FAPESP Week 2024
Illinois, USA
April, 9th to 10th

COFFEE SESSION - ONE HEALTH

Focus on physical activity promotion and obesity prevention

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UNIVERSIDADE DE SÃO PAULO
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- ✓ One Health and Planetary Health
- ✓ Public Health and Urban Health
- ✓ Environment and Health

www.thelancet.com/planetary-health **Vol 7 February 2023**

One Health and planetary health research: leveraging differences to grow together

The COVID-19 pandemic and the anthropogenic impact on Earth's life-support systems and planetary boundaries have reinvigorated the One Health and planetary health concepts, propelling them to the forefront of the global health and sustainable development agendas. Although both concepts build on equivalent systemic principles, there is an ongoing debate and emerging confusion around their differences and application areas.[1–3]

The One Health approach, historically focused on zoonoses, initiated and led by the veterinary and disease ecology communities, is not new.[4] Yet the concept has evolved since the new millennium, particularly in the recent past.[5] In June, 2021, the G7 supported One Health and, in December of the same year, the One Health High-Level Expert Panel and the Quadripartite (Food and Agriculture Organization of the UN, the World Organisation for Animal Health [formerly the Office International des Epizooties], the UN Environment Programme, and WHO) proposed a novel One Health definition: "One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems. It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent. The approach mobilizes multiple sectors, disciplines, and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for healthy food, water, energy, and air, taking action on climate change and contributing to sustainable development."[6]

Planetary health is a younger concept proposed in 2015 by The Rockefeller Foundation–*Lancet* Commission, coinciding with the launch of the UN Sustainable Development Goals.[7] Planetary health was defined as: "the health of human civilisation and the state of the natural systems on which it depends."[7] In 2021, the Planetary Health Alliance redefined planetary health as: "a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth".[8]

To better understand the evolution of One Health and planetary health, we conducted a bibliometric analysis in the Web of Science since the emergence of COVID-19 in December, 2019, to identify common and unique research areas, leading institutions, networks, and countries (appendix pp 1–2).

See Online for appendix

Our analysis shows a strong increase in One Health and planetary health research in 2020 and 2021, both in absolute numbers of publications (an increase of 137% for One Health and 170% for planetary health compared with 2018 and 2019 combined) and relative to the total number of publications indexed in Web of Science (figure A). All topics related to infectious diseases were the most represented in One Health publications (eg, COVID-19, antimicrobial resistance, and zoonoses; figure B). Planetary health publications also addressed COVID-19, but climate change was the dominant topic. Non-communicable diseases and issues related to food systems or physical activity and inactivity were part of planetary health, but not One Health, research.

Academic institutions, mainly European and North American, dominated One Health and planetary health publications (76% and 92% of publications, respectively; appendix p 2). Non-academic actors were less represented and heterogeneous, including, for example, in the case of One Health: research institutions (11%; eg, Institut Pasteur in France and the Oswaldo Cruz Foundation in Brazil), governmental institutions (10%; eg, the US Centers for Disease Control and Prevention and the Public Health Agency of Canada), the former Tripartite Alliance (2%; the Food and Agriculture Organization of the UN, the Office International des Epizooties, and WHO), and non-governmental organisations (1%; eg, EcoHealth Alliance and Wildlife Conservation Society). There was a geographical overlap between One Health and planetary health research, but scientists in emerging infectious disease hotspot countries (ie, those in east and west Africa, Brazil, China, and India)[9] were more productive in One Health than in planetary health (figure C).

Our results provide the first visual representation of One Health and planetary health research fields and the interconnections between these fields and a global

Series from the Lancet journals View all Series

Urban design, transport, and health

Published: May 10, 2022

Executive Summary

Good city planning produces co-benefits for individual and planetary health and wellbeing. In 2016, the Lancet Series on urban design, transport, and health drew attention to the importance of integrated upstream city planning policies as a pathway to creating healthy and sustainable cities, and proposed a set of city planning indicators that could be used to benchmark and monitor progress. In this follow-up series, the authors show how the indicators can guide decisions about what must change in order to create healthy and sustainable cities and how research can be used to guide urban policy to achieve urban and population health. They provide tools that other cities can use to replicate the indicators, and explore "where to next" to create healthy and sustainable cities, particularly in light of the COVID-19 pandemic and climate change.

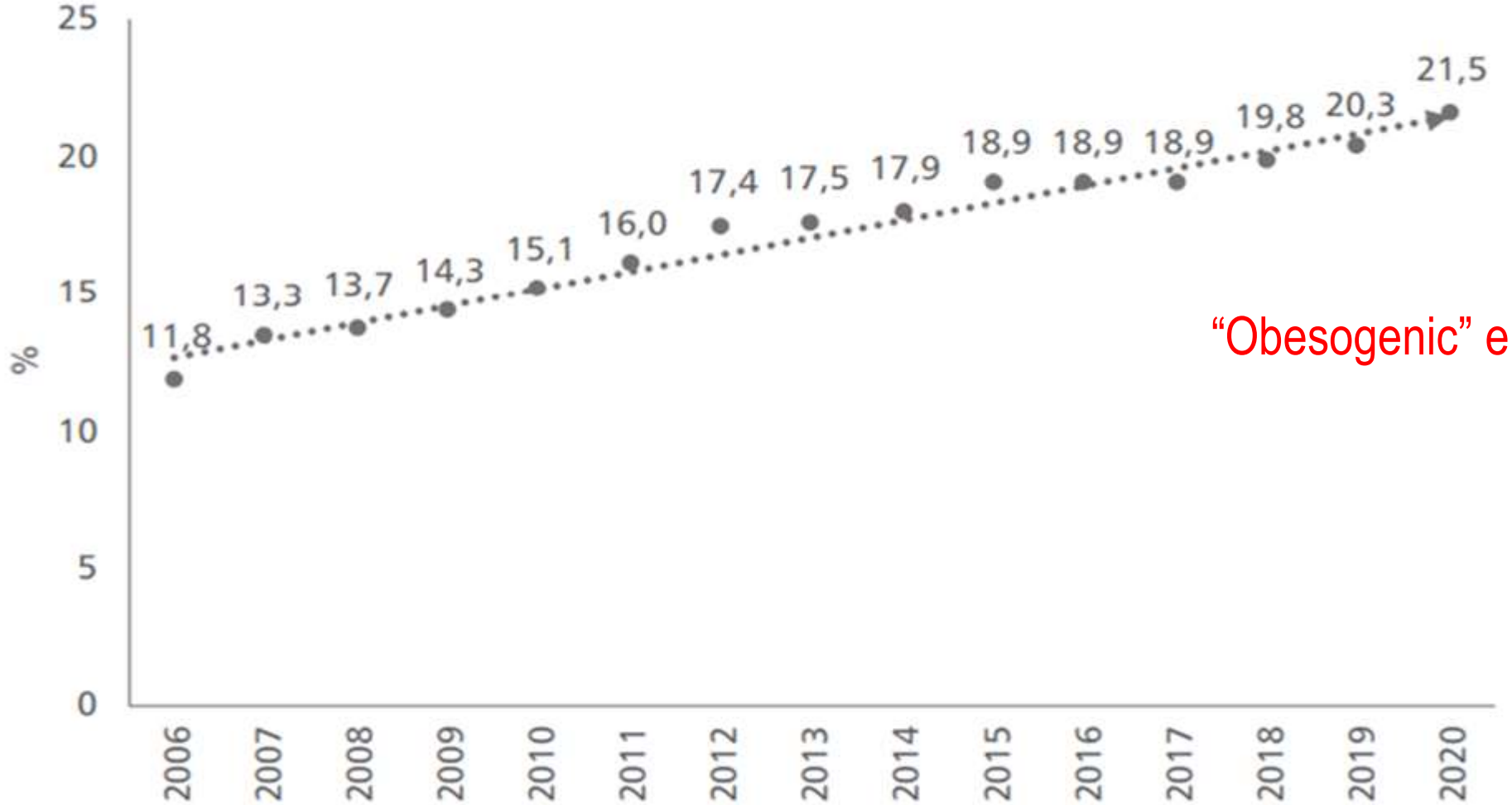
Webinar

- ✓ Inequalities in access to green areas
- ✓ Public transportation
- ✓ Walkability index
- ✓ Health food markets

→

- ✓ Leisure time physical activity
- ✓ Transportation physical activity
- ✓ Obesity prevention
- ✓ Cardiovascular diseases prevention
- ✓ Mental health improvement

Obesity in adults from capitals in Brazil, Data from VIGITEL Surveillance System, Ministry of Health, Brazil, 2022



"Obesogenic" environment?

Cities are sick

(air pollution, violence, traffic mortality, inequalities in access to green areas)

Urban health and public health = One health and Planetary health

Cities more sick > risk factors to diseases for public health

Cities physical activity-friendly = people healthy and cities health and sustainable cities

Sao Paulo city

_12,4 million of inhabitants; _Area = 1,521.10 km²

_Population density = 7.527,76 inhabitants by km²

IBGE, 2021

_Top ten cities in World (population)

http://www.mapsofworld.com/brazil/

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https://gestaourbana.prefeitura.sp.gov.br/marco-regulatorio/plano-diretor/

São Paulo's new master plan prioritizes sustainable urban development

By Maria Fernanda Cavalcanti August 7, 2014 6 Comments

São Paulo's new master plan focuses on people, not cars. Photo by mlsirac/Flickr.

http://thecityfix.com/blog/sao-paulo-brazil-master-plan-prioritizes-sustainable-urban-development-people-oriented-mobility-public-participation-maria-fernanda-cavalcanti/

CÂMARA MUNICIPAL DE SÃO PAULO

Secretaria Geral Parlamentar
Secretaria de Documentação
Equipe de Documentação do Legislativo

LEI Nº 16.673, DE 13 DE JUNHO DE 2017

(Projeto de Lei nº 617/11, dos Vereadores José Police Neto - PSD, Abou Anni - PV, Adilson Amadeu - PTB, Adriana Ramalho - PSDB, Alessandro Guedes - PT, Alfredinho - PT, Aline Cardoso - PSDB, André Santos - PRB, Antonio Donato - PT, Atílio Francisco - PRB, Aurélio Nomura - PSDB, Caio Miranda Carneiro - PSB, Celso Jatene - PR, Claudinho de Souza - PSDB, Cláudio Prado - PDT, Dalton Silvano - DEMOCRATAS, David Soares - DEMOCRATAS, Eduardo Matarazzo Suplicy - PT, Eduardo Tuma - PSDB, Fábio Riva - PSDB, Fernando Holiday - DEMOCRATAS, Floriano Pesaro - PSDB, George Hato - PMDB, Gilberto Nascimento - PSC, Gilson Barreto - PSDB, Goulart - PSD, Isac Felix - PR, Jair Tatto - PT, Janaina Lima - NOVO, João Jorge - PSDB, Marco Aurélio Cunha - PSD, Mario Covas Neto - PSDB, Nabil Bonduki - PT, Natalini - PV, Netinho de Paula - PDT, Ota - PSB, Paulo Frange - PTB, Quito Formiga - PSDB, Reginaldo Tripoli - PV, Ricardo Nunes - PMDB, Ricardo Teixeira - PROS, Ricardo Young - REDE SUSTENTABILIDADE, Rodrigo Goulart - PSD, Rute Costa - PSD, Sâmia Bomfim - PSOL, Senival Moura - PT, Soninha - PPS, Souza Santos - PRB e Toninho Vespoli - PSOL)

Institui o Estatuto do Pedestre no Município de São Paulo, e dá outras providências.

JOÃO DORIA, Prefeito do Município de São Paulo, no uso das atribuições que lhe são conferidas por lei, faz saber que a Câmara Municipal, em sessão de 7 de junho de 2017, decretou e eu promulgo a seguinte lei:

CAPÍTULO I

DAS DISPOSIÇÕES PRELIMINARES

Art. 1º Fica instituído no Município de São Paulo o Estatuto do Pedestre.

Art. 2º Para fins de aplicação desta lei, entende-se:

a) por pedestre toda pessoa que, circulando a pé, utiliza os passeios públicos e calçadas dos logradouros, vias, travessas, vias de pedestres, vielas, escadarias, passarelas, passagens subterrâneas, praças e áreas públicas na área urbana e rural e nos acostamentos das estradas e vias na área rural do Município;

b) por Mobilidade a Pé o tipo de Mobilidade Ativa, que utiliza a energia do próprio corpo humano como arcabouço à sua realização;

https://www.prefeitura.sp.gov.br/cidade/secretarias/mobilidade/planmob/

CIDADE DE SÃO PAULO

Good policies after 2014

Florindo et al. BMC Public Health (2021) 21:283
https://doi.org/10.1186/s12889-021-10262-5

BMC Public Health

FAPESP – processo número 2017/17049-3

STUDY PROTOCOL Open Access

Study protocol: health survey of Sao Paulo: ISA-Physical Activity and Environment

Alex Antonio Florindo[1,2,3*], Inaian Pignatti Teixeira[1,3], Ligia Vizeu Barrozo[4], Flávia Mori Sarti[1,2], Regina Mara Fisberg[2,5], Douglas Roque Andrade[1,3] and Leandro Martin Totaro Garcia[3,6]

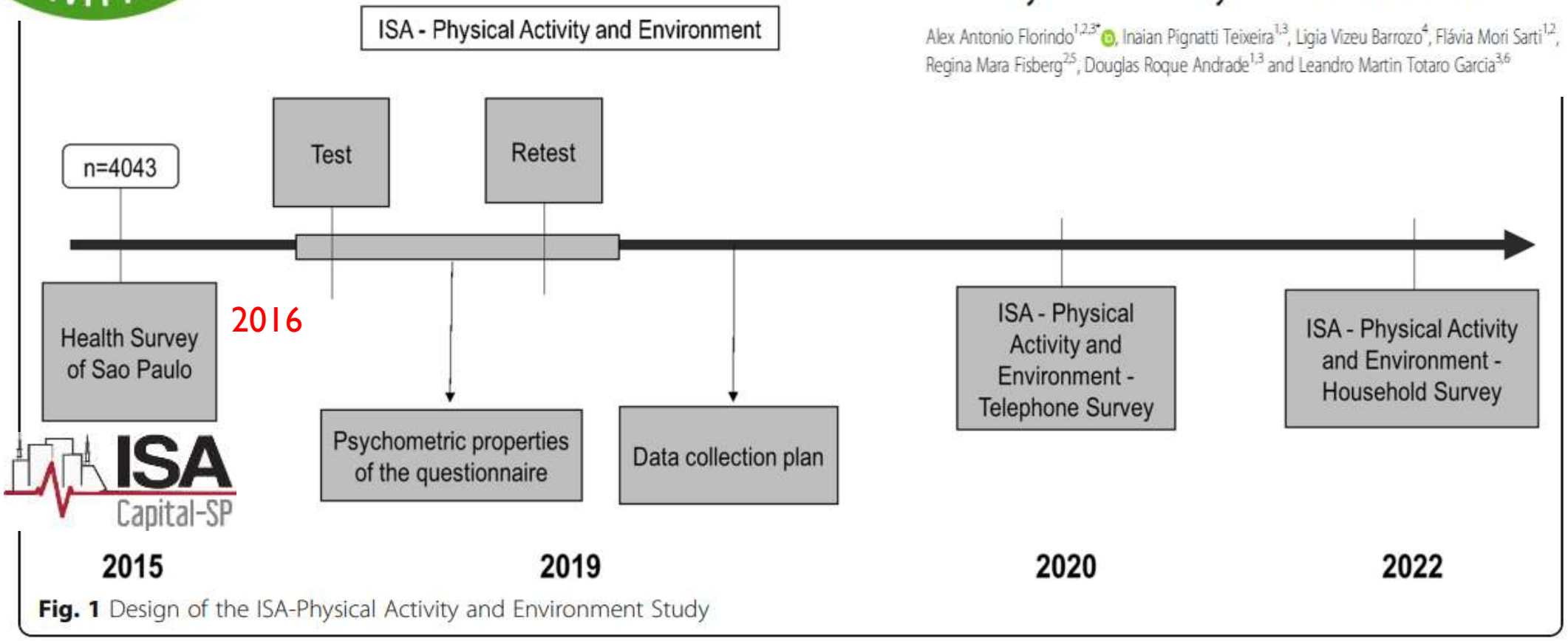
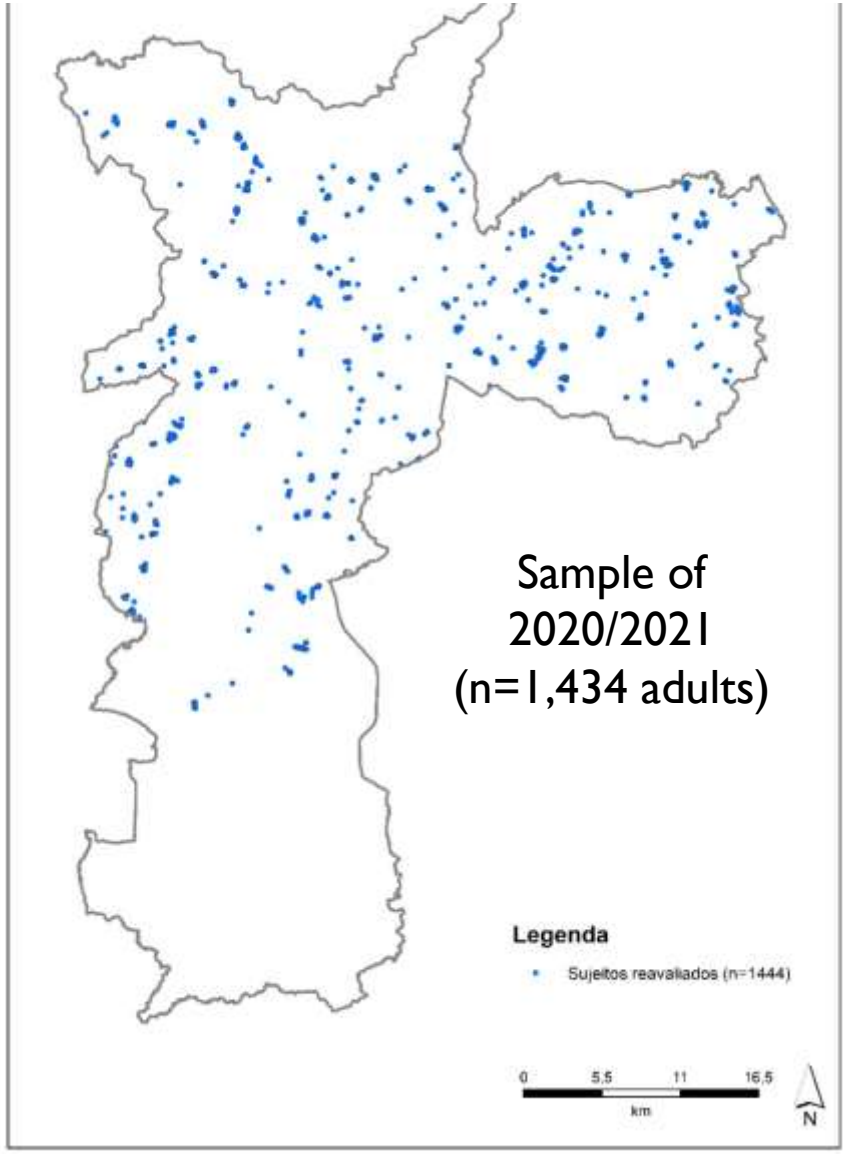


Fig. 1 Design of the ISA-Physical Activity and Environment Study

Second wave (2014-2015 to 2020-2021)
Data from people:
physical activity, obesity, diseases

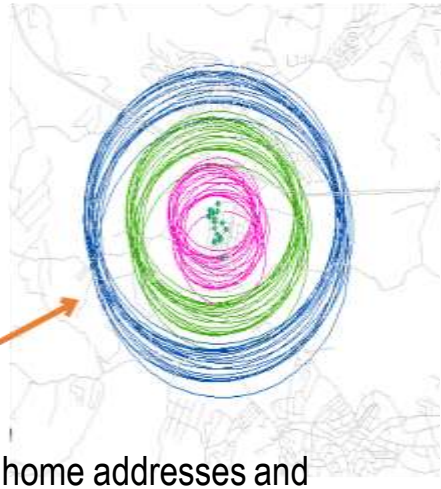


Sample of
2020/2021
(n=1,434 adults)

Geocoded environmental attributes
Macroscale

PREFEITURA DE SÃO PAULO

GeoSampa Mapa

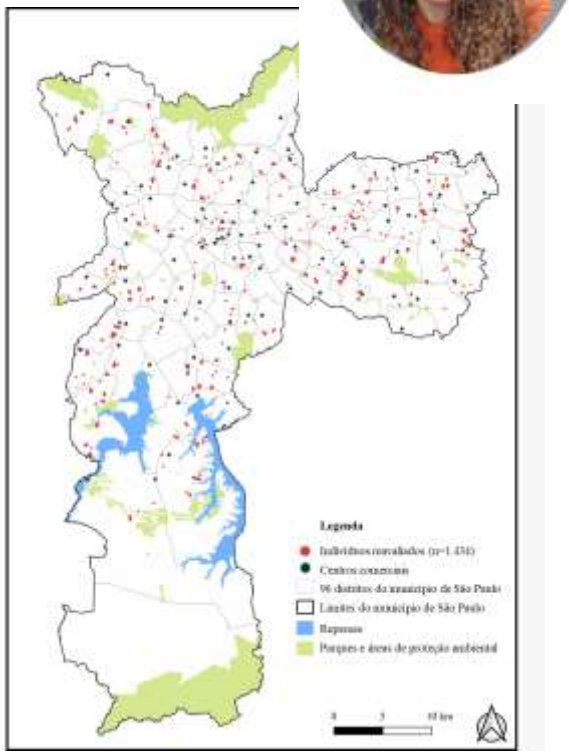


Geocodeed of participants' home addresses and environmental attributes (parks, squares, cycle paths, sports and transport equipment)

Inaian Teixeira - Postdoctoral
Cities & Health, 7:1, 137-147, 2023

MAPS- Google street view
Microscale

Elaynne Oliveira
PhD student

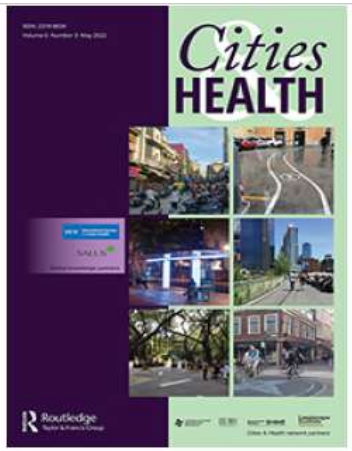


Quality of sidewalks, tree coverage, presence of shops and services, traffic control, pedestrian safety

Brazilian Journal of Physical Activity and Health, 2023; 28:e0307

Changes in environmental attributes in São Paulo after 2014

?



Cities & Health

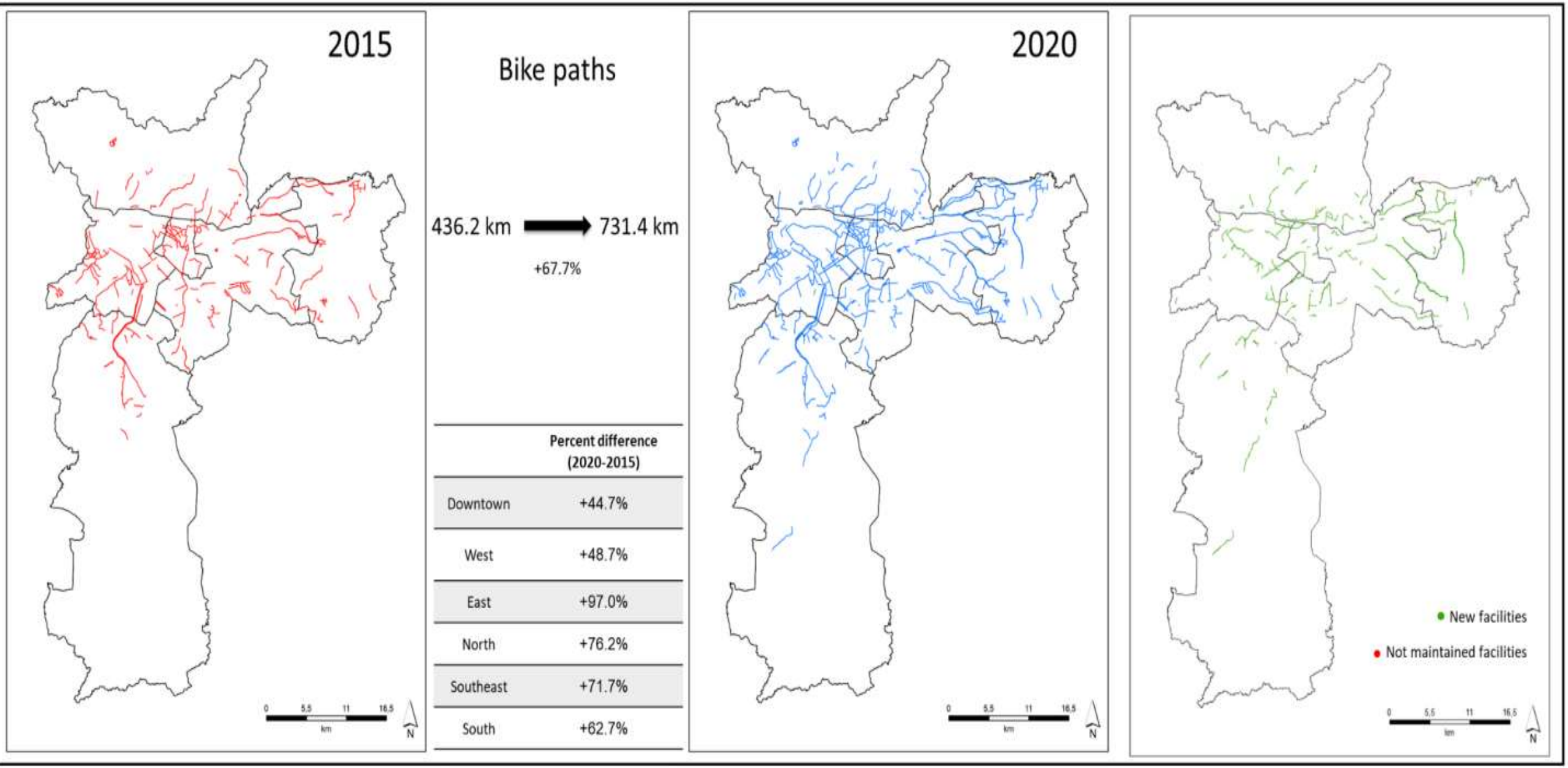
Inaian Teixeira
Postdoctoral

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rcah20

Built environments for physical activity: a longitudinal descriptive analysis of Sao Paulo city, Brazil

Inaian Pignatti Teixeira, João Paulo dos Anjos Souza Barbosa, Ligia Vizeu Barrozo, Adriano Akira Ferreira Hino, Priscila Missaki Nakamura, Douglas Roque Andrade, Suzanne Mavoa, Gavin Turrell, Rodrigo Siqueira Reis & Alex Antonio Florindo

Cities & Health, 7:1, 137-147, 2023



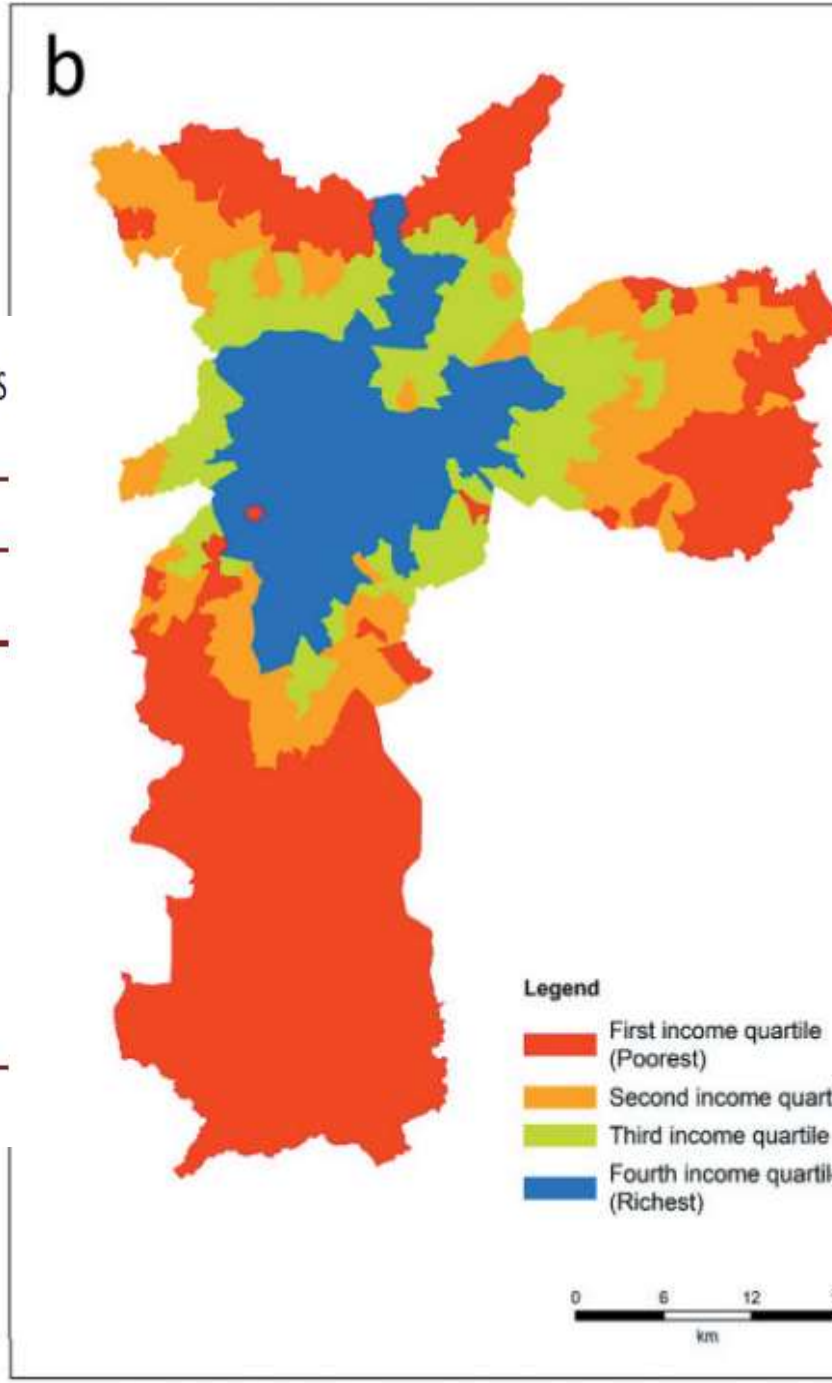
	Percent difference (2020-2015)
Downtown	+44.7%
West	+48.7%
East	+97.0%
North	+76.2%
Southeast	+71.7%
South	+62.7%

Cities & Health, 7:1, 137-147, 2023

Table 5. Amount of built environment facilities and their absolute differences between 2015 and 2020, according to the quartiles of census tracts' income.

	Poorest			2nd quartile			3rd quartile			Richest		
	2015	2020	diff	2015	2020	diff	2015	2020	diff	2015	2020	diff
Public squares	0.84	1.01	0.17	2.34	2.79	0.45	3.27	3.44	0.17	3.86	3.96	0.09
Parks	6.6	6.7	0.15	4.99	5.00	0.01	1.57	1.57	0.00	6.04	6.27	0.23
Sport facilities	27	29	2	23	28	5	24	27	3	26	28	2
Community clubs	41	56	15	88	82	−6	113	115	2	43	40	−3
Outdoor gyms	55	116	61	83	176	93	107	221	114	66	139	73
Bike paths (km)	28.9	53.1	24.2	83.1	162.1	79.0	145.0	225.6	80.6	178.9	290.4	111.5
Train, subway stations and bus terminals	9	11	2	30	35	5	43	46	3	74	88	14
Primary health care units	149	155	6	144	147	3	108	111	3	56	57	1

diff= absolute difference between 2015 and 2020.



Cities & Health, 7:1, 137-147, 2023

Environmental changes and physical activity

?

Journal of Physical Activity and Health, (Ahead of Print)
https://doi.org/10.1123/jpah.2023-0108

First Published Online: Aug. 17, 2023

Human Kinetics
ORIGINAL RESEARCH

Public Open Spaces and Leisure-Time Walking: A Longitudinal Study With Brazilian People in the COVID-19 Pandemic

Alex Antonio Florindo,[1,2,3] Bianca Mitie Onita,[2,3] Margarethe Thaisi Garro Knebel,[2,3] Rildo de Souza Wanderley Júnior,[1,3] Inaian Pignatti Teixeira,[3,4] and Gavin Turrell[5]

[1]School of Arts, Sciences and Humanities, University of Sao Paulo, Sao Paulo, Brazil; [2]School of Public Health, University of Sao Paulo, Sao Paulo, Brazil; [3]Physical Activity Epidemiology Group, University of Sao Paulo, Sao Paulo, Brazil; [4]Minas Gerais State University, Passos, Brazil; [5]Centre for Urban Research, RMIT University, Melbourne, VIC, Australia

Public Open Spaces and Leisure-Time Walking: A Longitudinal Study With Brazilian People in the COVID-19 Pandemic

Alex Antonio Florindo, Bianca Mitie Onita, Margarethe Thaisi Garro Knebel, Rildo de Souza Wanderley Júnior, Inaian Pignatti Teixeira e Gavin Turrell

Parks

Public squares

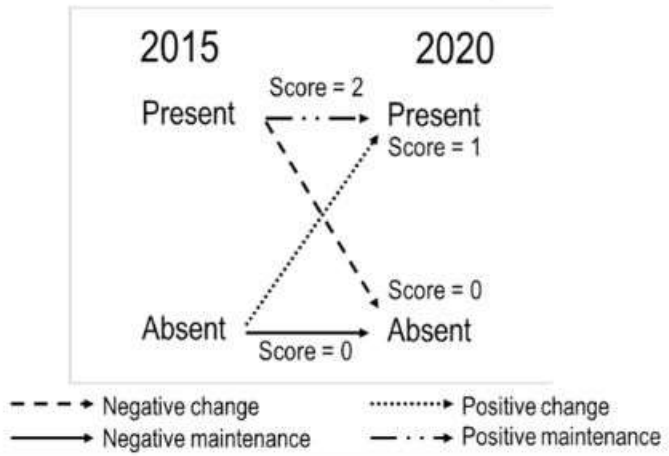
Bike paths

Public open spaces

Cohort

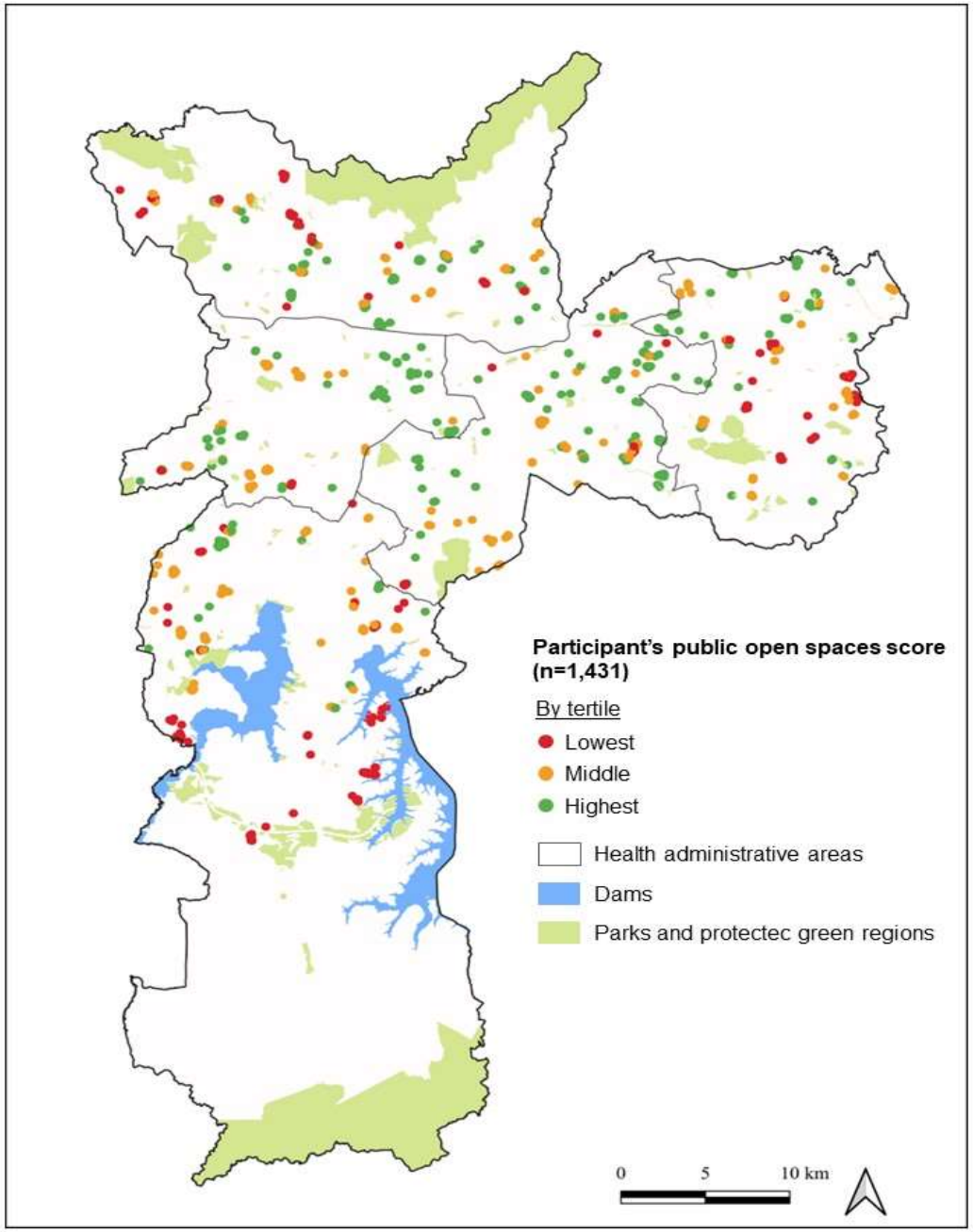
n= 1431 people

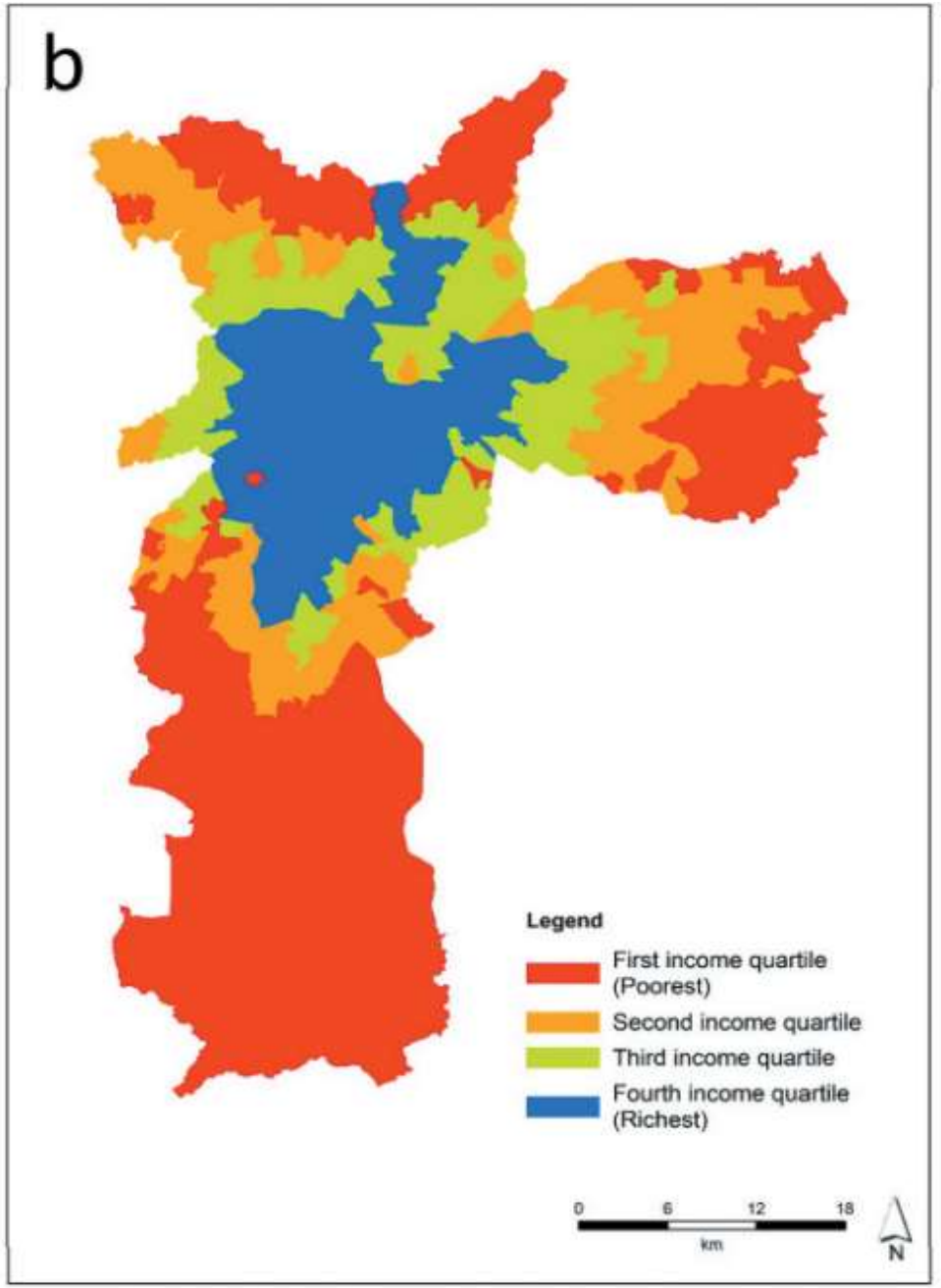
2014/2015- 2020/2021



People who lived in buffers that experienced positive changes or positive maintenance in public open spaces between 2015 and 2020 were **44%** more likely to practice leisure-time walking.

Journal of Physical Activity and Health
https://doi.org/10.1123/jpah.2023-0108





Journal of Physical Activity and Health, https://doi.org/10.1123/jpah.2023-

Cities & Health, 7:1, 137-147, 2023

The next steps and possible collaborations

Challenges

- ✓ Description of social and built environment (macro and micro) in São Paulo city (longitudinal data)
- ✓ Social and built environmental determinants of obesity, bicycle use, walking, and leisure time physical activity
- ✓ Third-wave data collection with accelerometers (2023-2024)
- ✓ Cost-effectiveness analysis
- ✓ Documentary to disseminate (Partnership with NGO)

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Thanks for attention

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