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Thirty Years After the German Reunification—Exploring Stereotypes About East Germans on Twitter

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Although further social category thinking on social media might harm the German democratic public sphere, the stereotyping of East Germans on social media has been under-researched so far. We combined computational text analysis and manual content analysis on *N* = 106,616 tweets to investigate the area of society to which the stereotypes apply, the kind of threat East Germans are described as, and what exact stereotypes exist. We show that stereotypic tweets about East Germans are relatively rare. East Germans are portrayed as a general political threat and are attributed right-wing attitudes, socioeconomic marginalization, and negative behaviors. The contextual stereotypes we found are in line with previous studies investigating traditional media and suggest that different groups, like Saxons, recur as targets of political stereotypes, depending on the events taking place. Practical implications of the results are discussed.

Keywords: East Germany, stereotypes, Twitter, automated text classification, content analysis

Formerly divided East and West Germany have now been reunited for more than 30 years. Socioeconomic and political difficulties of German reunification were central in creating stereotypes about East Germans that prevail until today (Horton, 2018). In particular, the portrayal of East Germans and the language employed in descriptions in traditional media have played an essential role in forming, maintaining, and enforcing the social group of "the East Germans" (Ahbe, Gries, & Schmale, 2009; Beukeboom, 2014; Kollmorgen & Hans, 2011).

Popular social media is often criticized for stereotypic content in different contexts, for example, within different racial groups on YouTube (Guo & Harlow, 2014), or regarding women candidates in campaign discussions on Twitter (McGregor & Mourão, 2016). Yet, the depiction of East Germans on social media is still an academic void. Examining which generalizations occur in social media and to what extent they correspond to stereotypes in traditional media is essential for a contemporary assessment of the situation of the reunified German society. The need for an inventory of stereotypes against East Germans is supported by the fact that group-based discrimination generally has a negative impact on the physical and mental

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health of those affected (Stangor, 2009). Furthermore, in our context, the discrimination of East Germans through stereotypes also hierarchizes and naturalizes social differences, which translates into a marginalization of East Germans in elite positions (Kollmorgen, 2020), or shapes a distorted self-image of East Germans that is inherited by younger generations (Kubiak, 2019; Stangor, 2009).

Twitter is a relevant platform to study stereotypes about East Germans. First, communication among users on Twitter is detached from the classic distribution of roles in the mass media, broadly consistent with traditional notions of interpersonal communication, and lends itself easily to exploration (Mislove, Lehmann, Ahn, Onnela, & Rosenquist, 2021). Second, Twitter plays a crucial role in political communication in Germany (Tumasjan, Sprenger, Sandner, & Welpe, 2011). As a communication and information medium for political actors (Jungherr, 2016), Twitter is used by opinion leaders to encourage individuals to participate in the sociopolitical process (Park, 2013). This facilitates engagement in political dialogue during which highly connected professionals reach out to connect with citizens (Ausserhofer & Maireder, 2013). Stereotypes about East Germans mostly affect political topics and claim that categorical differences exist between East and West Germany, which are largely unaddressed by German parties (Foroutan, Kalter, Canan, & Simon, 2019). Given Twitter's role of an intermediary between politics and the public, it is highly relevant to examine the extent to which stereotypes about East Germans are prevalent in this environment.

Theoretical Considerations

Group-Focused Enmity

In this study, we consider stereotypes to be associations of a social group concept (e.g., East Germans) with one or more attribute concepts (e.g., ignorant, left behind) (Greenwald et al., 2002). More generally, stereotypes are traits viewed as (group-distinguishing) characteristics of social groups (Stangor, 2009). Stereotypes refer to beliefs people have about social groups, whereas prejudice refers to the evaluation of these groups (Blair, 2002).

East Germans, as part of the German majority society, are a marginalized, nondominant group compared with West Germans (Miethe, 2019). Especially after German reunification in 1990, stereotypes between East and West Germans functioned as verbal boundaries between "them" (out-group: East Germans) and "us" (in-group: West Germans), indicating group-specific discrimination (Roth, 2019). The syndrome of group-focused enmity (GFE) encompasses prejudices as interrelated factors, differentiating the nondominant out-group (e.g., East Germans) from the normative consensus of the dominant in-group (e.g., West Germans) by incorporating a generalized group-based devaluation (Zick et al., 2008). New groups might become part of this GFE syndrome through changing societal conditions and political and economic upheavals (Zick et al., 2008). Indeed, different types of prejudice against specific target groups have their individual backgrounds (in this case, the reunification process of two formerly divided states) while particular social groups (East Germans) keep recurring as targets of varying prejudice over time (Küpper & Zick, 2014).

Extending the GFE concept, it was found that prejudice against a particular out-group develops among specific socioeconomic or cultural segments of society, depending on which realistic or symbolic interest is threatened (Meuleman, Abts, Slootmaeckers, & Meeusen, 2018). It was demonstrated that economic, cultural, or criminal threats had a substantial effect on the attitudes of the German majority population, even if their relative impacts varied (Jedinger & Eisentraut, 2020). For example, sexually atypical groups (e.g., lesbian, gay, bisexual, transgender, queer [LGBTQ]) have been perceived as culturally but not economically threatening; competing groups (e.g., poor people) have been seen as economically but not culturally threatening; and dissident groups (e.g., immigrants) have been considered threatening to all three societal segments. Additionally, Bauer-Kaase and Kaase (1996) and Kubiak (2019) argued that the stereotype of East Germans having polarized, ungrateful voting behaviors and hence posing a prospective political threat to West Germans exists.

Stereotypes About East Germans

After World War II, Germany was divided into the German Democratic Republic (GDR, East Germany) and the Federal Republic of Germany (FRG, West Germany; Kuechler, 1992). A peaceful revolution by GDR citizens and historical circumstances such as a transitioning Soviet Union brought the turnaround and rapid reunification, which led to an extraordinary and harsh political, social, and economic transformation. Referring to the conditions for the emergence of GFE syndrome by Zick and colleagues (2008), the German reunification resulted in a massive socioeconomic and political upheaval.

Stereotypes about East Germans can be split into three main types: Heterostereotypes (in-group member targets out-group, i.e., a West German targets East Germans), autostereotypes (out-group member targets own out-group, i.e., an East German targets East Germans), and mirrored stereotypes (out-group member reports characteristics or behaviors that the in-group attributes to the out-group; Roth, 2019).

At the content level, stereotypes about East Germans can be classified into the societal segments to which they might pose a threat, as outlined in the preceding section. Stereotypes of East Germans being lazy, ungrateful (Horton, 2018), averse to work, insecure, nonindependent, or unproductive (Roth, 2019) certainly address the economic segment. From a cultural perspective, East Germans have commonly been seen as inferior cousins or "the others" (Horton, 2018), who speak a strong dialect (Kubiak, 2019) and are not normal (Hoff & Kausch, 2013), and second class or too nostalgic (Foroutan et al., 2019). Criminal aspects refer to aggressive behavior with anti-immigrant, xenophobic, racist, or intolerant attitudes (Ahbe, 2004). The perception of East Germans as a political threat is expressed through the attribution of certain traits to them, such as being authoritarian, indifferent toward national socialism (Ahbe, 2004), "others" with unpleasant voting behavior (Kubiak, 2019), open to radicalization (Foroutan et al., 2019), politically polarized (Bauer-Kaase & Kaase, 1996), or generally right wing (Pates, 2013). However, Decker, Kiess, Schuler, Handke, and Brähler (2018) showed that the differences between East and West Germany regarding right-wing attitudes are subtle. Right-wing views significantly fluctuate in East Germany from year to year, unlike in West Germany, where they appear to be more stable over time (Decker et al., 2018).

East Germans are also commonly called "Ossis," a negative term that naturalizes social difference (Pates, 2013), and is present in traditional media coverage. After the fall of the Berlin Wall, the GDR refugees were depicted as helpless, underdeveloped, and inferior by the German boulevard press while there was a tendency to present them in more neutral or even positive portrayals by the quality press, who described East Germans as active, integrated, and ambitious. Nevertheless, the public discourse about East Germany in the 1990s was conducted exclusively from the perspective of West German media institutions (Ahbe et al., 2009). For example, stereotypes that circulated in society, of East Germans being xenophobic, undemocratic, and economically incompetent, were in line with the stereotypes reflected from West German TV (Ahbe et al., 2009). While East Germans had been described as courageous and predominantly positive before the reunification, they were described as deficient after the turnaround. Since they were no longer considered victims of the GDR after unification, it was conveyed on television that their behavioral deficits could be attributed to being specific characteristics of East Germans. In the years after, East Germany appeared as a deviation from the West German normality (Hoff & Kausch, 2013), and the public opinion of East Germans was represented in a limited, distorted, or burdensome way (Kollmorgen & Hans, 2011). The persistence of social differences in traditional media portrayals is problematic because earlier studies found that the communication of stereotype-consistent information facilitates the formation and maintenance of stereotypic associations, preserving social group-based thinking (Beukeboom & Burgers, 2019), which has several consequences. For example, West German consumers have developed less favorable attitudes toward East German products over the past few decades (Ahmed, Hinck, & Felix, 2018), whereas East Germans have been too economically inexperienced to counteract this (Feick & Gierl, 1996). Furthermore, a continued rejection of East German identity in the media has led to circumstances where East Germans who identify with their origins risk being stigmatized and devalued (Miethe, 2019). Despite the many years that have passed since the reunification, younger generations are socialized as and identify themselves as East German because of the intergenerational memory shared with their parents (see Kubiak, 2019). Consequently, the identity of these younger generations is constructed as being neither truly German because of their origin nor truly East German because of their dates of birth (Kubiak, 2019). Media coverage exacerbates this situation by constantly treating East and West Germans as separate "groups," thus, further group-based discrimination on social media might aggravate the already existing economic (Ahmed et al., 2018), societal (Kollmorgen, 2020), and identity-related consequences (Kubiak, 2019; Miethe, 2019).

The Present Study

Only a minority of the preceding studies on the complex East German situation and the associated stereotypes had the explicit goal of identifying exact stereotypes about East Germans (e.g., Roth, 2019). The stereotypes found in other works were more or less a byproduct of analyzing social discourses that revolve around East Germany in general (e.g., Foroutan et al., 2019). Nevertheless, explicitly investigating stereotypes about East Germans allows a contextualization of how former opposing social systems and conflicts have shaped mutual public perceptions until today (Roth, 2019), and it helps to assess the current character of East German identity (Kubiak, 2019). Previous studies have focused on traditional media and neglected stereotypes against East Germans on social media. However, against the backdrop of the immense popularity of social media, they provide a very relevant field of research on this topic: Stereotypes communicated on social media could also lead to a reinforcement of social category thinking (Beukeboom & Burgers, 2019) and to a more difficult identity construction and self-perception (Kubiak, 2019), as well as

to avoidance behavior and thus to problems in terms of establishing a democratic public sphere (Kollmorgen & Hans, 2011). For example, stereotypes about certain groups emphasized in traditional media are also popular on social media (Guo & Harlow, 2014), and given the role Twitter plays with regard to political actors and public opinion (Jungherr, 2016), a continued stereotyping of East Germans in this context could deepen the aforementioned problems.

Our study aims to fill these research gaps to provide an up-to-date and targeted overview of the current state of East German stereotypes. Previous research on traditional media revealed a high rate of negative judgmental reports about East Germans (Kollmorgen & Hans, 2011). Measuring the prevalence of stereotypical tweets about various social events in the four societal sectors of economy, culture, crime, and politics is important for both assessing the problem and tying our study to research on stereotypical reporting in traditional media. This brings us to the first research question:

RQ1: How prevalent are stereotypic tweets about East Germans?

Prejudice in this context likely develops among the societal sectors that might be threatened most by East Germans (Jedinger & Eisentraut, 2020). As outlined above and in earlier media studies on East Germany (Holtmann et al., 2015), the political sector is important in the East German context. Whether the sector of politics is dominant on Twitter as well and in which sector most of the stereotypes can be found is still open to debate, which brings us to research question two:

RQ2: Which societal sectors are primarily addressed in stereotypic tweets about East Germans?

Following research on the syndrome of GFE, we assume, in line with Meuleman and colleagues (2018), that stereotypes are focused on specific out-groups (e.g., Saxons, Thuringians), which are perceived to threaten the interests of the in-group (e.g., West Germans). Here, we investigate whether East Germans as a whole or subgroups of East Germans recur as targets (Küpper & Zick, 2014), which allows us to infer, within the context of our data, what specific type of threat the group is perceived as. Therefore, the next research question is:

RQ3: What kinds of threats are East Germans described as in stereotypic tweets?

Lastly, we rely on Roth (2019) and her distinction between hetero-, auto-, and mirrored stereotypes to analyze the most prevalent stereotypes in our sample. Tracking this is crucial to assessing which perspective the stereotypes come from (e.g., from the in-group targeted toward the out-group). Additionally, we aim to explore whether East Germans are still prejudged as being lazy, ungrateful, insecure (Horton, 2018; Roth, 2019), "other," not normal (Kubiak, 2019), xenophobic (Ahbe, 2004), or right-wing "Ossis" (Pates, 2013). Here, we also collect new generalizations that target either East Germans in general or a subgroup of East Germans, such as the residents of certain federal states. Finally, we investigate whether four main topical themes that seem to prevail in traditional media coverage about East Germans—origin, anomaly and exoticism, weakness and the need for help, and a burden on the rest of Germany (Kollmorgen & Hans, 2011)—are prevalent in our sample. This is addressed by the following research question:

RQ4: Which exact stereotypes and topical themes exist in stereotypic tweets about East Germans?

Methods

Sample and Data Collection

We collected tweets on major societal events related to East Germany according to the societal threat sectors of economy, culture, criminality (Jedinger & Eisentraut, 2020), and politics (Bauer-Kaase & Kaase, 1996; Kubiak, 2019) from January 1, 2019, to December 31, 2019, using twitterscraper (Taspinar, 2019). We conducted a systematic search in LexisNexis for German news events from 2019 concerning the economy and criminality sectors for East German counties. We added further events based on previous research, including demographic outflux (Mai, 2006), salary differences (Bosch, Kalina, & Weinkopf, 2014), and wealth inequality (Grabka & Westermeier, 2014). We collected events for the culture sector by scanning local event websites and the 2019 calendars of each federal East German state. Events for the politics sector were defined based on elections that took place in East Germany in 2019 (see Table A1 in the online Appendix).[1]

We removed duplicated tweets, except if they appeared in different contexts, and further filtered the data set using the stringr package (Wickham, 2019) and regular expressions to carve out East Germany-related tweets and to guarantee a uniform approach across all the events (see Table A2 in the online Appendix). Our final sample consisted of N = 106,616 tweets (see Table A3 in the online Appendix for the number of tweets per event section).

Manual Coding of Biased Tweets

We applied manual coding to identify stereotypic tweets about East Germans. The following inclusion criteria were applied: (1) The tweet in question contained implicit or explicit stereotypes (Dovidio, Kawakami, & Beach, 2001; Greenwald et al., 2002; Stangor, 2009) or a subcategory of stereotypes, like heterostereotypes, autostereotypes, or mirrored stereotypes (Roth, 2019). (2) The tweet categorized individuals in generic sentences (Beukeboom & Burgers, 2019), communicating that a characteristic or behavior applied to all East Germans or a subgroup of East Germans. (3) The tweet was offensive toward East Germany or East Germans in a generalizing or stigmatizing way (see inclusion criterion 2; Waseem & Hovy, 2016). An example of a biased tweet is as follows: "Sagen wir es, wie es ist: 30 Jahre nach dem Fall der Mauer hat offenbar ein Viertel der Wähler in #Thüringen Sehnsucht nach einer faschistischen Diktatur. Sorry, aber ihr seid einfach bloß dumme Arschlöcher. #fckafd" (Translation: "Let's tell it like it is: 30 years after the fall of the Berlin Wall, a quarter of the voters in #Thuringia apparently long for a fascist dictatorship.

[1] https://doi.org/10.17605/OSF.IO/NRSP2

Sorry, but you are just stupid assholes. #fckafd"; Tweet ID: 1188549985182404611).[2] Interested readers can find more examples of stereotypic tweets in the online Appendix. We further added the tweet IDs as CSV files in case readers want to get even better insights beyond the screenshots.

An intra-rater reliability test was conducted on a random sample of 200 tweets, and yielded good results (*Krippendorff's α* = 0.84). Afterward, a random sample of 14,271 tweets was drawn and manually classified. In this sample, 13,556 tweets were labeled as not stereotypic, and 715 were labeled as stereotypic. Throughout the manual classification, we also accounted for coder drift to improve the quality of the training data (Bartholomew, Henderson, & Marcia, 2000). The first additional intra-coder-reliability test was performed after coding 4,008 tweets (*n* = 200, *Krippendorff's α* = 0.92), followed by the second test after coding 13,271 tweets (*n* = 200, *Krippendorff's α* = 0.89).

Automatic Classification of Biased Tweets

To increase the predictive ability of the model, highly correlated candidate features were excluded (e.g., the number of characters and number of words; Kuhn & Johnson, 2020). The number of URLs, whitespaces, question and exclamation marks, hashtags, and mentions were added as features as they proved useful for biased language detection in previous research (Nobata, Tetreault, Thomas, Mehdad, & Chang, 2016). We counted categorizing patterns within tweets and added the number of out-group references, in-group references, generalizing phrases, and occurrences of the word "immer" or "ständig" ("always") as features (Beukeboom & Burgers 2019; Roth, 2019; see Table A4 in the online Appendix). Lastly, we attached a sentiment score (Rauh, 2018; Remus, Quasthoff, & Heyer, 2018) to each tweet following Silge and Robinson's (2017) approach because we assumed that a stereotypic tweet would be rather negative in tone as compared with a non-stereotypic tweet.

We applied standard text cleaning procedures to remove URLs, punctuation, and special characters, and to transform the German umlauts. Stopwords were not removed for modeling, as recommended by Schofield, Magnusson, and Mimno (2017). We also monitored the most important predictors for the model after each test run and summarized text-based predictors (single words) whenever they had the same underlying meaning (e.g., "ossis," "ossies," "ossie," "ostler," to "ossi"). The total training sample of *n* = 14,271 classified tweets was stratified, split into a training set (*n* = 10,704) and a test set (*n* = 3,567). The data splitting, preprocessing, and data modeling were carried out via tidymodels (Kuhn & Wickham, 2020) and textrecipes (Hvitfeldt, 2020).

After extensive tests, we used a logistic regression suited for binary outcomes (Oommen, Baise, & Vogel, 2011) with automatic feature selection (Kuhn & Johnson, 2020) and lasso regularization (Hastie, Tibshirani, & Wainwright, 2015) as our final model. The following preprocessing steps proved most effective: Unigram + bigram tokenization, tf-idf weighting, upsampling, removing zero-variance predictors, and

[2] The German-language discourse of stereotypes about East Germans on Twitter includes a large amount of problematic content, and we provide examples of such content. These examples may be offensive or objectionable. We believe it is important to understand the discourse to identify harmful content in the future and mitigate its impact.

normalizing numeric variables through centering and scaling (Kuhn & Wickham, 2020). We limited the number of tokens for the final model based on the number of token occurrences (minimum = 8, maximum = 3,000). Lastly, a Monte Carlo cross-validation (Kuhn & Johnson, 2020) with 10 resamples was found to be the most effective resampling technique compared with 10-fold cross-validation and bootstrapping (see Table A5 in the online Appendix).

The most important task of the model was to detect all stereotypic tweets as best as it could while keeping false negatives very low and false positives acceptable for a second manual coding of the automatically classified tweets. Hence, we automatically classified the remaining n = 92,345 tweets. The model labeled n = 23,671 tweets as stereotypic (*precision* = .99, *recall* = .80). These stereotypic tweets were again manually classified (the same procedure as described in the previous section, Manual Coding of Biased Tweets), and as a result, together with the tweets from the training sample, n = 5,771 truly stereotypic tweets were identified for analysis.

Detailed Manual Coding of Biased Tweets

A random sample of n = 1,731 stereotypic tweets was taken from the total of n = 5,771 to answer the research questions in more detail. We decided to draw a random sample of 30% because we assumed that not-so-frequent phenomena would be sufficiently represented.

The codebook (see online Appendix) consists of four categories: (1) the distinctions among heterostereotype, autostereotype, and mirrored stereotypes (Roth, 2019); (2) the GFE concept to measure which group or subgroup is targeted by the stereotypic tweet (e.g., the general East German population, federal state inhabitants in general, East German city residents, or only certain parts of each); (3) the exact stereotypes based on a list of stereotypes created by looking at previous research and expanded whenever a stereotype emerged that was not part of the current list; and (4) the general topical aspect of the tweet (Kollmorgen & Hans, 2011). An intra-coder reliability test was performed with n = 50 random stereotypic tweets. Across all categories, sufficient reliability could be achieved with *Krippendorff's α* of 0.69–1.00.

Afterward, we created overarching categories for the stereotypes revealed in category 3 of the codebook. For example, the "right-wing-attitudes" category includes the stereotypes of antisemitism, xenophobia, chauvinism, being right wing, or having polarized right-wing voting behavior (Decker et al., 2018). Altogether, the stereotypes were assigned to 15 overarching categories and their negations: Right-wing attitudes, insults, negative behavioral attributions, socioeconomic marginalization, economic uselessness/burden, otherness, insubordination, positive attributions, being progressive, being reactionary, left-wing attitudes, anti-West Germany attitudes, divergent voting behavior, sense manipulation, and assuming that East Germans are doing too well.

Results

A General Overview of the Data Set

In our sample of 106,616 tweets, 10.1% (*n* = 10,760) were related to economy, 13.0% (*n* = 13,861) to culture, 23.3% (*n* = 24,886) to criminality, and 53.6% (*n* = 57,109) to politics. Only 5.4% (*n* = 5,771) of all the analyzed tweets were stereotypic about East Germans. A total of 69.2% of the stereotypic tweets pertained to politics (*n* = 3,993), 16.4% to economy (*n* = 947), 12.7% to culture (*n* = 735), and 1.7% to criminality (*n* = 96).

We explored all 5,771 stereotypic tweets via computational text analysis to obtain a general overview of who the main targets of stereotypic tweets were and what threats they might have posed. Observation of the most frequent words and n-grams from all four sections indicated that the perceived polarized voting behavior of Saxons and Thuringians seemed to pose a particular threat (see Table A6 in the online Appendix). Most of these terms circulated the notion that Saxons and Thuringians in general, or "every fourth" Saxon and Thuringian, elect the AfD (Alternative für Deutschland, a right-wing conservative party), which, of course, does not correspond to the whole truth if one takes into account the voter turnout per federal state. On the other hand, the rationalization that a certain amount or the majority does not elect ("nicht") the AfD also exists, which indirectly shows that people defend themselves against the statement that at least every fourth Saxon or Thuringian votes for the right-wing AfD. Because the term "AfD" was also frequently observed in relation to other sections outside of the political sector, we expected that the presumed polarized right-wing voting behavior of East Germans, or in particular of Saxons and Thuringians, would play a significant role in the manual content analysis in all the societal sections.

The Most Frequent Targets in Stereotypic Tweets About East Germans

In this section, we discuss the detailed manual coding of the random sample of 1,731 stereotypic tweets. In this sample, a total of 34.5% of the 2,048 mentioned targets referred to a federal state population (*n* = 707), 29.2% were related to the general population of East Germans (*n* = 597), and 18.0% referred to a certain amount or percentage of a federal state population (*n* = 368), communicating, for example, that a characteristic or behavior applied to every fourth Saxon or every third Thuringian. Other target groups only accounted for a very small proportion of our sample.

To examine exactly who was targeted, we extracted the 1,465 tweets that mentioned a federal state population, the general population of East Germans, or a certain amount of a federal state population and screened the 100 most frequent words within these tweets. We found that the most frequently mentioned location-related terms were Saxony (*n* = 747), East (*n* = 372), Thuringia (*n* = 307), Ossi (*n* = 270), Brandenburg (*n* = 214), GDR (*n* = 74), Eastern (*n* = 63), East Germany (*n* = 40), and Thuringian (*n* = 33). Thus, the main targets seemed to be Saxony and Saxons, the East and East Germans, Thuringia and Thuringians, "Ossi(s)," Brandenburg, and the former GDR and its inhabitants.

A Detailed Look at How These Targets Are Stereotyped

In this section, we present how the three main target groups (all the people from a federal state, all East Germans, a certain proportion of the population of a federal state) that appeared in 84.6% (*n* = 1,465 tweets) of the manually coded stereotyped tweets were stereotyped. One stereotypical tweet usually contained one stereotype (*Median* = 1.00, *M* = 1.72, *SD* = 0.94). In the subset of the most frequent target groups, 51.6% were heterostereotypes, 36.2% could not be allocated to one of the three types, 11.5% were autostereotypes, and 0.7% were mirrored stereotypes. The overarching stereotypes assigned to the most common target groups were right-wing attitudes (37.3%, *n* = 939), socioeconomic marginalization (11.1%, *n* = 278), negative behavioral attributes (8.6%, *n* = 215), insubordination (7.3%, *n* = 184), and the generalization that all East Germans were not right wing (3.7%, *n* = 94). The top three overarching stereotypes and their separate components in the subset of the most frequent targets can be seen in Table 1.

Table 1. Top Three Overarching Stereotypes and Components of the Most Frequent Targets.

			Split Into Separate		
Overarching Category	*n*	%	Stereotypes	*n*	%
Right-wing attitudes	939	37.3	Politically polarized right-wing	621	66.1
			Right-wing	156	16.6
			Xenophobic	49	5.2
Socioeconomic marginalization	278	11.1	Socioeconomically disadvantaged	115	41.4
			Left behind	61	21.9
			Are subject to prejudice	31	11.2
Negative behavioral attributions	215	8.6	Stupid/"mentally disabled"	89	41.4
			Dissatisfied	40	18.6
			Victims	14	6.5

Looking at the most frequent target groups divided by societal section, we found that the stereotype of having right-wing attitudes was prevalent in all the societal sections (see Table 2). In the economy and culture sections, the stereotype of socioeconomic marginalization was in the first place (*n* = 123, 28.0% in the economy and *n* = 60, 23.9% in culture) followed by right-wing attitudes (*n* = 79, 18.0% in the economy and *n* = 33, 13.1% in culture).

Table 2. Stereotypes per Societal Section of The Most Frequent Targets.

Section	Top Five Overarching Stereotypes per Section	*n*	%
Economy	Socioeconomic marginalization	123	28.0
	Right-wing attitudes	79	18.0
	Negative behavioral attributions	44	10.0
	Economic uselessness/burden	28	6.4
	No economic uselessness/burden	27	6.2
Culture	Socioeconomic marginalization	60	23.9
	Right-wing attitudes	33	13.1
	Otherness	22	8.8
	Negative behavioral attributions	21	8.4
	Economic uselessness/burden	19	7.6
Criminality	Right-wing attitudes	11	27.5
	Insubordination	9	22.5
	Economic uselessness/burden	3	7.5
	Negative behavioral attributions	3	7.5
	Socioeconomic marginalization	3	7.5
Politics	Right-wing attitudes	816	45.7
	Negative behavioral attributions	147	8.2
	Insubordination	144	8.1
	Socioeconomic marginalization	92	5.2
	No right-wing attitudes	90	5.0

In the criminality and politics sections, the stereotype of having right-wing attitudes was the most common (n = 11, 27.5% in criminality and n = 816, 45.7% in politics), accounting for almost half of the share in the politics section. In the criminality section, the stereotype of insubordination was the second most common (n = 9, 22.5%), whereas in the politics section, negative behavioral attributions ranked second (n = 147, 8.2%).

Finally, 78.0% (n = 1,143) of all the stereotypic tweets that referred to the three most frequent targets could not be allocated to any topical theme proposed by Kollmorgen and Hans (2011). Nonetheless, 8.3% (n = 121) could be assigned to the topical theme of anomaly and exoticism, 7.3% (n = 107) to the topical theme of being a burden on the rest of Germany, 5.2% (n = 76) to the topical theme of weakness and the need for help, and 1.2% (n = 18) to the topical theme of origin.

Discussion

In our study, we analyzed stereotypes about East Germans communicated on Twitter using a combination of manual content analysis and computational text analysis. Building on previous literature, we assessed and explored the prevalence and nature of stereotypes about East Germans on Twitter in a contemporary *sample.* To answer RQ1 (*How prevalent are stereotypic tweets about East Germans?*), stereotypic tweets had a prevalence of ~5.0% in our sample. In the absence of comparable quantitative data in the East German context, our results were difficult to compare with those of previous studies. Research on other stereotypical contents (e.g., people with Alzheimer's [Oscar et al., 2017] or Muslims [Awan, 2014]) and other social media platforms (e.g., different ethnic groups on YouTube; Guo & Harlow,

2014) found significantly higher rates of stereotypes than we did. However, because of the different contexts, a comparison is problematic. Future research could replicate our approach with Twitter data or other social media data to better assess the amount of stereotypical content about East Germans. We also assume that the proportion of stereotypes in traditional media coverage on East Germans has changed because of the continued underreporting regarding East Germany in general (Holtmann et al., 2015). We encourage future research to provide an update on this assumption through a targeted examination of stereotypes in the traditional media.

Regarding the RQ2 (*Which societal sectors are primarily addressed in stereotypic tweets about East Germans?*), we found that the politics sector contained the most stereotypical tweets about East Germans (more than two thirds of the total). In relation to the RQ3 (*What kinds of threats are East Germans described as in stereotypic tweets?*), we report that stereotypic tweets mostly targeted federal state inhabitants affected by elections in this time period, especially Saxons, Thuringians, and Brandenburgians, or East Germans in general. The assumed polarized voting behavior of these groups seemed to pose a political threat across all the societal sections. More specifically, the stereotypes about these groups assigned right-wing attitudes (e.g., politically polarized right-wing voting behavior or being right wing in general), socioeconomic marginalization (e.g., being socially disadvantaged or left behind), or negative behavioral attributions (e.g., being stupid, mentally disabled, or dissatisfied), which answered RQ4 (*Which exact stereotypes and topical themes exist in stereotypic tweets about East Germans?*).

Our study has several implications for future research on the topic. We argue that the socioeconomic segments proposed by Meuleman and associates (2018) should be extended by the sector politics to investigate stereotypes and prejudices against out-groups based on their presumed political stances and voting behaviors. Consequently, we hypothesize that on social media platforms and in traditional media, political topics dominate the recent discourse on East Germans while economic, criminal, and especially cultural aspects of East Germany are underrepresented. Following Zick and associates (2008), we also identified how specific subgroups, such as Saxons and Thuringians, are recurrent targets of prejudice in the field of politics while such preconceptions spill over into other sections of society. Remarkably, the federal states affected by state elections in 2019 became the focus of such discrimination (i.e., Saxony, Thuringia, and Brandenburg) because of their presumed polarized right-wing voting behavior. East Germans appeared in traditional media coverage as a deviation from West German normality, and this gave a distorted representation of their public opinions (Hoff & Kausch, 2013; Kuechler, 1992). Within our context, we show that certain federal state inhabitants are placed under general suspicion regarding political elections because a certain number of voters in these states elects a right-wing conservative party. It is falsely assumed that this number of right-wing conservative voters represents the political attitude of the majority in the respective region. Thus, we hypothesize that in eventful times, the main focus of East German stereotypes is on regional subgroups, such as Saxons or Thuringians, who are affected by the events. In uneventful times, the general group of East Germans might again become the subject of stereotypes if they are covered in the media at all. Both aspects—the focus on political topics and on particular subgroups—are fruitful research venues for future studies.

Heterostereotypes made up more than half of the stereotypes in our sample (Roth, 2019), with the primary attribution being that of East Germans or East German federal state inhabitants having right-wing

attitudes. These findings are in line with previous studies, which have shown that the in-group (West Germans) still associates the out-group (East Germans) with traits from the right-wing spectrum, which they themselves have allegedly discarded (Ahbe, 2004; Foroutan et al., 2019). Thus, similar to their depictions in traditional media (Pates, 2013), East Germans are presented as right-wing "Ossis" on the social media platform Twitter as well.

In sum, while we found only a comparably low prevalence of stereotypes on Twitter, we may report that there are still reservations about East Germans, which could potentially have negative effects. In the context of political education, work must be done to ensure that actions performed by a certain part of the East German population do not determine the image of East Germany as a whole. Interventions to reduce stereotypes about East Germans and East German federal state inhabitants should focus on lowering political threat perceptions in the population. On the other hand, the recent results of the 2021 parliamentary election for the German Bundestag showed that the right-wing conservative party (AfD) received approximately 20% of the votes in each East German federal state (Der Bundeswahlleiter, 2021), similar to what they received in 2019 (Tagesschau, 2021). Therefore, it is necessary to discuss whether the generalizations we found in our data are deeply held stereotypes about federal state inhabitants. Another explanation would be undifferentiated wording owed to a discourse that has formed around these issues since a not inconsiderable share of active voters in these states does indeed vote disproportionately for the right. The factors that contribute to the electoral success of the AfD, not only in Eastern Germany, have already been discussed in previous research (e.g., Zick & Küpper, 2021). For the German population as a whole, it appears that people with low social statuses predominantly support the AfD (Lux, 2018; Rippl & Seipel, 2018) and that the influence of a perceived ethno-cultural threat exists, where immigrants are perceived as competitors for scarce resources and as a threat to the German identity (Lengfeld, 2018; Rippl & Seipel, 2018). The AfD instrumentalizes these threat perceptions and the dissatisfaction with democracy among individuals with low socioeconomic statuses (Lengfeld, 2018; Rippl & Seipel, 2018). For East Germany in particular, there are indications that a perceived disadvantage and a failure to recognize the life achievements of East Germans by West Germans are causes of these differences in election results. These sentiments provide fertile ground for right-wing populist arguments that involve a collective devaluation of other social groups and established political elites through "us versus them" mobilizations (Pickel & Pickel, 2020). For right-wing voters in Saxony, it has been shown that feelings of political powerlessness, the recognition of reunification deficits, and feelings of being "second-class citizens" lead to a compensation for their own devaluation experiences with downward comparisons with foreigners and with a vulnerability to right-wing mobilization (Rippl & Seipel, 2021, p. 38). From a historical perspective, there is also evidence that the generational aspect of the East German identity has effects on the electoral success of the right-wing AfD. Pesthy, Mader, and Schoen (2021) showed that older East Germans exhibit higher levels of populism and nativism than older West Germans—a disparity that can be attributed to different socialization experiences with respect to representative democracy and national identity among older generations, which points to persistent discrepancies in living conditions and political discourses.

Although the combination of manual content analysis with computational text analysis allowed us new insights into a rarely researched topic, the approach has certain limitations. The sociodemographic composition of the small proportion of active German Twitter users is mainly unknown, and their political preferences and personality traits might systematically differ from those of the average German Internet

user population (Hölig, 2018). Although our data analysis relies on a large initial sample, we have no further information about the sample of users that created the stereotypic data. Furthermore, our data were bound to certain events and the year 2019, when either state or municipal elections took place in all East German federal states. Whether the stereotypes differ if the data set is replicated in another temporary and societal context without elections or based on other societal events is an open question for further studies. We cannot assess the sampling quality or how well we represented each event per societal section using the twitterscraper (Taspinar, 2019), and the resulting data set is thus shaped by the keywords used for the single queries. Last but not least, multiple entities that tweet or retweet the same content are a frequent phenomenon in our data, reflecting the situation on Twitter. This situation means that the behaviors observed on and data obtained from Twitter with regard to our data set might occur differently or not at all on other social media platforms. Other such platforms, like YouTube or Telegram, could be highly relevant for investigating stereotypes about East Germans in the future because of their different content moderation. The workflow developed in this study can help to analyze stereotypical content on social media not only in the East German context but also among different social groups. For example, when thinking about recent crises, such as the COVID-19 pandemic, our analysis method could be used to study stereotypical language toward scientists. In addition, the study of large amounts of text is now possible because of the availability of digital archives of newspaper articles. Our methodological approach offers upcoming research on our topic the opportunity to automatically classify much larger volumes than was done in most previous studies on the depiction of East Germans in traditional media.

Finally, whether it is still adequate to speak of East and West Germans as separate "groups" because of the strong temporal and generational elements of the East German identity remains an open question. In this study, we followed previous research (e.g., Hoff & Kausch, 2013; Kubiak, 2019) that highlighted the unequal treatment of East and West Germans as groups by the media (Hoff & Kausch, 2013) and the impact of that group division on younger generations (Kubiak, 2019). However, future studies should analyze whether the assumption of "group membership" is still valid in the East and West German context, and whether East Germans exhibit "group typical behaviors."

In conclusion, we showed that specific and context-dependent stereotypes still exist 30 years after German reunification. New groups, such as certain state residents, are targets of stereotypes, most of which come from the realm of politics and are related to events such as elections. Despite the comparably low prevalence of stereotypic content, we found that the same stereotypes used in traditional media are also present on Twitter, suggesting that certain stereotypes recur over time (Küpper & Zick, 2014). The situation of East Germans in terms of stereotypes has not changed to a great extent as they are still depicted as right wing in public and traditional media or on social media platforms, such as Twitter. This finding is relevant, especially with respect to the affected residents (Stangor, 2009), and in our context, the topic is largely ignored by politics (Foroutan et al., 2019). This implies that the still-existing stereotypes have to be addressed and that an open and honest discourse about the inner-German problems and differences must finally take place.

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