Ethnic Diversity and Spatial Dynamics in Google Maps Reviews: Insights from a German Border City

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Abstract

Location-based online services, such as Google Maps, provide a valuable lens for examining social dynamics in both online (virtual) and offline (physical) spaces. In particular, online reviews offer insights into how cultural or ethnic differences shape mobility patterns, place preferences, and public expression. This study analyzes the spatial behaviour of select ethnic groups in a German border city by integrating Google Maps reviews with demographic data. Using comparative analysis, we identify patterns in place engagement and disparities in urban space usage across different population groups. The findings highlight how socio-demographic factors influence the frequency and types of places visited, revealing gaps in urban accessibility. These insights demonstrate the potential of Google Maps data for understanding socio-spatial dynamics and inform strategies for more inclusive and data-driven urban planning.

Introduction

Location-based online services (LBOS), such as Google Maps, Yelp, and TripAdvisor, offer a powerful lens for analyzing online behaviours and cultural dynamics to those observed from demographic data (hereafter referred to as the offline world) that capture the physical spaces in which they are embedded. These platforms allow users to share reviews and ratings on Places of Interest (POIs), creating a rich data source on ethnic differences in online activity (Nakayama and Wan 2019; Gupta, Rabiei-Dastjerdi, and McArdle 2024; Mathayomchan and Taecharungroj 2020). Prior studies reveal distinct patterns in online rating behaviours, the types of places reviewed, and the sentiments expressed — factors often reflecting ethnic affiliations (Hong et al. 2016). Furthermore, LBOS serve as accessible spaces where minority groups can articulate their views in a language of their choice and without explicit ”gate-keeping” from the majority group. Hence, data from LBOS can provide insights into links between online-offline inclusion and exclusion, offering a new perspective for examining existing social constructs such as ethnic segregation.

Ethnic segregation is a social phenomenon traditionally examined by focusing on residential boundaries.(Massey and Denton 1988; Reardon and O'Sullivan 2004). Although this approach has guided integration policies, it neglects the spaces and places of interest to individuals, where they spend most of their time and possibly interact —activity spaces—places that can reinforce or mitigate segregation. (Müürisepp et al. 2022; de la Prada and Small 2024). Google Maps constitutes a large LBOS with broad geographic coverage of activity spaces. For its size and reach, it has been largely underused for socio-cultural studies. Its data on opinions of places ranging from bus stations to places of worship presents a lens for understanding how individuals navigate communities and form enclaves. This perspective reveals inclusion and exclusion patterns beyond home addresses and explores how minority groups express themselves online. While some studies (Schneiner 2000; Järv et al. 2015; Cunningham 2023) have employed LBOS data to investigate ethnic segregation, most focus on sentiment regarding specific locations or places in a city(Schneiner 2000) rather than broader spatial distributions of a city.

This paper analyses Google Maps reviews from three ethnic groups - French, Turkish, and Syrians in Saarbrücken, a German city sharing a border with France, as seen in figure 1. By comparing online review patterns with demographic

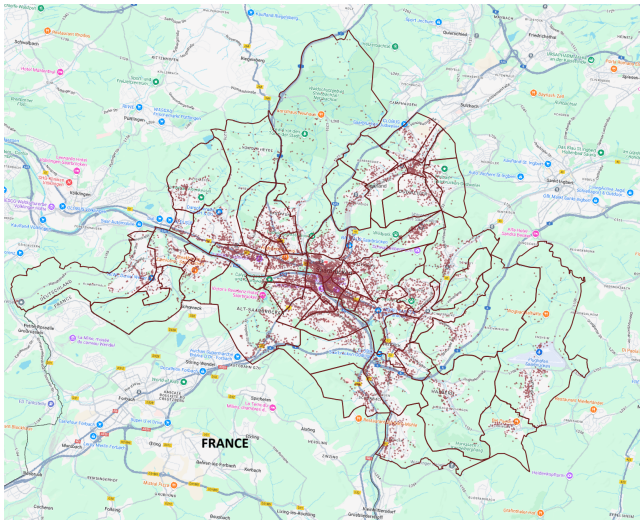
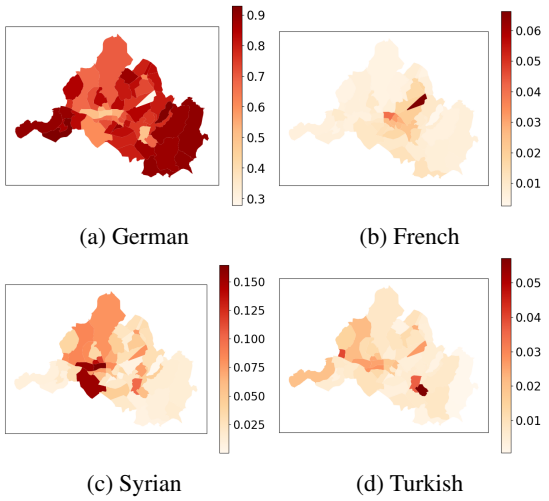


Figure 1: Distribution of $14,744$ Places of Interests from Google Maps across Saarbrücken



(a) German (b) French

(c) Syrian (d) Turkish

Figure 2: percentage of ethnic groups in different districts according to official statistics

census offline data, we reveal how spatial distributions diverge across neighbourhoods, digital and physical realms, and among varying ethnic groups. Our findings advance LBOS research by demonstrating the utility of Google Maps reviews for examining socio-cultural spatial dynamics.

Methodology

Selected Region and Ethnicities of Interest

Our research goal was to study ethnic diversity and spatial dynamics from the perspective of a border city. Saarbrücken is the state capital of Saarland, with rich cross-border historical events, particularly with France, which date back to the seventeenth century (Kühl 2022; Cowan 1950). Saarbrücken's proximity to France and Luxembourg facilitates short-term travel and migration from these Francophone regions, attracted by its relatively low cost of living and reasonable prices. The city also has a well-established Turkish community, shaped by mid-20th-century immigration policies that drew Turkish migrants to work in the region's mining and steel industries (Arts and Culture 2025). Turkish is predominant (Küppers, Şimşek, and Schroeder 2015). The Syrian civil war spurred an influx of Syrian migrants in recent years, reflecting broader migration trends across Germany. One barrier to integrating Syrian refugees has been language (Institute 2019). These ethnic groups—French, Turkish, and Syrian—have coexisted in Saarbrücken for at least a decade (Kassam and Becker 2023; Arab 2021). The city provides a compelling setting to investigate the spatial dynamics and community interactions of these ethnic minorities both online and offline.

Saarbrücken is made up of 56 districts - its smallest administrative units. In 2023, it had a population of $186,283$ people, of which 5.3% were Syrian, 1.25% French, 1.23% Turkish, and 75% German (Landeshauptstadt Saarbrücken 2023). In Figure 2, we see the distribution of these ethnicities across the city's districts. While Turks are the largest minority group in the country, they are not in the border city of Saarbrücken. We see a concentration of the Syrian population just west of the city center. The German population is relatively less concentrated in and around the city center, with the highest concentrations in the southwestern parts. Overall, the unevenness in the spatial distributions indicates a certain level of spatial segregation.

Feature	Value
place_name	Rimoco Gewürzmanufaktur
place_type	Spice Store
total_reviews	224
overall_rating	4.9
reviewer_name	Ingmar Weber
reviewer_rating	5.0
ethnicity	DE
review_lang	None

Table 1: Example entry from review dataset

Data Collection

The data collection followed a multi-step process. First, we use Google Maps' `Places Text Search (New)` API[1] to retrieve the unique place identifiers, `places.id`, for the places of interest (POIs). To do this, we pass a rectangular bounding box of the city's shapefile as the `locationRestriction` parameter, and we iterate over different place types, `supermarket`, for instance.

In the second step, we obtain additional information for each POI, such as those shown in Table 1. A POI can have one or more categories in its `place_type` column. To simplify the analysis, we assigned a `primary_place_type` to each POI, using the first one in its list of types. The coordinates are then used together with a shapefile of the city to remove POIs outside the city boundaries and to assign each POI to the district in which it is located. In the third and final step, we collect reviews for all the remaining valid POIs. This is done in a pagination manner, with more requests required for POIs with a higher number of reviews. Figure 1 shows an example of an entry from the final review in the dataset with some features. Additionally, we collect demographic data from official statistics (Landeshauptstadt Saarbrücken 2023) and shapefiles of the city and its districts (contributors 2025a). In the end, we collected data on $14,744$ POIs in Saarbrücken, of which $9,500$ had at least one review. We collected a total of $670,000$ reviews for the city. The extracted reviews contain several attributes, but for our analysis, we only use the following attributes `reviewer_name, review_time, original_review_language`. As a data processing step, we pass the reviewer names to Acua (Jung, Salminen, and Jansen 2020), a third-party name-to-ethnicity mapping tool, to predict the likely country of origin of reviewers, which we use as a proxy for ethnicities (Rabiei-Dastjerdi, McArdle, and Aghajani 2022). A total of $190,331$ unique

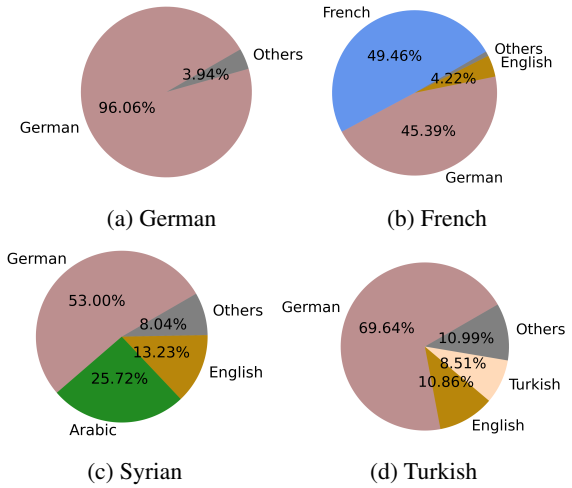
[1]https://developers.google.com/maps/documentation/places/web-service/text-search

Textual Reviews	
Language	%
German	82.5
English	6.2
French	6.0
Arabic	2.0
Others	3.3

Table 2: Text reviews by the language used

Textual Reviews by Ethnicities		
Ethnicity	Total Reviews	% with Text
German (DE)	169,724	56
French (FR)	23,600	56
Syrian (SY)	32,710	48
Turkish (TR)	9,966	51
Others	264,658	53
Unknown	32,123	67

Table 3: Fraction of text reviews by ethnicities



(a) German (b) French

(c) Syrian (d) Turkish

Figure 3: Review language distribution for detected German, French, Syrian, and French ethnicities.

names from the dataset were passed to Acua, with only 3.8% not mapped to an ethnicity. These unmapped names were largely alphanumeric combinations, abbreviations, or incoherent. We also checked for misclassification among our ethnicities of interest, mainly Syrian names. Names classified as originating from Arab League nations make up 6% of all names. Of these, 25.5%, 20.6%, and 11% are classified as Syrian, Egyptian, and Algerian, respectively. Given that, based on official statistics, nearly all people of Arab origin in Saarbrücken come from Syria, we opted to be inclusive and grouped all reviewers classified under any Arab League nation as Syrian. While some reviewers may be from non-Syrian countries, their numbers are dwarfed by Syrians. With this new column, we obtain population groups in the online data. To get an overall sense of review recency, we looked at their approximate dates. Unfortunately, Google Maps does not provide exact timestamps—only relative terms ranging from *few seconds ago* to *x years ago*. We, therefore, created a `review_time` attribute relative to the review extraction date, i.e., January $10, 2025, 1800$ CEST. Figure 5 in the appendix shows reviews spanning 2016–2025, with less than 1% before 2016. Reviews from 2024 make up just over 30%. 53.5% of the reviews included text, not just ratings, and 82.5% of these text reviews are in German. Beyond the presence of German natives, this may indicate the integration of minority ethnicities, particularly those of Turkish descent, who have lived in Germany the longest (Arab 2021).

Results and Discussion

Table 2 shows the distribution of reviews with text by the language used, while table 3 also shows the percentage of text reviews per total reviews for each ethnic group. While 82.5% of text reviews are left in the German language, we see that except for the Syrian ethnicity, 50% or more of total reviews for each ethnic group are text, indicating that other ethnicities use the German language in writing reviews. The relatively lower percentage of textual reviews for Syrians (48%) could be indicative of existing integration barriers in the offline world (Institute 2019), collective cultural behaviour (Atlas 2025; Hong et al. 2016), individual preferences, or coincidence. The group *Others* includes all ethnicities not specifically listed in the dataset, such as Americans, Italians, or Ukrainians. The group *Unknown* represents reviewers whose names could not be assigned to any identifiable ethnicity. The *Unknown* group has the highest value of 67%, hinting that users may obfuscate their names for anonymity to feel safer expressing their opinions online (Christopherson 2007; Suler 2004).

The pie charts in Figure 3 highlight the language distribution of reviews from the selected ethnic groups. Overall, the dominance of the German language across all groups is evident, while native languages like French, Arabic, and Turkish remain prominent within their respective communities. Among Germans, reviews are overwhelmingly in German (98.2%). For the French ethnicity, reviews are relatively balanced, with 51.6% in French and 47.4% in German. Among Syrians, reviews are primarily in German (54.2%) but also show a significant proportion in Arabic (43.3%). Similarly, for the Turkish ethnicity, most reviews are in German (78.1%), followed by Turkish (9.6%), with smaller shares in other languages. The relatively higher prevalence of German reviews by Turkish reviewers could hint at decades of integration.

Table 3 shows the percentage distribution of various categories of points of interest (POI) across different ethnic groups (DE, FR, SY, TR). We created 10 broad categories into which we grouped the `primary_place_types`. Each row represents a category of POI, and the columns correspond to different ethnicities. Two categories, *Food & Drinks* and *Shopping*, made up over half (56%) of the reviews. *Food & Drinks* has the highest percentage across all

Reviewd POIs		% Reviews			
POI Category	POI	DE	FR	SY	TR
Food & Drinks	32.1	32.0	34.0	30.6	32.7
Shopping	24.9	23.8	30.0	30.0	25.6
Others	10.6	11.6	9.0	6.7	8.0
Business	7.2	8.1	4.8	5.7	7.4
Recreation	6.8	6.9	7.8	6.9	5.4
Health	6.6	6.4	4.1	7.4	7.6
Accommodation	3.3	3.4	3.5	2.1	2.3
Services	2.7	2.6	1.3	3.6	4.2
Transportation	2.3	2.1	3.3	2.2	2.0
Education	1.3	1.0	1.0	2.3	1.8

Table 4: Ratio of reviews by POI categories and ethnicities

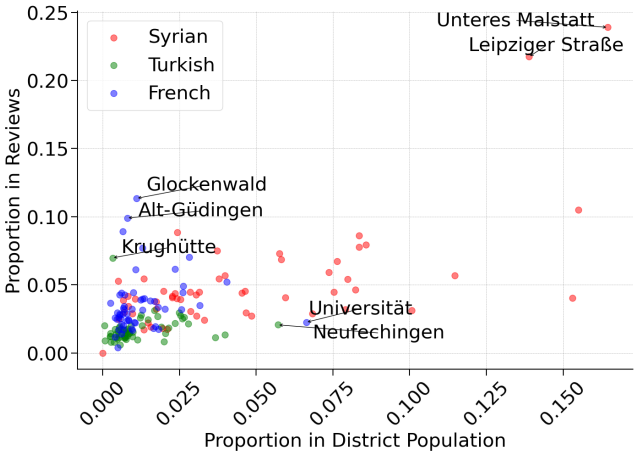


Figure 4: Online vs Offline Proportions

ethnicities, with the highest in SY (34.0%) and the lowest in TR (30.6%). Shopping shows the highest percentage in FR and SY (both 30.0%) and the lowest in DE (23.8%). This trend may hint at the economic advantages of cross-border shopping, as highlighted in previous studies (Spierings and Van Der Velde 2008; Makkonen 2022; Leal, Lopez-Laborda, and Rodrigo 2010), with the free movement of goods, people, and services within Europe enabling this. The *Others* category is highest in DE (11.6%), while *Business* peaks in FR (8.1%). *Health* is most significant in TR (7.6%), and *Accommodation* is highest in DE (3.4%). Other categories like *Recreation*, *Services*, and *Transportation* show varied percentages across the ethnic groups.

Figure 4 presents a scatter plot comparing the proportion of reviews per ethnic group in total reviews per district with the proportion of that ethnic group in the total district's population (from census data). Each point represents a district, with three instances for each district corresponding to the French, Syrian, and Turkish ethnic groups. The prevalence of an ethnic group in a district and its share of Google Maps reviews is shown by a positive relationship. Outlier districts (labelled) indicate the presence of online-offline patterns that may be worth investigating. For Syrians, we see outliers in Unteres Malstatt and Leipziger Straße, which are located just West of the city center and have a high proportion of Syrian residents. These districts are known as 'little Damascus' with Syrians' known business orientation and community (Zeitung 2023). Syrians are known to create their towns within cities when they have a critical mass in other parts of the world, much like other migrant cultures (Chinese, Korean, Indian, etc.) (Zhou 2009; Waters and Jiménez 2005). For the French, the Glockenwald district, located South of the city center and near the French border, is where French individuals leave many reviews. This district has many French-run eateries and shops in the area. There is also the German-French Garden (Deutsch-Französischer Garten), a testament of post-German-France war reconciliation (contributors 2025b; of Saarbrücken 2025), leading to frequent travel from French visitors. The higher proportion of reviews relative to smaller populations could be due to cross-border visits for leisure and shopping (Spierings and Van Der Velde 2008; Makkonen 2022; Leal, Lopez-Laborda, and Rodrigo 2010). French reviews also stand out in the Universität district, although lower, where the Saarland University is located and inhabited by students and other academics. This is indicative of continued intellectual collaborations and ties (University 2025). For the Turkish, the values of the outliers Krughütte and Neufechingen are relatively smaller than the other ethnicities, and nothing is particularly unique to them. The relatively lower values also emphasize the level of integration of Turks.

Ethical Implications and Conclusion

Name-based and location-based inferences have limitations, as a name does not always accurately reflect a person's ethnicity, and behaviours may not indicate someone's ethnic or cultural identity. These inferences can be misleading and potentially harmful at the individual level, with privacy concerns arising from tracking personal behaviour or location. However, when applied to aggregated data, these methods offer valuable insights into demographic trends at the population level, helping to identify cultural or ethnic dynamics without making assumptions about individuals and minimizing privacy risks. Our work used Google map reviews from French, Turkish, and Syrian ethnic groups in Saarbrücken, to study their online-offline patterns. We know how spatial distributions differed across neighbourhoods and ethnic groups, bridging the gap between digital and physical spaces. The findings contributed to LBOS research by demonstrating the potential of online data in examining socio-cultural spatial dynamics. Future work could build on this by, for example, comparing online and offline segregation measures, zooming in on places of cultural mixing and tipping point phenomena or looking at which variables predict an ethnic group feeling comfortable leaving a review.

Acknowledgments

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References

Arab, T. N. 2021. Sixty Years of Turkish Immigration to Germany. https://www.newarab.com/analysis/sixty-years-turkish-immigration-germany. Accessed: 2025-01-15.

Arts, G.; and Culture. 2025. The Heritage: Mining in Saarland. https://artsandculture.google.com/story/the-heritage-mining-in-saarland-part-iv-staatskanzlei-saarland/kAXhkjfEhSH5IA?hl=en. Accessed: 2025-03-25.

Atlas, C. 2025. Syrian - Core Concepts. https://culturalatlas.sbs.com.au/syrian-culture/syrian-culture-core-concepts. Accessed: 2025-03-26.

Christopherson, K. M. 2007. The positive and negative implications of anonymity in Internet social interactions:"On the Internet, Nobody Knows You're a Dog". *Computers in Human Behavior*, 23(6): 3038–3056.

contributors, O. 2025a. OpenStreetMap data. https://www.openstreetmap.org. Accessed: 2023-10-20.

contributors, W. 2025b. Deutsch-Französischer Garten. https://de.wikipedia.org/wiki/Deutsch-Franz%C3%B6sischer_Garten. Accessed: 2025-03-26.

Cowan, L. G. 1950. *France and the Saar,. 1680–1948*. Columbia University Press.

Cunningham, N. 2023. Shops and restaurants can help blur class lines but interactions may not be meaningful enough to boost social mobility. *The Conversation*.

de la Prada, À. G.; and Small, M. L. 2024. How people are exposed to neighborhoods racially different from their own. *Proceedings of the National Academy of Sciences*, 121(28): e2401661121.

Gupta, P.; Rabiei-Dastjerdi, H.; and McArdle, G. 2024. Mapping Activity-Based Segregation of Names in Dublin Using Google Point of Interest Data. *Engineering Proceedings*, 63(1): 18.

Hong, Y.; Huang, N.; Burtch, G.; and Li, C. 2016. Culture, conformity, and emotional suppression in online reviews. *Journal of the Association for Information Systems*, 17(11): 2.

Institute, M. P. 2019. Labour Market Integration of Refugees in Germany. *Migration Policy Reports*.

Järv, O.; Müürisepp, K.; Ahas, R.; Derudder, B.; and Witlox, F. 2015. Ethnic differences in activity spaces as a characteristic of segregation: A study based on mobile phone usage in Tallinn, Estonia. *Urban Studies*, 52(14): 2680–2698.

Jung, S.; Salminen, J.; and Jansen, B. J. 2020. Name2GAN.

Kassam, K.; and Becker, M. 2023. Syrians of today, Germans of tomorrow: the effect of initial placement on the political interest of Syrian refugees in Germany. *Frontiers in Political Science*, 5: 1100446.

Kühl, J. 2022. The Making of Borders and Minorities: Revisiting the Plebiscites after World War I. *European Yearbook of Minority Issues Online*, 19(1): 49–74.

Küppers, A.; Şimşek, Y.; and Schroeder, C. 2015. Turkish as a minority language in Germany: aspects of language development and language instruction. *Zeitschrift für Fremdsprachenforschung*, 26(1): 29–51.

Landeshauptstadt Saarbrücken. 2023. *Die Bevölkerung Saarbrückens im Jahr 2023*. Landeshauptstadt Saarbrücken.

Leal, A.; Lopez-Laborda, J.; and Rodrigo, F. 2010. Cross-border shopping: a survey. *International Advances in Economic Research*, 16: 135–148.

Makkonen, T. 2022. Outshopping abroad: Cross-border shopping tourism and the competitive advantage of borders. In *Routledge handbook of borders and tourism*, 269–280. Routledge.

Massey, D. S.; and Denton, N. A. 1988. The dimensions of residential segregation. *Social forces*, 67(2): 281–315.

Mathayomchan, B.; and Taecharungroj, V. 2020. "How was your meal?" Examining customer experience using Google maps reviews. *International Journal of Hospitality Management*, 90: 102641.

Müürisepp, K.; Järv, O.; Tammaru, T.; and Toivonen, T. 2022. Activity spaces and big data sources in segregation research: A methodological review. *Frontiers in Sustainable Cities*, 4: 861640.

Nakayama, M.; and Wan, Y. 2019. The cultural impact on social commerce: A sentiment analysis on Yelp ethnic restaurant reviews. *Information & Management*, 56(2): 271–279.

of Saarbrücken, C. 2025. Parks and Gardens in Saarbrücken. https://www.saarbruecken.de/en/tourism/saarbruecken/parks_and_gardens_in_saarbruecken. Accessed: 2025-03-26.

Rabiei-Dastjerdi, H.; McArdle, G.; and Aghajani, M. A. 2022. User-generated data in cultural mapping: Analyzing Google point of interest reviews in Dublin. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 4: 107–112.

Reardon, S. F.; and O'Sullivan, D. 2004. Measures of spatial segregation. *Sociological methodology*, 34(1): 121–162.

Schneiner, J. 2000. Activity spaces in the Western and Eastern part of Berlin: Socio-spatial integration or ongoing division? *Erde*, 131(2): 143–160.

Spierings, B.; and Van Der Velde, M. 2008. Shopping, borders and unfamiliarity: Consumer mobility in Europe. *Tijdschrift voor economische en sociale geografie*, 99(4): 497–505.

Suler, J. 2004. The Online Disinhibition Effect. Cyber Psychology & Behavior, 7, 321-326. *DOI*, 10: 1094931041291295.

University, S. 2025. Profile of Saarland University. https://www.uni-saarland.de/en/university/about/profile.html?utm_source.com. Accessed: 2025-03-26.

Waters, M. C.; and Jiménez, T. R. 2005. Assessing Immigrant Assimilation: New Empirical and Theoretical Challenges. *Annual Review of Sociology*, 31(1): 105–128.

Zeitung, S. 2023. Saarbrücken-Malstatt: 'Klein-Damaskus' an der Saar und die Probleme. https://www.saarbruecker-zeitung.de/saarland/saarbruecken/saarbruecken/malstatt/saarbruecken-malstatt-klein-damaskus-an-der-saar-und-die-probleme_aid-99874561. Accessed: 2025-03-26.

Zhou, M. 2009. Contemporary Chinese America: Immigration, Ethnicity, and Community Transformation. *Bibliovault OAI Repository, the University of Chicago Press*.

Ethics Checklist

1. For most authors...
   (a) Would answering this research question advance science without violating social contracts, such as violating privacy norms, perpetuating unfair profiling, exacerbating the socio-economic divide, or implying disrespect to societies or cultures? Yes
   (b) Do your main claims in the abstract and introduction accurately reflect the paper's contributions and scope? Yes
   (c) Do you clarify how the proposed methodological approach is appropriate for the claims made? Yes
   (d) Do you clarify what are possible artifacts in the data used, given population-specific distributions? Yes, in methods and discussion
   (e) Did you describe the limitations of your work? Yes, together with ethical implications
   (f) Did you discuss any potential negative societal impacts of your work? Yes, together with limitations
   (g) Did you discuss any potential misuse of your work? Yes, together with ethical implications
   (h) Did you describe steps taken to prevent or mitigate potential negative outcomes of the research, such as data and model documentation, data anonymization, responsible release, access control, and the reproducibility of findings? Yes
   (i) Have you read the ethics review guidelines and ensured that your paper conforms to them? Yes
2. Additionally, if your study involves hypotheses testing...
   (a) Did you clearly state the assumptions underlying all theoretical results? Yes, we have discussed this in the Methods
   (b) Have you provided justifications for all theoretical results? Yes, in the discussion
   (c) Did you discuss competing hypotheses or theories that might challenge or complement your theoretical results? Yes, in the limitations
   (d) Have you considered alternative mechanisms or explanations that might account for the same outcomes observed in your study? Yes, in the limitations
   (e) Did you address potential biases or limitations in your theoretical framework? Yes, in the discussion
   (f) Have you related your theoretical results to the existing literature in social science? Yes, in the discussion
   (g) Did you discuss the implications of your theoretical results for policy, practice, or further research in the social science domain? Yes, in the discussion
3. Additionally, if you are including theoretical proofs...
   (a) Did you state the full set of assumptions of all theoretical results? NA
   (b) Did you include complete proofs of all theoretical results? NA
4. Additionally, if you ran machine learning experiments...
   (a) Did you include the code, data, and instructions needed to reproduce the main experimental results (either in the supplemental material or as a URL)? NA but we used an external tool for name-to-ethnicity classification, which is listed in the methods
   (b) Did you specify all the training details (e.g., data splits, hyperparameters, how they were chosen)? NA
   (c) Did you report error bars (e.g., with respect to the random seed after running experiments multiple times)? NA
   (d) Did you include the total amount of compute and the type of resources used (e.g., type of GPUs, internal cluster, or cloud provider)? NA
   (e) Do you justify how the proposed evaluation is sufficient and appropriate to the claims made? NA
   (f) Do you discuss what is "the cost" of misclassification and fault (in)tolerance? Yes we discuss the name to ethicity classification in the limitation
5. Additionally, if you are using existing assets (e.g., code, data, models) or curating/releasing new assets, **without compromising anonymity**...
   (a) If your work uses existing assets, did you cite the creators? Yes, we are using the Google Maps data
   (b) Did you mention the license of the assets? Yes, it is free for public use
   (c) Did you include any new assets in the supplemental material or as a URL? No.
   (d) Did you discuss whether and how consent was obtained from people whose data you're using/curating? NA, publicly available data
   (e) Did you discuss whether the data you are using/curating contains personally identifiable information or offensive content? Yes, we mention that this (public) data contains names when a reviewer chooses to provide one
   (f) If you are curating or releasing new datasets, did you discuss how you intend to make your datasets FAIR? NA
   (g) If you are curating or releasing new datasets, did you create a Datasheet for the Dataset? NA
6. Additionally, if you used crowdsourcing or conducted research with human subjects, **without compromising anonymity**...
   (a) Did you include the full text of instructions given to participants and screenshots? NA
   (b) Did you describe any potential participant risks, with mentions of Institutional Review Board (IRB) approvals? NA
   (c) Did you include the estimated hourly wage paid to participants and the total amount spent on participant compensation? NA
   (d) Did you discuss how data is stored, shared, and deidentified? NA

Appendix

A. Timespan of reviews

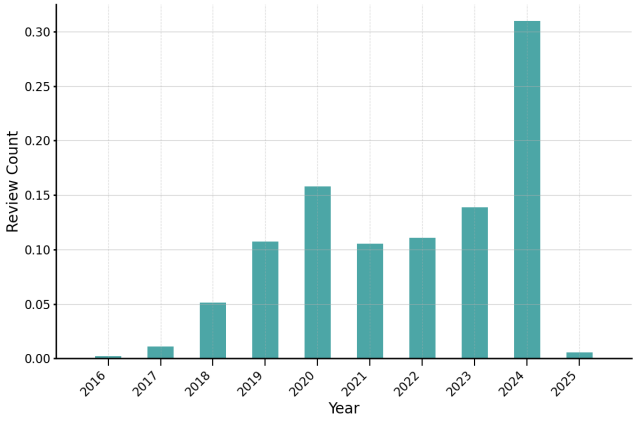

Figure 5: Time span of reviews from 2016, until 2025