteriorated overall: An analytical examination of the sentiment in the headlines of the base dataset suggests that the percentage of terms with a negatively polarizing effect is trending upward97 (see figure 9).

A comparable trend is also reflected in the two profiles, whose survey periods were extended for detailed analysis.

Measures for identifying perpetrators, witnesses and leads

The frequent combination of terms such as "POLICE", "ADDICTION", "WITNESSES", "TIPS" and the associated high sharing rates illustrate that the use of social networks for the purpose of identifying perpetrators, witnesses or gathering tips in the context of criminal prosecution played a prominent role in online media coverage. This was also evident in the list of terms that most frequently led recipients to share relevant media coverage.

Posts of this kind serve important law enforcement purposes, as they, for example, seek unknown perpetrators or witnesses and ask for tips. However, with regard to potential crime-related feelings of (in)security, this can also have adverse effects. There are two reasons for this:

1. This primarily involves information about offenders who have victimized other people and who, at least at the time of the reporting, were able to evade prosecution.

[97] These analyses were conducted using the Sentiment Vocabulary. "The Sentiment Vocabulary, or SentiWS for short, is a publicly available German-language resource for sentiment analysis, opinion mining, and similar purposes. For the words it contains, the positive and negative polarity is specified in the interval [-1; 1], along with their part of speech and (if applicable) inflectional forms. The current version of SentiWS contains approximately 1,650 positive and 1,800 negative base forms, so that, including the various inflectional forms, a total of about 16,000 positive and 18,000 negative word forms are included. SentiWS contains not only adjectives and adverbs, but also nouns and verbs that carry sentiment." See Remus, Robert (2010).

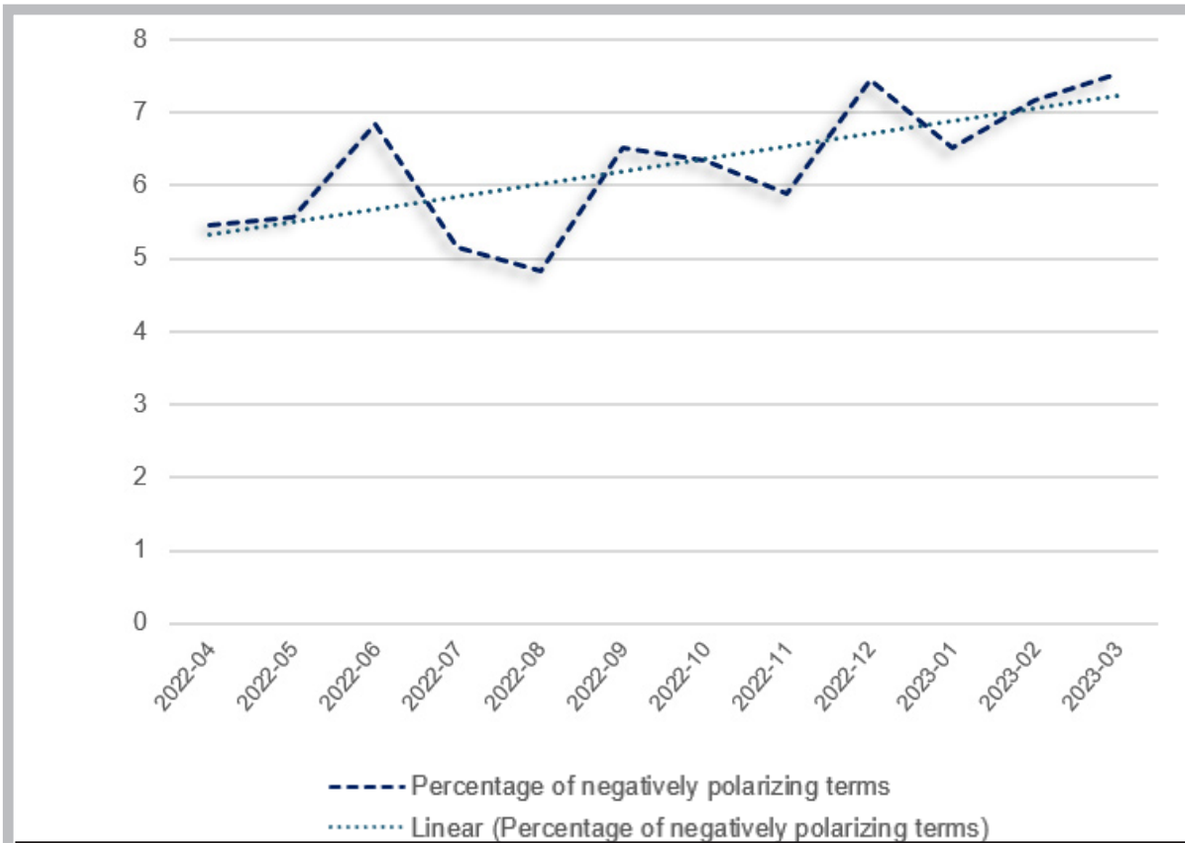

Figure 9: Development of the percentage of negatively polarizing terms in headlines (crime-related social media coverage in the state of Bremen).

2. For this high-profile measure to be necessary, the crimes in question must be of significant importance. This generally includes crimes and offenses[98] that, depending on the individual case and their nature and severity, are likely to particularly disrupt the rule of law and thus significantly undermine the public's sense of security.

Against this backdrop, posts that combine the content of a serious criminal offense with a perpetrator who has not (yet) been brought to justice tend to generate significant reach and public impact. Authorities take this aspect into account in each individual case through a precise and careful proportionality assessment. However, the regulations governing the media distribution of this sensitive information are primarily governed by the platforms' terms of use. News providers can exploit this information and expand upon it with their own text contributions, thereby stirring up emotions or even inviting speculation. This can have implications beyond the specific legal proceedings. Consider, for example, the alleged identification of "child molesters", which generates a momentum of its own on social networks and leads to vigilante justice. The exploitation of knife attacks in far-right extremist posts, in which unknown perpetrators are attributed a migrant background through leading questions, in order to substantiate potential threats and call into question the functioning of the rule of law, demonstrates how important it is at this juncture to pay greater attention to media responsibility regarding sensitive crime-related content.

[98] See, among others, §131 (3), 131b (1,2) of the Code of Criminal Procedure as well as § 2 No. 5 of the Bremen Police Act.

Overrepresentation of serious and high-profile crime

From the most frequent terms that suggest the manner in which the crime was committed (e.g. "ATTACKED", "ROBBER", "THREATENED"), it becomes apparent that online media coverage primarily receives and disseminates a large number of reports on crimes that fall within the categories of robbery and extortion.

In the long term, these crimes show a downward trend, even though there was a resurgence following the pandemic -related decline in numbers. In the first half of the last decade, the number of completed crimes ranged between 868 (2017) and 1,053 (2014). Over the past five years, this figure has ranged between 639 (2020) and 844 (2022) robberies.[99] In contrast, figures from victimization surveys conducted in 2012 and 2017 show that an increasing number of people feel somewhat or very unsafe with regard to being robbed.[100] In this area of crime, there is essentially a gap between perception and empirical data: the perceived security situation is developing in the opposite direction to the empirical one.

Since public interest in this area of crime, as reflected in social media coverage in the state of Bremen, is distributed roughly equally across all news sources examined here, it can be assumed at this point that this is not limited to Bremen alone. Even though factors such as an armed perpetrator or a manhunt are also associated with relevant posts in this context, the example of reporting on this area of crime demonstrates how significantly subjective perceptions of reality can be altered by processes of digitalization.

Conclusion

Content that touches on fear of crime appeals to the basic human need for security and is therefore of great interest to the audience. It is therefore not without reason that crime is addressed in social media reports. More than one in six posts dealt with police and fire department operations, serious crimes or (traffic) accidents, perpetrators and victims, as well as ongoing criminal proceedings in court; it has been shown that this number continues to rise. The term "POLICE" was not only the most frequently used word across all post texts; it was also demonstrated that, in particular, depictions of serious crimes attracted special interest, achieved high reach, and thus appeared overrepresented.

The media dissemination of crime-related content can thus pose a risk, which arises particularly when information offerings are specifically designed to meet the demand for such content and, in combination with, in this regard, predictable, resonance-driven reach, lead to a disproportionate presence of such content. The quantity and quality of reporting then no longer reflect empirical reality but exaggerate dangerous situations and threat scenarios. This creates a tension between the perceived and empirical security situation, which can undermine trust in authorities, institutions, and the rule of law and encourage rising crime.

On the part of social media reporting, it is primarily factors such as sensationalist and emotionally charged coverage of relevant content or the coverage of a multitude of national issues that can attract the attention of audiences and thus fuel fear of crime. On the part of authorities, measures such as public manhunts related to serious crimes, which are frequently shared and covered by news outlets or protracted court proceedings regarding capital crimes, which remain in the media for many months and are simultaneously supplemented with other similar content, can have a lasting negative impact on subjective safety.

Exploratory comparative analyses, using victim surveys as an example, particularly in the context of robbery and extortion, suggest that the gap between perceived and empirical security conditions is widening further. Furthermore, far-reaching indirect consequences are also evident, especially regarding the political instrumentalization of relevant reporting. Particularly in the context of right-wing extremism, reports are repeatedly cited that feed narratives of German victims and foreign perpetrators, thereby presenting themselves as validated by media coverage. The key competencies required to effectively counter this phenomenon and thereby strengthen trust in security authorities and the rule of law are, first and foremost, media literacy and the associated assumption of responsibility. This applies to all areas of social interaction within digital environments.

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[99] See Police Crime Statistics – State/City of Bremen 2022, press conference March 6, 2023.

[100] See Birkel, Christoph, Daniel Church, Anke Erdmann, Alisa Hager & Nathalie Leitgöb-Guzy, "Safety and Crime in Germany – SKiD 2020" (2021). Nationwide Key Findings of the Victimization Survey by the Federal Criminal Police Office and the State Police Forces, Institute of Criminology. Wiesbaden.