

Mapping Neighborhood-Level Stigma: A Scoping Review of Geospatial Approaches and Influences on Health

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Introduction

Background

- Stigma is a well-documented determinant of adverse health outcomes across identities including race, gender, sexuality, socioeconomic status, substance use, HIV status, & disability.³
- Most stigma research has focused on the individual-level.³
- Less is known about **stigma as a structural or contextual feature** of neighborhoods and other localized geographic units.^{1,5,7}
- Emerging evidence suggests neighborhoods can become symbolically associated with deviance, disorder, or moral failure.^{1,5,11}
- Neighborhood-level stigma** is often operationalized through:
 - Concentrated disadvantage⁵
 - Racialized spatial segregation⁶
 - Crime labeling¹
 - Environmental neglect¹¹
 - Community-level attitudes toward marginalized populations^{5,10}
- Geospatial stigma is frequently linked to structural racism, housing policy, and public health disparities.^{2,10}
- However, relatively few studies explicitly define or theorize stigma as a structural process.³

Objectives

- Systematically review existing literature on geospatial stigma.
- Focus specifically on neighborhood-level (or equivalent) units of analysis.
- Identify how stigma is defined and measured at localized geographic levels.
- Synthesize evidence on neighborhood-level stigma as a contextual predictor of health.
- Identify gaps in the literature to inform future research and intervention development.

Methodology

Design

- Systematic scoping review of literature on geospatial stigma
- Focus on neighborhood-level or equivalent geographic units

Software

- Covidence used for abstract and full-text screening, tagging, and extraction

Literature Search Strategy

Search terms included combinations of stigma and geographic unit:

- Stigma-related Terms: “Stigma,” “Violence,” “Hate crimes,” “Discrimination,” “Racism,” “Homophobia,” “Transphobia,” “Biphobia,” “Xenophobia,” “Diabetes stigma” (or synonym)
- Geographic Terms: “Neighborhood,” “Zip code,” “Census tract,” “Census block,” “Street,” “Geospatial clustering,” “Geospatial,” “Ecological unit” (or synonym)
- English-language, peer-reviewed studies with original data

Screening Process

- Initial search: n = 3,804 abstracts
- Double-screened abstracts and full texts using Covidence
- Full-text reviews prioritized Methods sections for inclusion decisions

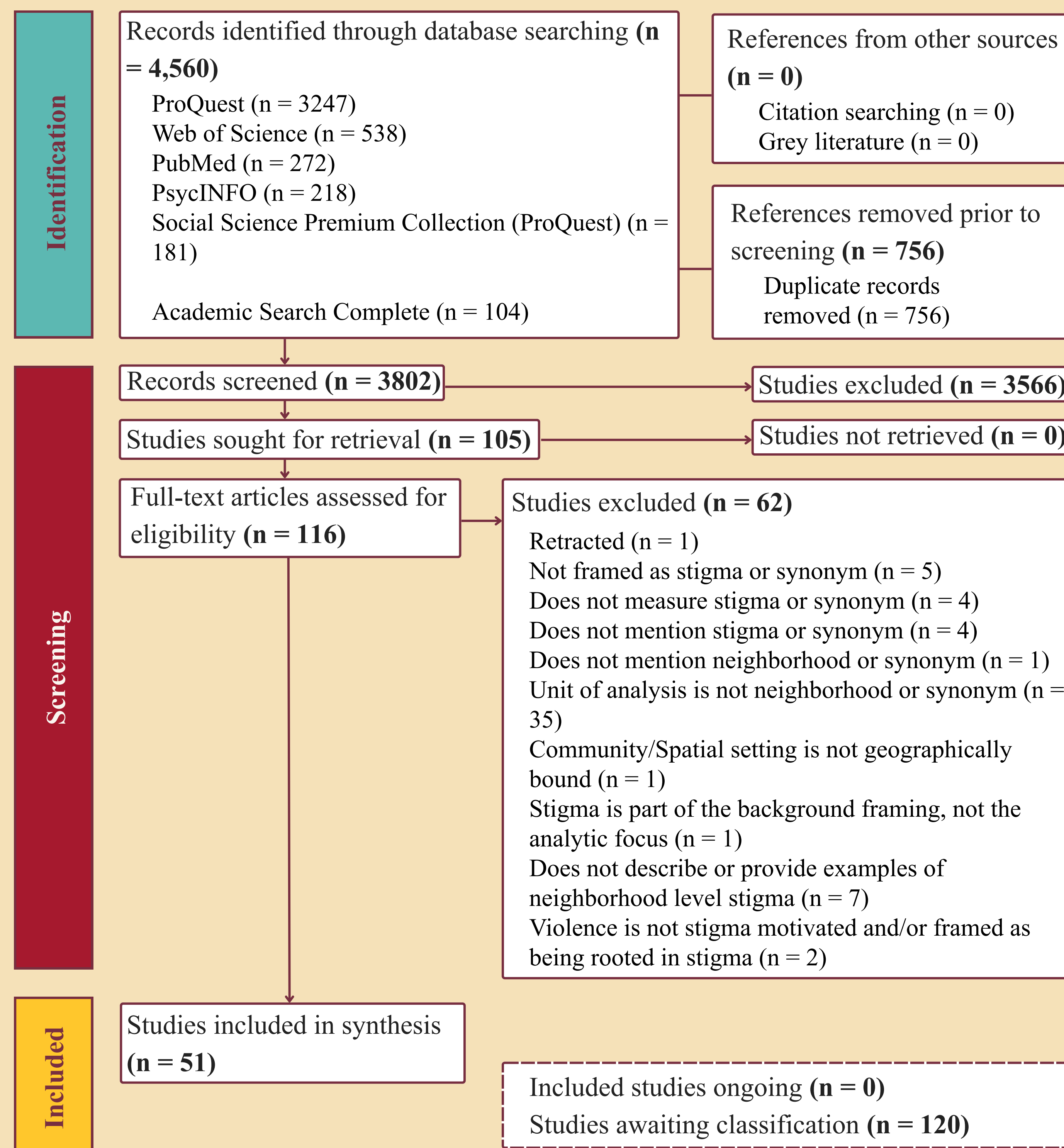
Final Selection

- n = 237, 6% identified for full text review (n = 83, 35% remaining and n = 37, 15% conflicts awaiting reconciliation)
- n = 51, 22% studies selected for extraction so far
- n = 0 extractions complete

Data Extraction & Analysis to Follow

- Extraction of geospatial stigma definitions and measures
- Identification of stigma-motivated exposures (e.g., violence)

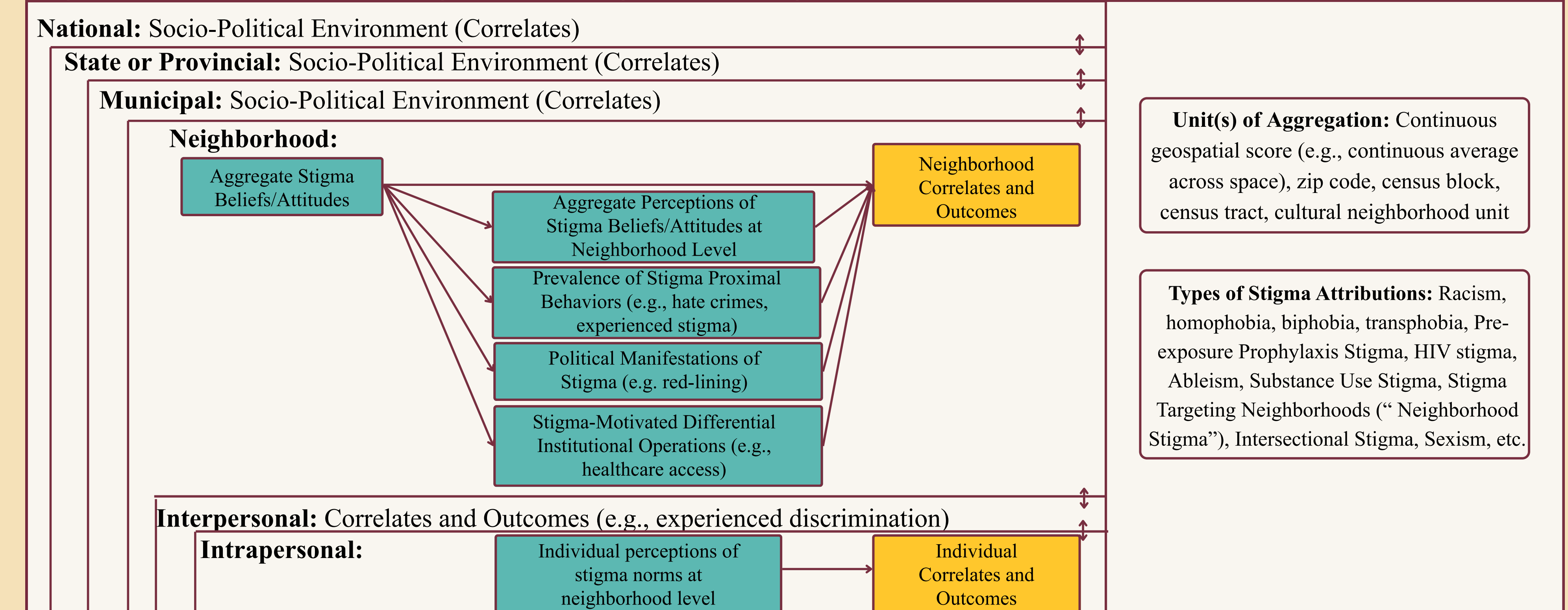
Flow Diagram



Inclusion and Exclusion Criteria

	Abstract Review	Additional Criteria for Full-Text Review
Inclusion Criteria	<ol style="list-style-type: none"> In English Original peer-reviewed research (must involve data collection or data analysis either quantitative or qualitative, for example surveys, interviews, “cohort study,” etc.) Stigma (also can be “violence,” “hate crimes,” “discrimination,” “racism,” “homophobia,” “transphobia,” “biphobia,” “xenophobia,” “diabetes stigma” or other synonym. Unit of analysis should be neighborhood or synonym (also can be zip code, census tract, census block, “street,” “geospatial clustering,” “geospatial,” 	<ol style="list-style-type: none"> Geographically bound community/spatial setting confirmed Stigma is directly measured (e.g., neighborhood attitudes, norms) or clearly framed as indirectly measured (e.g., stigma-motivated hate crimes) Violence explicitly motivated by and/or framed as rooted in stigma Violence explicitly motivated by and/or framed as rooted in stigma
Exclusion Criteria	<ol style="list-style-type: none"> Non-English Commentaries, study protocols, systematic/scoping reviews, narrative reviews, or otherwise not involving data collection. Does not mention stigma or synonym. Does not mention neighborhood or ambiguous synonym. Explicitly states a different level of geospatial analysis (e.g., state, country). 	<ol style="list-style-type: none"> Community not geographically bound (e.g., social media communities, diasporas) Stigma not measured or not framed as stigma-relate Violence not stigma-motivated or not framed as stigma-relate Qualitative studies focus only on internalized or interpersonal stigma

Figure 1: Conceptual Diagram of Stigma in Neighborhood-level Social Environments



Results / Next Steps

Current Progress

- Final results have not yet been obtained. Data extraction and synthesis are still in progress.

Common Trends & Preliminary Observations

- Where people live shapes what they get: In highly segregated U.S. cities, stigmatizing policies toward Black and low-income neighborhoods contribute to child poverty rates of 43.7% for Black children vs. 14.9% for White children.⁶
- In Los Angeles, stigma toward unhoused residents contributes to 28% of unhoused residents have to go to the bathroom outside, and 19% use buckets because bathrooms are not available.¹
- n Virginia, policing “hot spots” (Moran’s I up to 0.30) and the concentration of city services in wealthy areas (Moran’s I = 0.78) reflect stigmatized neighborhoods receiving surveillance instead of resources.⁷

Next Steps

- Confirm the final full-text sample of neighborhood-level geospatial stigma studies.
- Complete remaining full-text screening & conflict reconciliation using inclusion criteria.
- Extract and summarize how stigma is defined and measured at the neighborhood level.
- Identify patterns to clarify gaps in neighborhood-level stigma research.

Conclusion

Future Steps/Recommendations for Research

- The rest of this project should consist of finalizing full-text screening and extracting relevant information on neighborhood-level geospatial stigma.
- Future research on this topic should **prioritize diverse geographic settings and populations** to better understand how stigma affects all communities.
- Researchers should focus specifically on historically marginalized or excluded groups to **address gaps in neighborhood-level stigma research**.

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References

