

Resilience & Health Equity: Role of Societal Disadvantage in Resilience

Monica Rivera-Mindt PhD, ABPP
Fordham University & Icahn School of Medicine at Mount Sinai



@DrRiveraMindt



Acknowledgements & Disclosures

Affiliations

- Professor of Psychology, Latin American Latino Studies, and African & African American Studies, Fordham Univ.
- Joint Appointment in Neurology, Icahn School of Medicine at Mount Sinai
- Affiliated Faculty, Future of Aging Research Seminar, Columbia University

Research Funding

- NIA R01AG065110 (PI: M. Rivera Mindt)
- NIA R56AG075744 (MPIs: M. Rivera Mindt, A. Boxer, D. Byrd, & G. Rabinovici)
- NIA R13AG071313-01 (MPIs: M. Rivera Mindt, R. Turner-II, & M. Carrillo)
- Genentech Health Equity Fund G-89294 (MPIs: M. Rivera Mindt & R. Nosheny)
- NIA 5U19AG024904-16 (ADNI; PI: M. Weiner; Engagement Core Co-Lead: M. Rivera Mindt & O. Okonkwo)
- NIGMS SC3GM141996 (PI: D. Byrd; Co-I: M. Rivera Mindt)
- NIA R01AG066471-01A1 (MPIs: A. Federman & J.P. Wisnivesky; Co-I: M. Rivera Mindt)

Leadership/Advisory

- ALL-FTD External Advisory Board
- Alzheimer's Association, NYC Chapter Board
- Brown University Center for Alzheimer's Disease Research Advisory Board
- CDC BOLD Public Health Center of Excellence on Dementia Risk Reduction Expert Panel
- Harlem Community & Academic Partnership Board (Treasurer)
- Mayo Clinic Executive Advisory Committee
- National Centralized Repository for ADRD (NCRAD) Executive Committee
- UC San Francisco Alzheimer's Disease Research Center (ADRC) Advisory Board
- University of Texas Rio Grand Valley Resource Center for Minority Aging Research Advisory Board
- University of Washington Alzheimer's Disease Research Center (ADRC) Advisory Board

**No Conflicts
of Interest**

Land Acknowledgement

“We acknowledge the people of the Tribal Nations and tribes in New York City (e.g., Lenni Lenape, Cayuga, Mohawk, Erie, Seneca, Oneida), who are the traditional custodians of the land on which we work and live, and recognize their continuing connection to the land, water, and air that the United States consumes. We pay respect to their elders past, present, and emerging.”

Consulted by: New York Indian Council, Inc.



Positionality

Axis of Adversity

- Afro-Latinx, Indigenous daughter of immigrants
- 6 of the 7 NIH criteria for "disadvantaged background."
 - SES, unstable housing....
- **Health:** No or inadequate insurance growing up
- **Schooling:** ESL until ~3rd grade
- **Professional Development:**
 - 13 yrs old - started working



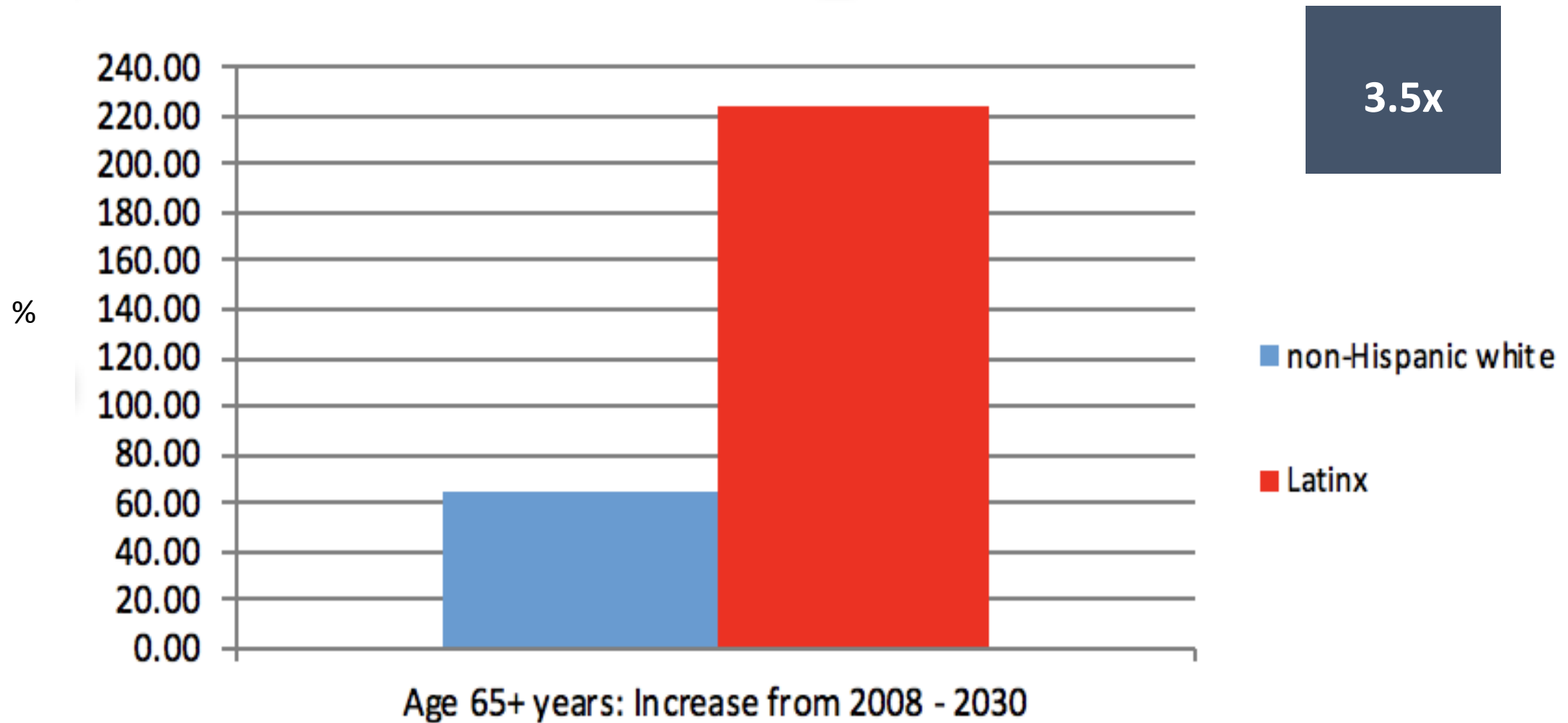
Axis of Privilege

- Cis-gender/hetero
- US- born
- Able-bodied
- Education & Training (CBPR)
- Current middle-class status
- **Tremendous** social support
- Temperament to withstand the sociocultural challenges & assaults of academia

Overview

- **Context: Demographics & Inequities**
- **Framework**
- **Risk & Resilience Factors in Cognitive Impairment & Dementia**
- **Towards Brain Health Equity**
 - **Gaps & Key Questions**
 - **Moving Forward**

Context: Ethnic Differences in U.S. 65+ Population Growth (2008 – 2030)



Context of Disadvantage: Inequities in Brain Health

- **Black & Latinx older adults are up to 3x as likely to develop AD than non-Latinx white adults*** ^{2,3}

- **Younger age of onset^{2,3}**

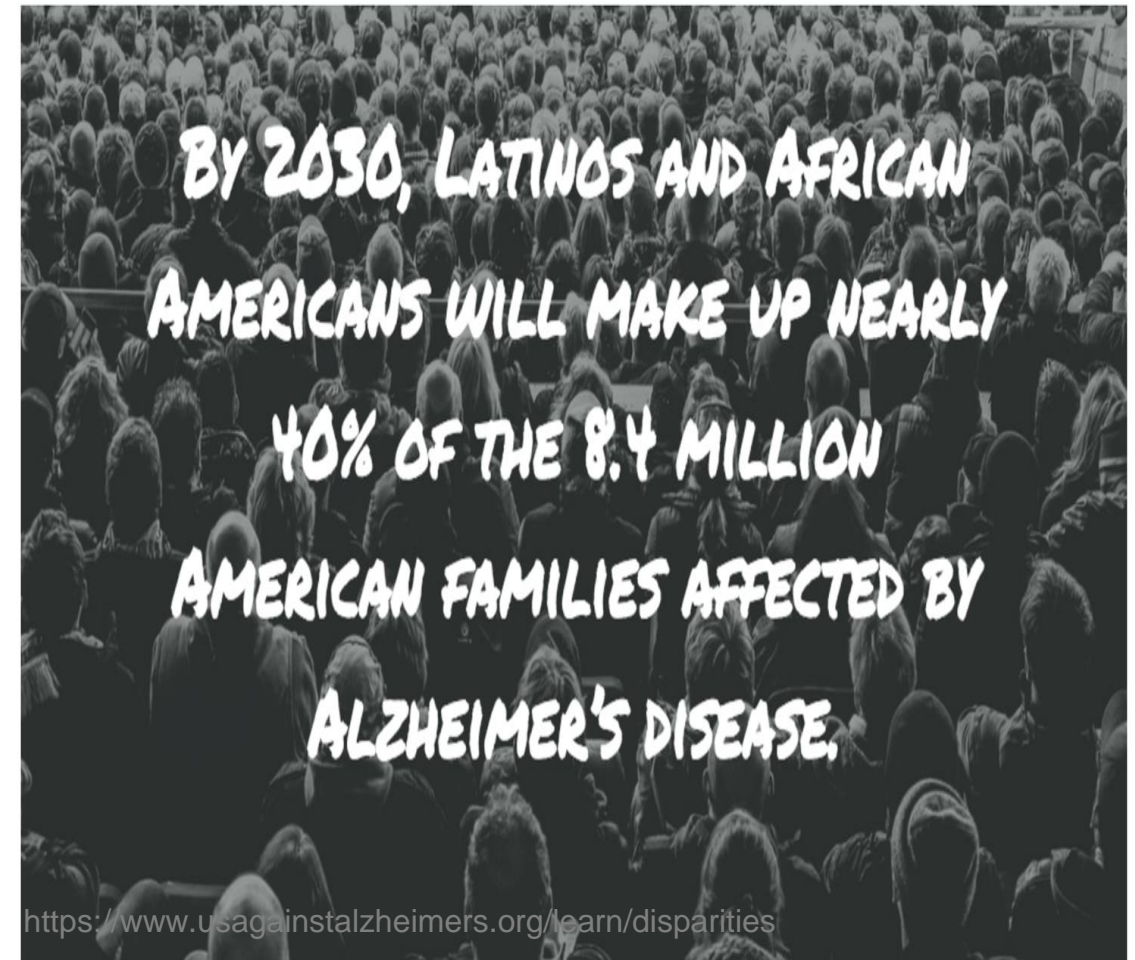
- **Greater severity of initial AD symptoms^{2,3}**

***Note.** Research based on primarily older adults (65± yrs).

2. Alzheimer's Association (2015)

3. Campos et al (2013)

Shifting Demographics Are Placing Communities of Color in the Crosshairs of Alzheimer's

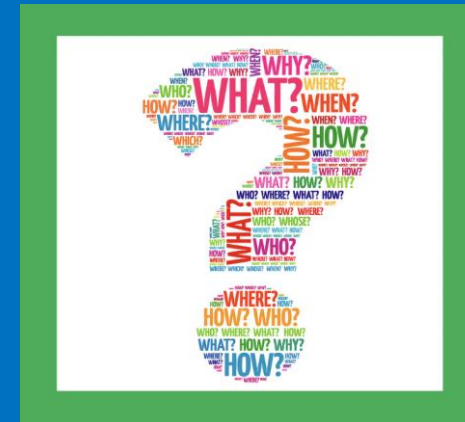


Context of Disadvantage: Inequities in Dementia Care

Older Black and Latinx Adults 65+ yrs

- 30-40% *less likely* to access outpatient neurology care than non-Latinx whites^{4,5}
- *More likely* to receive care in the ER, with longer hospital stays and higher inpatient costs, after neurologic diagnosis.^{4,5}

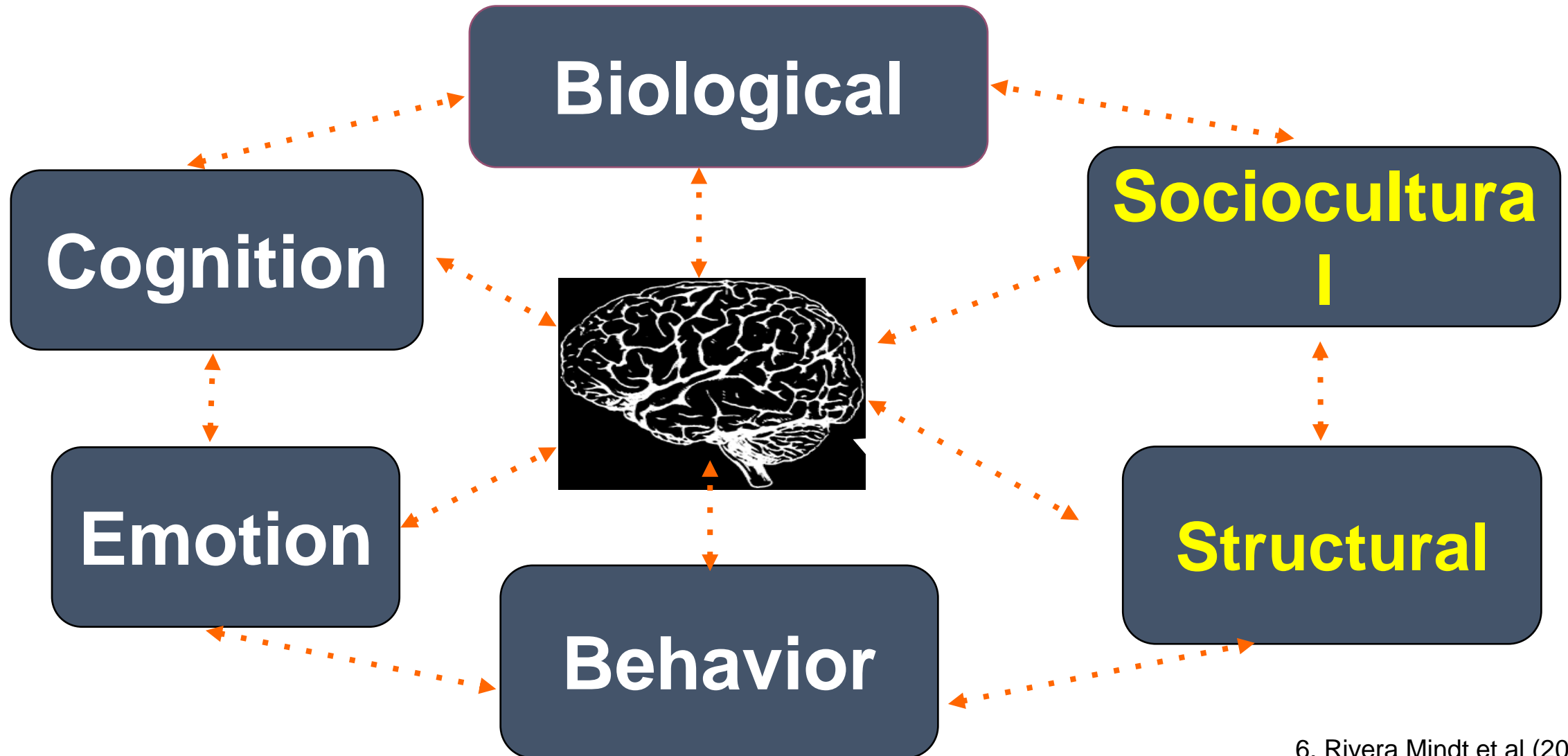
Older Black and Latinx Adults < 65 yrs



4. Mehta et al (2017)

5. Saadi et al (2017)

Resilience in a Biopsychosociocultural Framework



Risk Factors for Cognitive Impairment (CI) & Dementia in *Older Black & Latinx Adults (65± yrs)*

Biological Risk Factors

Diabetes⁸

Hypertension⁸

Comorbid Conditions (e.g., TBI, HIV)^{9,10}

Psychological Risk Factors

Depression (Cultural diffs)¹¹

Stress (Early life, current)¹²

Social Isolation¹³

Sociocultural & Structural Risk Factors

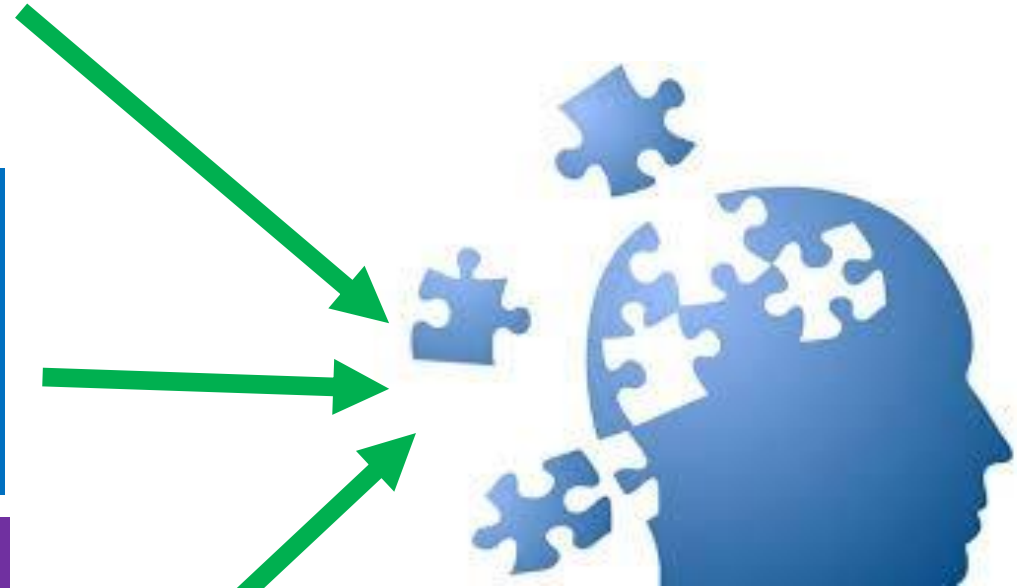
Racism/Discrimination¹⁴

Cultural Exposures¹⁵

SES & Healthcare Barriers^{16,17}

Quality of Ed/Literacy^{18,6}

Environmental Exposures¹⁹



**Increased Risk
for CI/Dementia**

8. Shiekh et al (2021); 9. Bailey et al (2020); 10. Rivera Mindt et al (2014);
11. Morris et al (2021); 12. Pechtel & Pizzagalli (2011); 13. Hold-Lunstad et al
(2015); 14. Thames et al (2013); 15. Arentoft et al (2012); 16. Kind et al (2014);
17. Alzheimer's Association (2021); 18. Manly (2006); 19. Liu & Lewis (2014)

Resilience Factors for Cognitive Impairment (CI) & Dementia within the Context of Disadvantage in Minoritized Populations?

Biological Resilience Factors

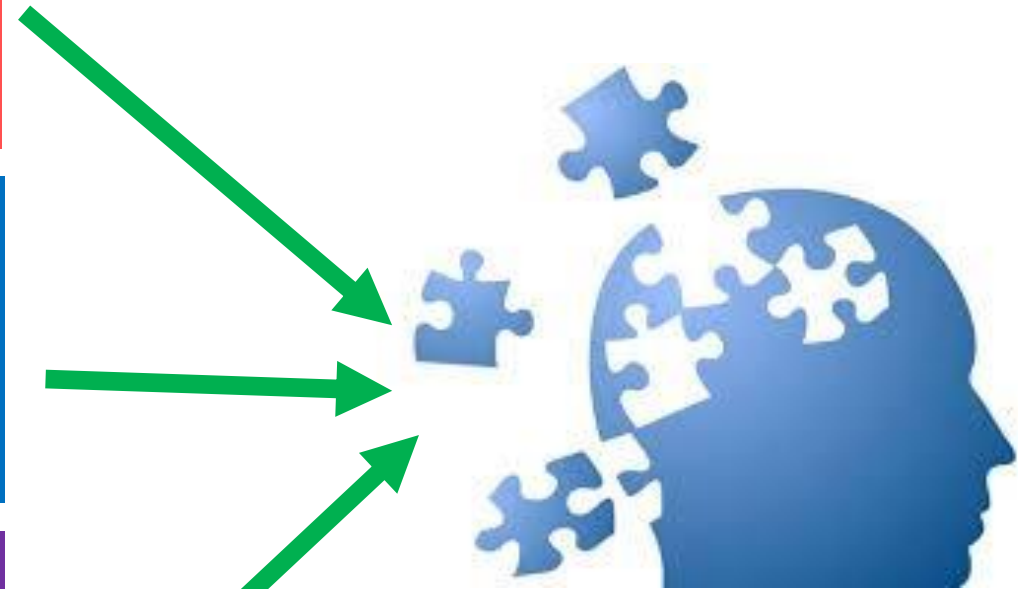
Genetics (APOE-4 diffs)?^{3,20}
Physical Activity (dancing, sports)²¹
Addressing Food Insecurity²²

Psychological Resilience Factors

Familismo?²³

Sociocultural & Structural Resilience Factors

Acculturation?¹⁵
Bilingualism?²⁴
Social & Health Policies?
(Discrimination, Educ., Medicaid)^{17,25}



**Decreased Risk
for CI/Dementia?**

20. Chan et al (2022); 21. Fausto et al (2022); 22. Zenk et al (2022); 23. Rote et al (2019); 24. Calvo et al (2016); 25. CDC (2022)

Gaps & Key Next Steps

Gaps:

- **Sociocultural level factors**

- *Cultural Factors*
 - Acculturation, within-group variance, culturally-mediated health beliefs/attitudes
- *Intersectionality*
 - Dimensions of diversity; e.g., ethnocultural status, religion, gender/gender identity, rurality, poverty, immigration status, region, ability status
- *Discrimination/Persecution* due to any individual- or contextual-level factor (see above)
- *Social Support and Engagement* vs. Isolation or Loneliness

Key Next Steps:

- Flipping our lens from a **Deficit Model** to an **Empowerment & Resilience Model** of **Brain Health**
- Authentic community-engagement & inclusion in dementia research
- Moving beyond pan-ethnicity to mechanisms of resilience & change
- Implementation through public health settings and policies

Towards Brain Health Equity

The Alzheimer's Association recommends the following actions to address discrimination and bias:

- ✓ Prepare providers to care for a racially and ethnically diverse population of older adults
- ✓ Increase diversity in dementia care
- ✓ Increase diversity of participants for research and clinical trials

The report stresses that health care providers and researchers must remain committed to addressing these disparities for older adults. It recommends actions be taken to ensure the burden of Alzheimer's disease and dementia is not made worse by discrimination and unequal access to health care.

NYC Collaborators & Lab Members

Drs. D. Byrd, Cham, C., U. Clark, A. Federman, J. Helcer
Becker, T. Hedden, A. Kumar, G. Pandey, J. Robinson-Papp, T.
Jacquenoud, J. Wisnivesky

*

M. Aghvinian, A. Camuy, E. Breen, D. Oleas, M. Savin, A.
Slaughter, J. Stiver, S. Schuck, S. Talavera, & awesome
alumni

(AA, MAR, FA, AF, KF, VG, EPM, JPO, PS, RR,
TSS, ACS, KT & more!)

National Collaborators

Drs. M. Ashford, A. Boxer, M. Carrillo, C. Conti, G. Coker, H.
Heurer, C. Hill, R. Nosheny, O. Okonkwo, G. Rabinovici, R,



Gratitude



**OUR
PARTICIPANTS!**

ALANIZ



References

1. Administration of Aging. (2009). *A Profile of Older Americans: 2009*. U.S. Department of Health and Human Services.
2. Alzheimer's Association. (2022). *2015 Alzheimer's Disease Facts and Figures*. Alzheimer's Association.
3. Campos, M., Edland, S.D. and Peavy, G.M. (2013), Exploratory Study of Apolipoprotein E ϵ 4 Genotype and Risk of Alzheimer's Disease in Mexican Hispanics. *J Am Geriatr Soc*, 61: 1038-1040. <https://doi.org/10.1111/jgs.12292>
4. Mehta, K.M. and Yeo, G.W. (2017), Systematic review of dementia prevalence and incidence in United States race/ethnic populations. *Alzheimer's & Dementia*, 13: 72-83. <https://doi.org/10.1016/j.jalz.2016.06.2360>
5. Saadi, A., Himmelstein, D. U., Woolhandler, S., & Mejia, N. I.. (2017). Racial disparities in neurologic health care access and utilization in the United States. *Neurology*, 88(24), 2268–2275. <https://doi.org/10.1212/wnl.0000000000004025>
6. Rivera Mindt, M., Arentoft, A., Kubo Germano, K. *et al.* Neuropsychological, Cognitive, and Theoretical Considerations for Evaluation of Bilingual Individuals. *Neuropsychol Rev* **18**, 255–268 (2008). <https://doi.org/10.1007/s11065-008-9069-7>
7. Rivera Mindt, M., Byrd, D., Saez, P., & Manly, J. (2010). Increasing culturally competent neuropsychological services for ethnic minority populations: a call to action. *The Clinical neuropsychologist*, 24(3), 429–453. <https://doi.org/10.1080/13854040903058960>
8. Shiekh, Suhail Ismail et al. 'Ethnic Differences in Dementia Risk: A Systematic Review and Meta-Analysis'. 1 Jan. 2021 : 337 – 355.
9. Bailey, K. C., Burmaster, S. A., Schaffert, J., Lobue, C., Vela, D., Rossetti, H., & Cullum, C. M.. (2020). Associations of Race-Ethnicity and History of Traumatic Brain Injury With Age at Onset of Alzheimer's Disease. *The Journal of Neuropsychiatry and Clinical Neurosciences*, 32(3), 280–285. <https://doi.org/10.1176/appi.neuropsych.19010002>
10. Mindt, M. R., Miranda, C., Arentoft, A., Byrd, D., Monzones, J., Fuentes, A., Arias, F., Rentería, M. A., Rosario, A., & Morgello, S. (2014). Aging and HIV/AIDS: neurocognitive implications for older HIV-positive Latina/o adults. *Behavioral medicine (Washington, D.C.)*, 40(3), 116–123. <https://doi.org/10.1080/08964289.2014.914464>
11. Morris, E., Byrd, D., Summers, A., Tureson, K., Guzman, V., Crook, C., & Rivera Mindt, M. (2021). Depressive Symptoms Differentially Predict Neurocognition in Latinx and Non-Hispanic White People Living with HIV. *Journal of the International Neuropsychological Society*, 27(3), 249-260. doi:10.1017/S1355617720000855
12. Pechtel, P., Pizzagalli, D.A. Effects of early life stress on cognitive and affective function: an integrated review of human literature. *Psychopharmacology* **214**, 55–70 (2011). <https://doi.org/10.1007/s00213-010-2009-2>
13. Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and Social Isolation as Risk Factors for Mortality: A Meta-Analytic Review. *Perspectives on Psychological Science*, 10(2), 227–237. <https://doi.org/10.1177/1745691614568352>
14. Thames, A., Hinkin, C., Byrd, D., Bilder, R., Duff, K., Mindt, M., . . . Streiff, V. (2013). Effects of Stereotype Threat, Perceived Discrimination, and Examiner Race on Neuropsychological Performance: Simple as Black and White? *Journal of the International Neuropsychological Society*, 19(5), 583-593. doi:10.1017/S1355617713000076
15. Arentoft, A., Byrd, D., Robbins, R. N., Monzones, J., Miranda, C., Rosario, A., Coulehan, K., Fuentes, A., Kubo Germano, K., D'Aquila, E., Sheynin, J., Fraser, F., Morgello, S., & Rivera Mindt, M. (2012). Multidimensional effects of acculturation on English-language neuropsychological test performance among HIV+ Caribbean Latinas/os. *Journal of clinical and experimental neuropsychology*, 34(8), 814–825. <https://doi.org/10.1080/13803395.2012.683856>
16. Kind, A. J., Jencks, S., Brock, J., Yu, M., Bartels, C., Ehlenbach, W., Greenberg, C., & Smith, M. (2014). Neighborhood socioeconomic disadvantage and 30-day rehospitalization: a retrospective cohort study. *Annals of internal medicine*, 161(11), 765–774. <https://doi.org/10.7326/M13-2946>
17. 2021 Alzheimer's disease facts and figures. (2021). *Alzheimer's & dementia : the journal of the Alzheimer's Association*, 17(3). <https://doi.org/10.1002/alz.12328>
18. Manly, Jennifer J. PhD. Deconstructing Race and Ethnicity: Implications for Measurement of Health Outcomes. *Medical Care*: November 2006 - Volume 44 - Issue 11 - p S10-S16 doi: 10.1097/01.mlr.0000245427.22788.be
19. Liu, J., & Lewis, G. (2014). Environmental toxicity and poor cognitive outcomes in children and adults. *Journal of environmental health*, 76(6), 130–138.
20. Chan, M., Meyer, O., Farias, S., Whitmer, R., Rajan, K., Olchney, J., . . . Mungas, D. (2022). APOE Effects on Late Life Cognitive Trajectories in Diverse Racial/Ethnic Groups. *Journal of the International Neuropsychological Society*, 1-10. doi:10.1017/S1355617722000030
21. Fausto, B. A., Azimipour, S., Charles, L., Yarborough, C., Grullon, K., Hokett, E., Duberstein, P. R., & Gluck, M. A. (2022). Cardio-Dance Exercise to Improve Cognition and Mood in Older African Americans: A Propensity-Matched Cohort Study. *Journal of Applied Gerontology*, 41(2), 496–505. <https://doi.org/10.1177/07334648211010580>
22. Zenk SN, Tabak LA, Pérez-Stable EJ. Research Opportunities to Address Nutrition Insecurity and Disparities. *JAMA*. 2022;327(20):1953–1954. doi:10.1001/jama.2022.7159
23. Rote, S., Angel, J., & Hinton, L. (2019). Characteristics and Consequences of Family Support in Latino Dementia Care. *Journal of cross-cultural gerontology*, 34(4), 337–354. <https://doi.org/10.1007/s10823-019-09378-4>
24. Calvo, N., García, A. M., Manoilloff, L., & Ibáñez, A. (2016). Bilingualism and Cognitive Reserve: A Critical Overview and a Plea for Methodological Innovations. *Frontiers in aging neuroscience*, 7, 249. <https://doi.org/10.3389/fnagi.2015.00249>
25. Centers for Disease Control and Prevention (2022). Dementia Risk Reduction. Retrieved from <https://www.cdc.gov/aging/publications/features/dementia-risk-reduction-june-2022/index.html>

Thank you!

*

¡Muchas Gracias!

Questions?



@DrRiveraMindt

