Qualitative and mixed methods approaches to neighborhoods and cognitive aging

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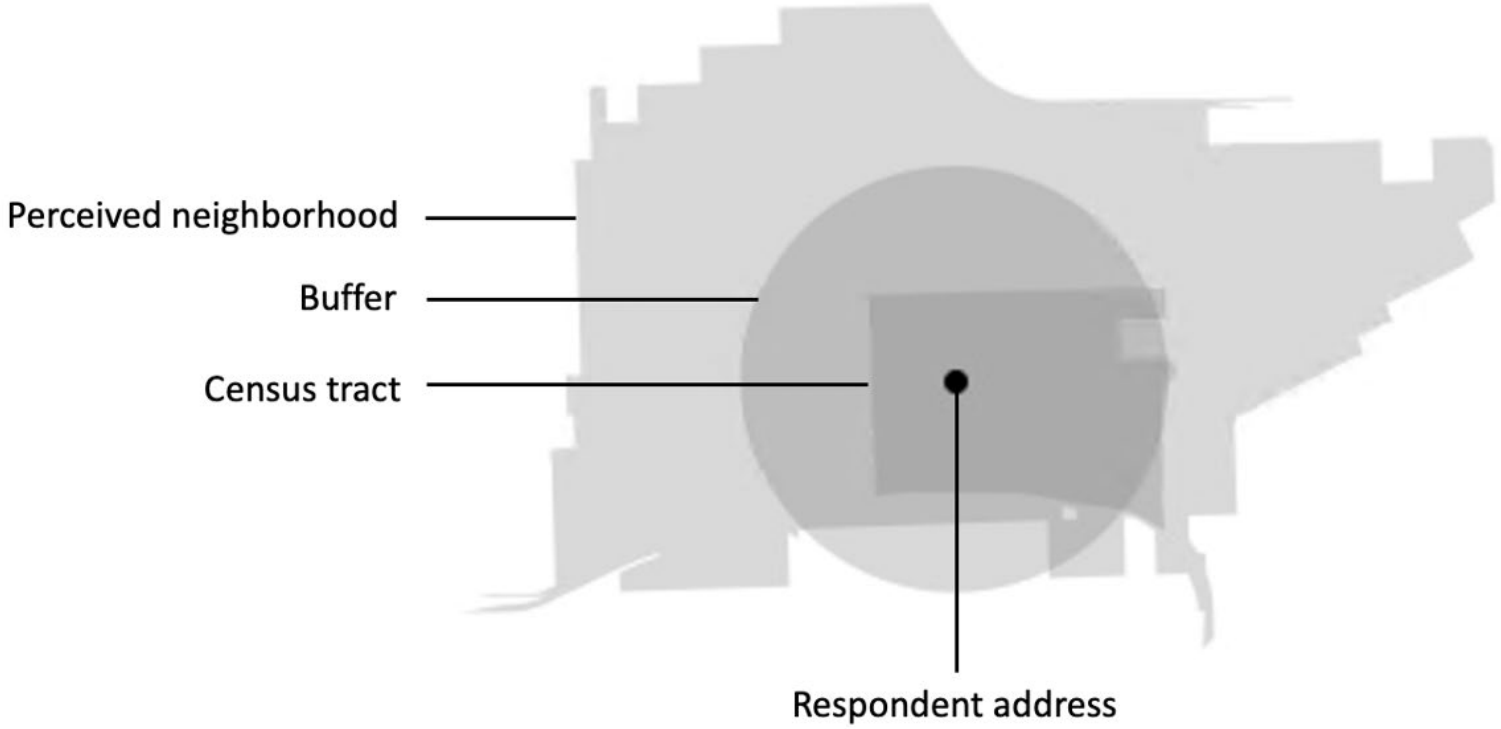


Which neighborhood exposures matter when across the life course?

Geography's "wicked problems"

MAUP (modifiable area unit problem)

Spatial polygamy

How do we tackle these issues of scale and time?

Qualitative opportunities

Ask about and move through neighborhoods together

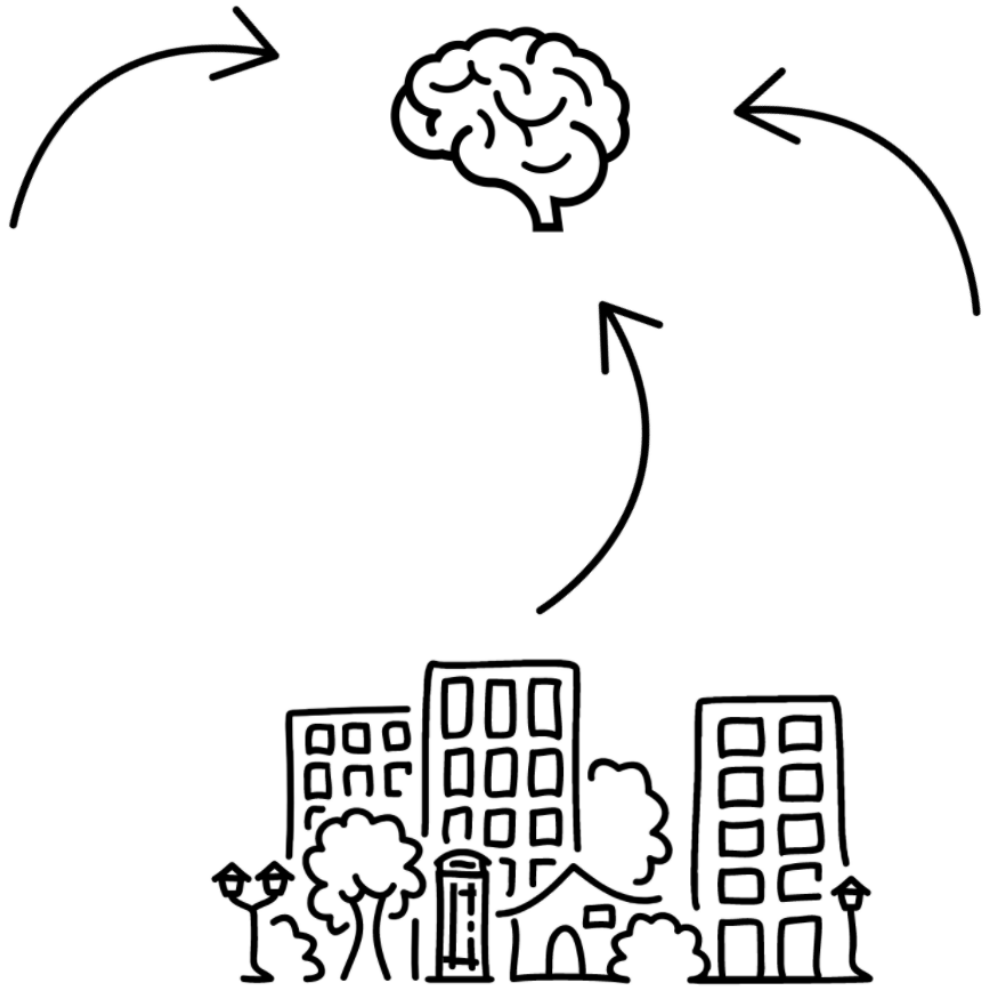
Investigate and understand neighborhoods beyond objective, flat assessments

- Not one-size-fits-all
- Nuances by person, place, and time

Explanations for potential mechanisms

- HOW and WHY neighborhoods matter

Finlay fieldwork photos (2015—2016)



Life Course Cognability (LCC) Pilot Interviews

Which neighborhood features matter *when* across the life course to support cognitive health?

Minneapolis-St. Paul (MN) metro area

Purposeful sample of understudied populations stratified by age groups

60 seated and mobile interviews (fieldwork 2023-2024)

Ongoing reflexive thematic analysis

Example: Social infrastructure and COVID-19

Young adulthood isolation and loneliness

Lack of structure and accessible places contribute to collapsed social worlds

- Services and amenities geographically close but unaffordable
- Strictly-online social interactions since pandemic onset

Mid and later life increased neighborhood connections

Tend to be more connected and active in their neighborhoods since the pandemic onset

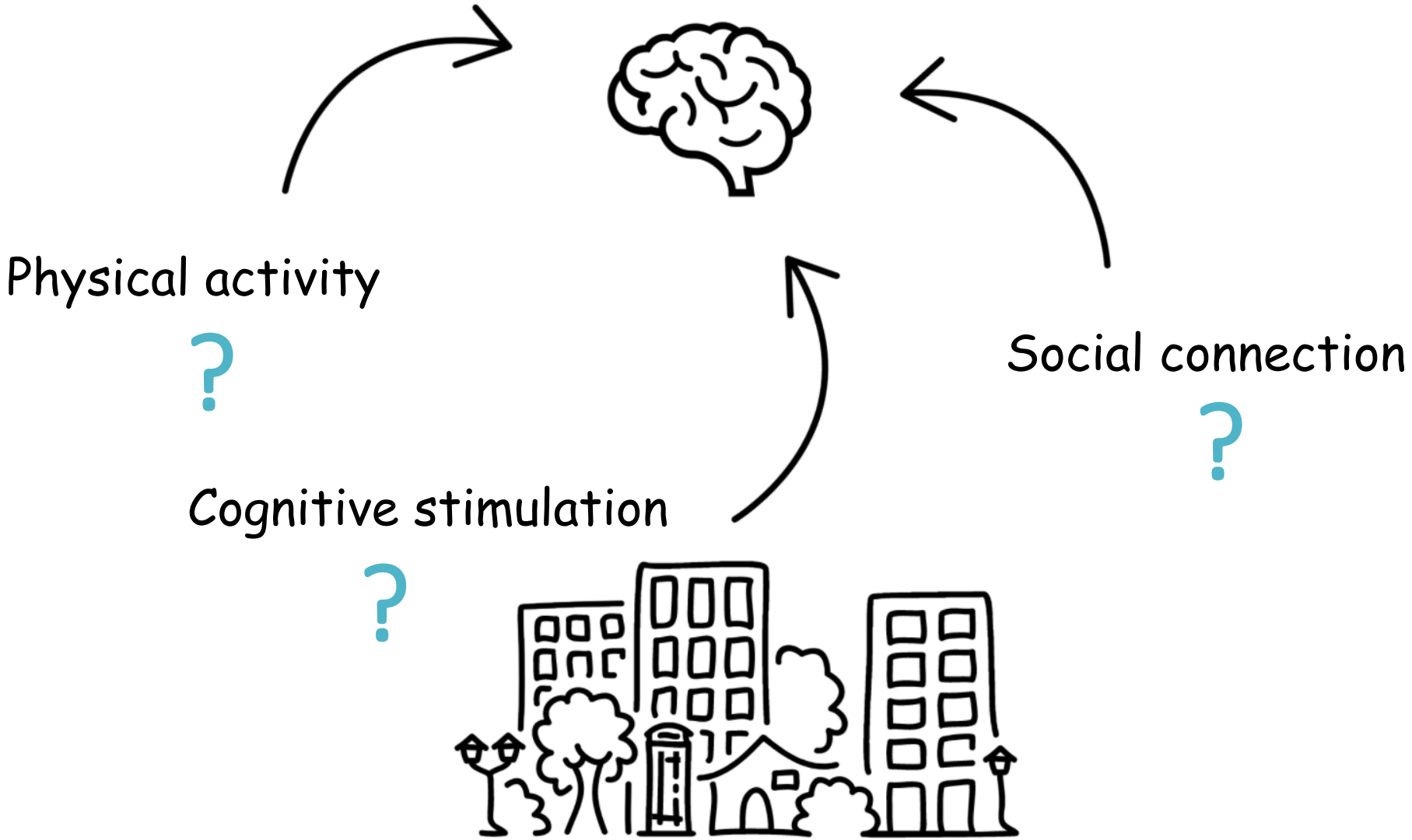
- Includes mid-life "Buy Nothing" groups for in-person meetups and swaps, later life neighborhood information (and rumors!) on NextDoor

(Re)Discovery of local places and bonding over shared experiences

- Key sociopolitical events overlapping the pandemic facilitated community bonding

Opportunities for mixed methods research

Identify *specific* neighborhood features that may support healthy cognitive aging



Mixed-methods approach

1) Qualitative: Where and how do older adults socialize, exercise, and engage in cognitively stimulating activities outside of their homes?

Aging in the Right Place (AIRP) Study

2) Quantitative: Is availability of and access to these neighborhood sites associated with cognitive function?

REasons for Geographic And Racial Differences in Stroke (REGARDS) Study

Example: Places supporting physical activity

Walkable destinations

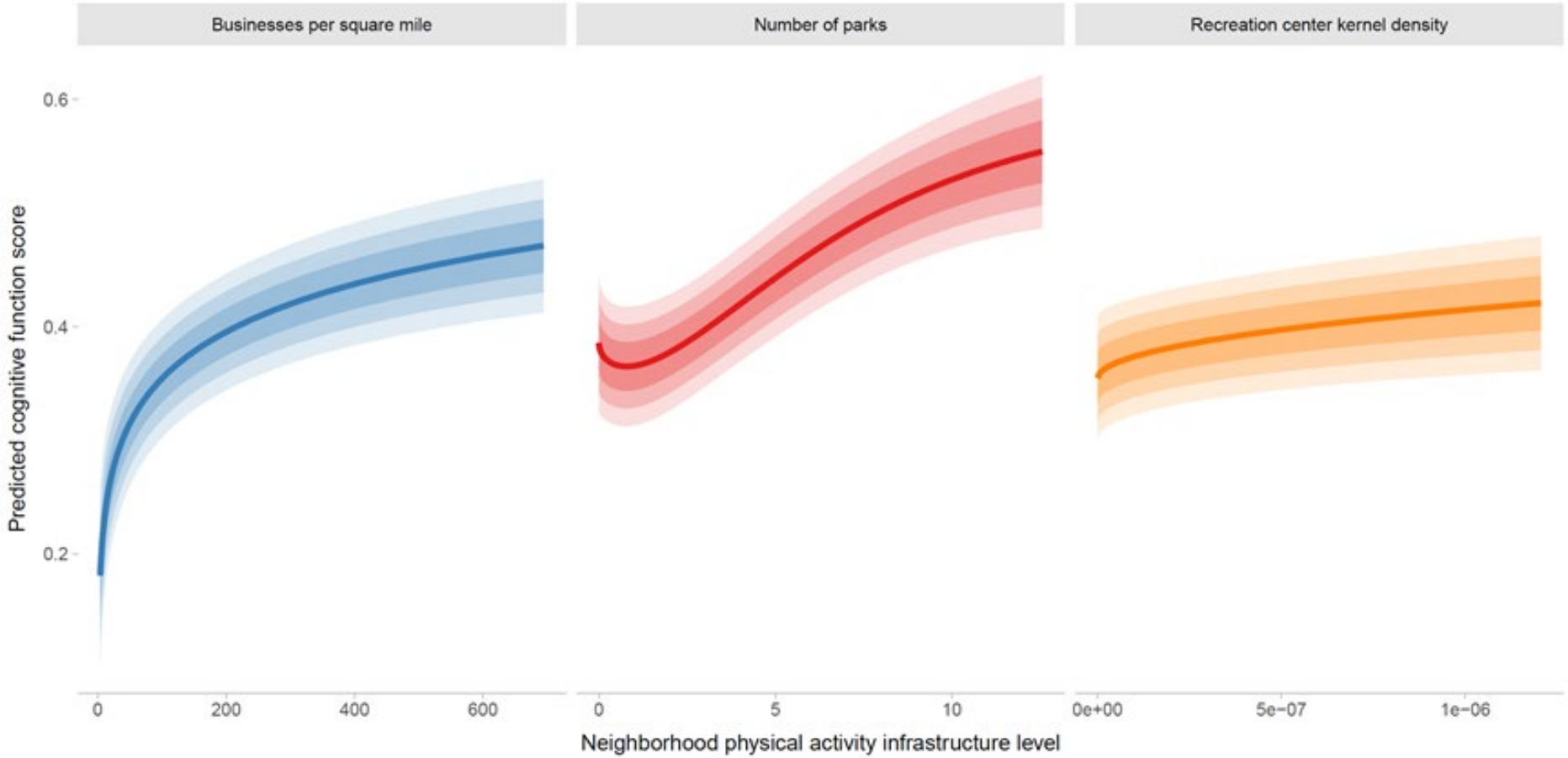
Parks

Recreation centers

Part I: Qualitative thematic analysis (AIRP Study)

Finlay et al. 2021. Neighborhood Active Aging Infrastructure and Cognitive Health: A Mixed-Methods Study of Aging Americans. *Preventive Medicine.*

Walkable destinations, parks, and recreation centers positively associated with cognitive function



Part II: Generalized additive multilevel model (REGARDS Study)

Covariates: Individual-level (age, gender, race, education, years of follow-up since baseline) and area level (census tract population density, proportion living below the poverty line, proportion non-Hispanic Black residents, proportion owner-occupied housing units)

Shading: 50%, 75%, and 90% uncertainty intervals

Cognability

Physical activity

- Recreation centers

Social connection

- Civic/social organizations

Cognitive stimulation

- Performing art theaters
- Museums

Hazards

- Fast-food
- Highways

Finlay*, Esposito*, Langa, Judd & Clarke. 2022. Cognablity: An Ecological Theory of Neighborhoods and Cognitive Aging. *Social Science & Medicine*.
(* co-first authors)

Neighborhoods and cognition

How much exposure, when, for how long?

Need to operationalize the ‘exposome’

Advancing understanding of *specific* neighborhood exposures can inform community interventions, urban planning, and allocation of resources

References

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Thank you!