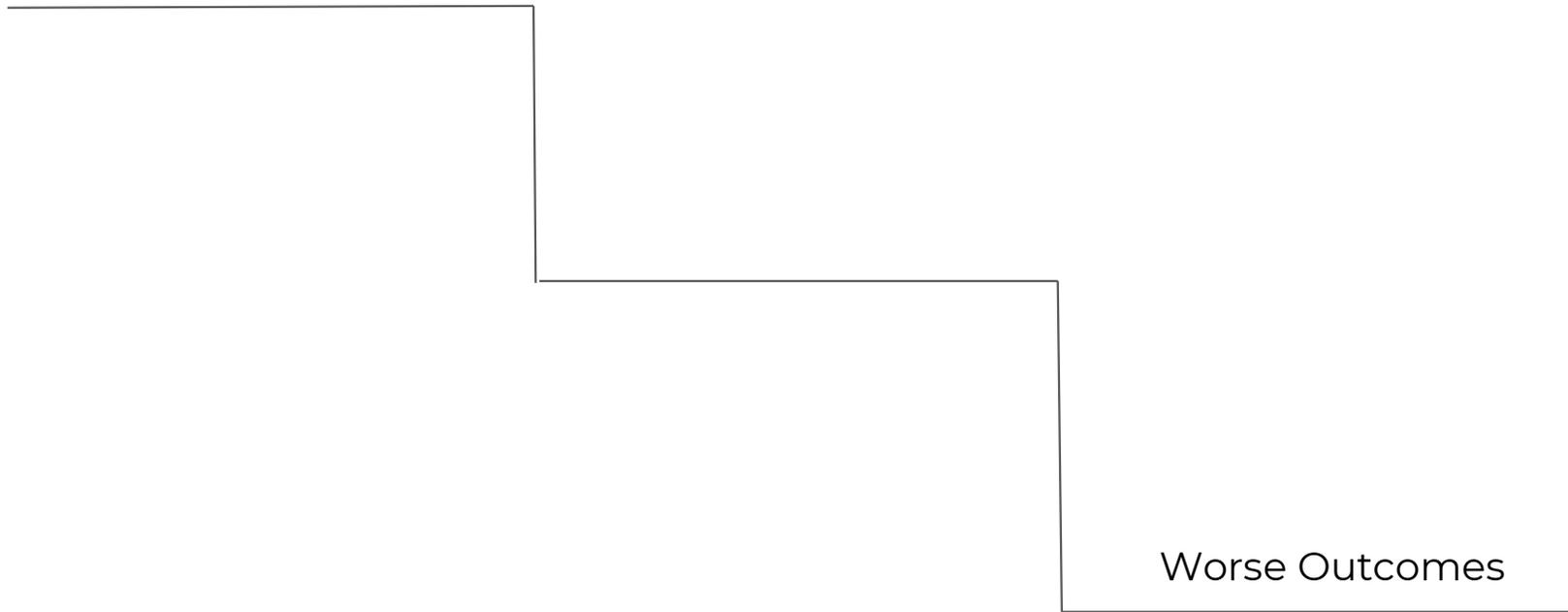


Compounding Inequity: Structural Racism, Allostatic load, and Implications for Behavior Change

Dawson Brown

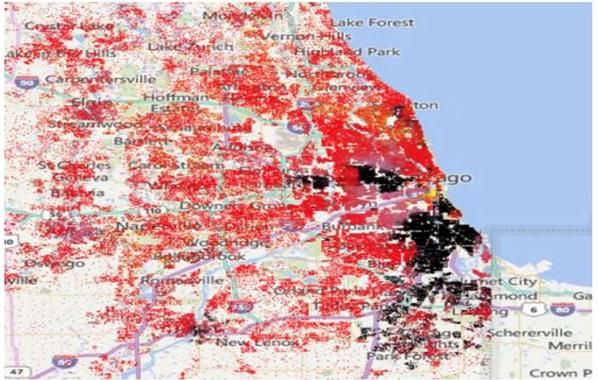
The Most Upstream Problem:

1. Systemic Racial Inequity

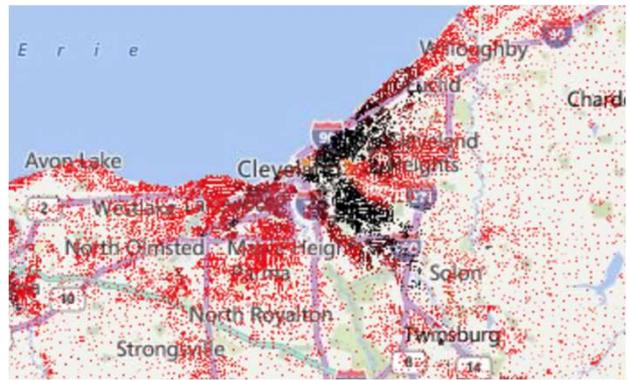


Housing

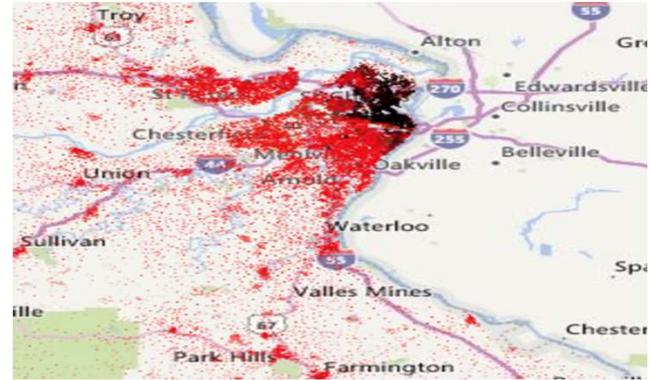
Chicago



Cleveland



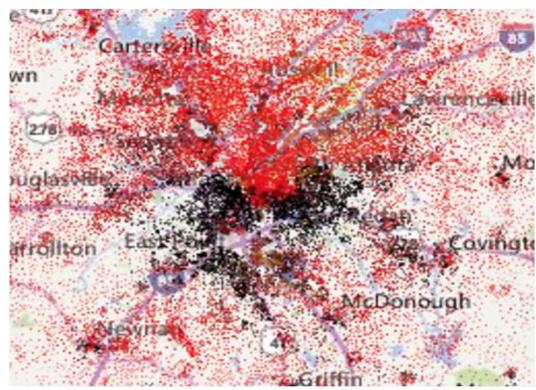
Saint Louis



Philadelphia



Atlanta



Justice

More than one in four people arrested for drug law violations in 2015 was black, although drug rates do not differ substantially by race and ethnicity. Black americans are 3.7 times more likely to be arrested for marijuana possession than whites, even through their rate of marijuana usage is comparable (Edwards, Bunting, & Garcia, 2013)

Education

Schools with 90% or more students of color spend \$733 less per student per year than schools with 90% or more white students. (UNCF, 2020)

The Second Problem:

1. Systemic Racial Inequity

2. Life Stressors (Allostatic Load)

Worse Outcomes

Allostatic Load

“The cost of chronic exposure to elevated or fluctuating endocrine or neural responses resulting from chronic or repeated challenges that the individual experiences as stressful.”

(International Encyclopedia of the Social & Behavioral Sciences, 2001)

Allostatic Load and Its Impact on Health: A Systematic Review

Guidi J.^a · Lucente M.^a · Sonino N.^{b,c} · Fava G.A.^c

 [Author affiliations](#)

 [Corresponding Author](#)

Keywords: [> Allostatic load](#) [> Allostatic overload](#) [> Biomarkers](#) [> Clinimetrics](#)
[> Diagnostic Criteria for Psychosomatic Research](#) [> Stress](#)

Psychother Psychosom 2021;90:11-27

<https://doi.org/10.1159/000510696>

“A total of 267 original investigations were included. They encompassed general population studies, as well as clinical studies on consequences of allostatic load/overload on both physical and mental health across a variety of settings. **Conclusions: The findings indicate that allostatic load and overload are associated with poorer health outcomes.**”

Mediators of the relationship between race and allostatic load in African and White Americans

Lianne M Tomfohr¹, Meredith A Pung², Joel E Dimsdale²

Affiliations + expand

PMID: 27018723 DOI: [10.1037/hea0000251](https://doi.org/10.1037/hea0000251)

Abstract

Objective: Allostatic load (AL) is a cumulative index of physiological dysregulation, which has been shown to predict cardiovascular events and all-cause mortality. On average, African Americans (AA) have higher AL than their White American (WA) counterparts. This study investigated whether differences in discrimination, negative affect-related variables (e.g., experience and expression of anger, depression), and health practices (e.g., exercise, alcohol use, smoking, subjective sleep quality) mediate racial differences in AL.

Method: Participants included healthy, AA (n = 76) and WA (n = 100), middle-aged (Mage = 35.2 years) men (n = 98) and women (n = 78). Questionnaires assessed demographics, psychosocial variables, and health practices. Biological data were collected as part of an overnight hospital stay. AL score was composed of 11 biomarkers. The covariates age, gender, and socioeconomic status were held constant in each analysis.

“Results: Findings showed significant racial differences in Allostatic load, such that AA had higher Allostatic load than their WA counterparts. Results of serial mediation indicated a pathway whereby racial group was associated with discrimination, which was then associated with increased experience of anger and decreased subjective sleep quality, which were associated with AL (e.g.,

race → discrimination → experience of anger → subjective sleep quality → Allostatic Load)”

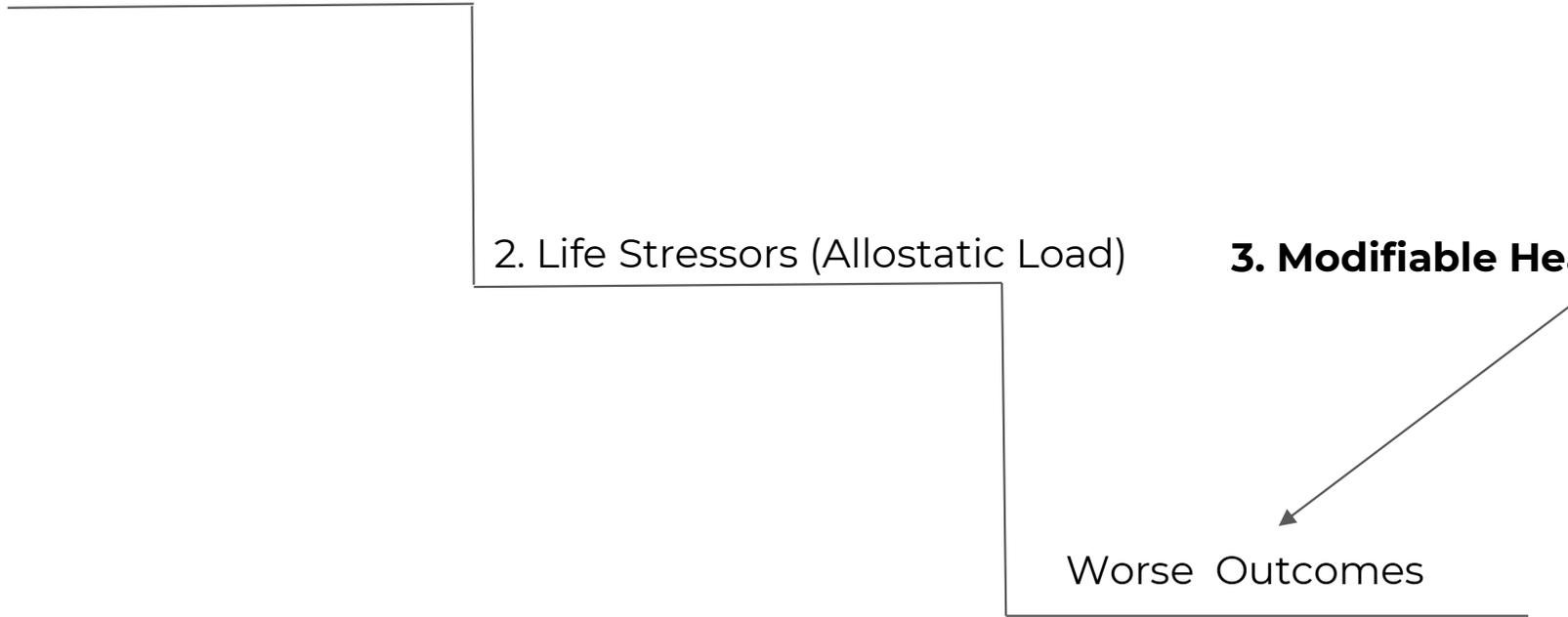
The Third Problem:

1. Systemic Racial Inequity

2. Life Stressors (Allostatic Load)

3. Modifiable Health Behaviors

Worse Outcomes



“Tobacco use, poor diet, physical inactivity, and alcohol use contribute to the leading causes of death in the U.S. and racial/ethnic minorities are disproportionately affected by these modifiable health risk factors”

(Rios, 2016)

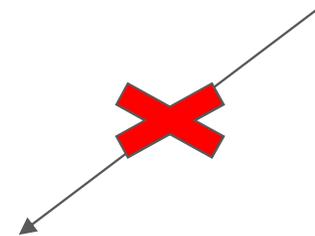
The Usual Point of Intervention:

1. Systemic Racial Inequity

2. Life Stressors (Allostatic Load)

3. Modifiable Health Behaviors

Worse Outcomes



Existing Methods

Motivational Interviewing

SMART Goal Setting

Education

Two-sided Commitment

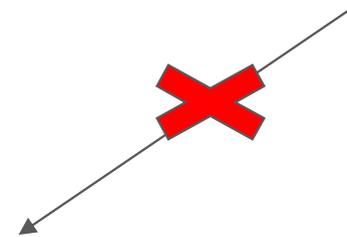
The Usual Point of Intervention:

1. Systemic Racial Inequity

2. Life Stressors (Allostatic Load)

3. Modifiable Health Behaviors

Bad Outcomes



The Gap

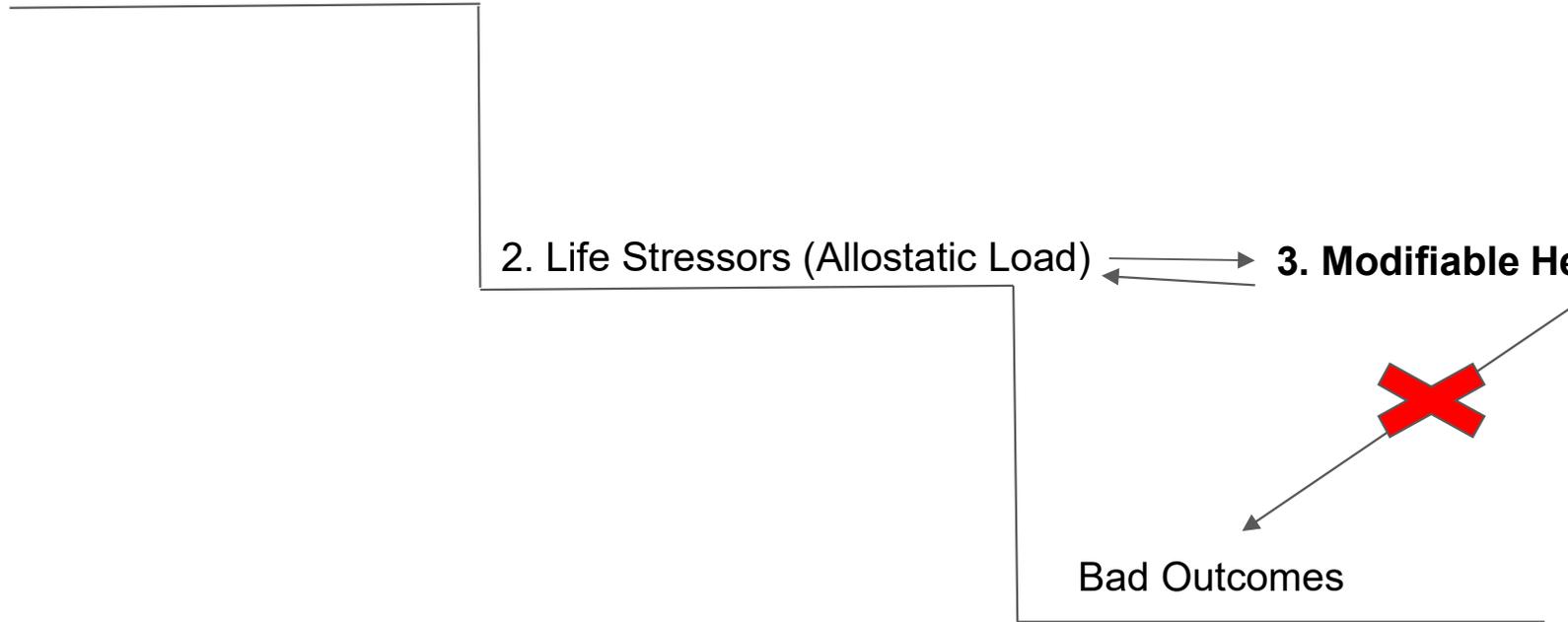
The Usual Point of Intervention:

1. Systemic Racial Inequity

2. Life Stressors (Allostatic Load)

3. **Modifiable Health Behaviors**

Bad Outcomes





Neuroscience & Biobehavioral Reviews

Volume 108, January 2020, Pages 694-711



Review article

Health risk behaviours and allostatic load: A systematic review

Beena Suvarna ^{a, b}, Aditya Suvarna ^{a, b}, Riana Phillips ^{a, d}, Robert-Paul Juster ^c, Brett McDermott ^d, Zoltan Sarnyai ^{a, b}



“50 % of obesity and substance abuse, 75 % of sleep and 62.5 % of combined HRB studies showed a significant association with AL.”

ORIGINAL RESEARCH article

Front. Psychol., 29 January 2016 | <https://doi.org/10.3389/fpsyg.2015.02036>



Increased Risk Taking in Relation to Chronic Stress in Adults

 Smarandita Ceccato¹,  Brigitte M. Kudielka² and  Christiane Schwieren^{1*}

¹Alfred Weber Institute of Economics, Ruprecht-Karls-Universität Heidelberg, Heidelberg, Germany

²Department of Medical Psychology, Psychological Diagnostics and Research Methodology, Institute of Psychology, University of Regensburg, Regensburg, Germany

Chronic stress is a public health problem that affects a significant part of the population. While the physiological damage it causes is under ongoing scrutiny, its behavioral effects have been overlooked.

“We discovered a significant positive, though modest, correlation between self-reported chronic stress and risk taking that is stronger for women than for men.”

If you were given the choice of:

100% chance of winning \$1,000

90% chance of winning \$10,000

Which would you choose?

If you needed \$500 to pay bills and feed your family over the course of the next month, and were given the choice of:

100% chance of winning \$1,000

90% chance of winning \$10,000

Which would you choose?

The Effects of Stress on Cognitive Aging, Physiology and Emotion (ESCAPE) Project

[Stacey B. Scott](#), [Jennifer E. Graham-Engeland](#), [Christopher G. Engeland](#), [Joshua M. Smyth](#), [David M. Almeida](#), [Mindy J. Katz](#), [Richard B. Lipton](#), [Jacqueline A. Mogle](#), [Elizabeth Munoz](#), [Nilam Ram](#), and [Martin J. Sliwinski](#)[✉]

[▶ Author information](#) [▶ Article notes](#) [▶ Copyright and License information](#) [Disclaimer](#)

This article has been [cited by](#) other articles in PMC.

Abstract

Go to:

Background

“Over the long-term, chronic life stress has been consistently associated with poorer cognitive function, accelerated cognitive decline, and increased incidence of dementia.”

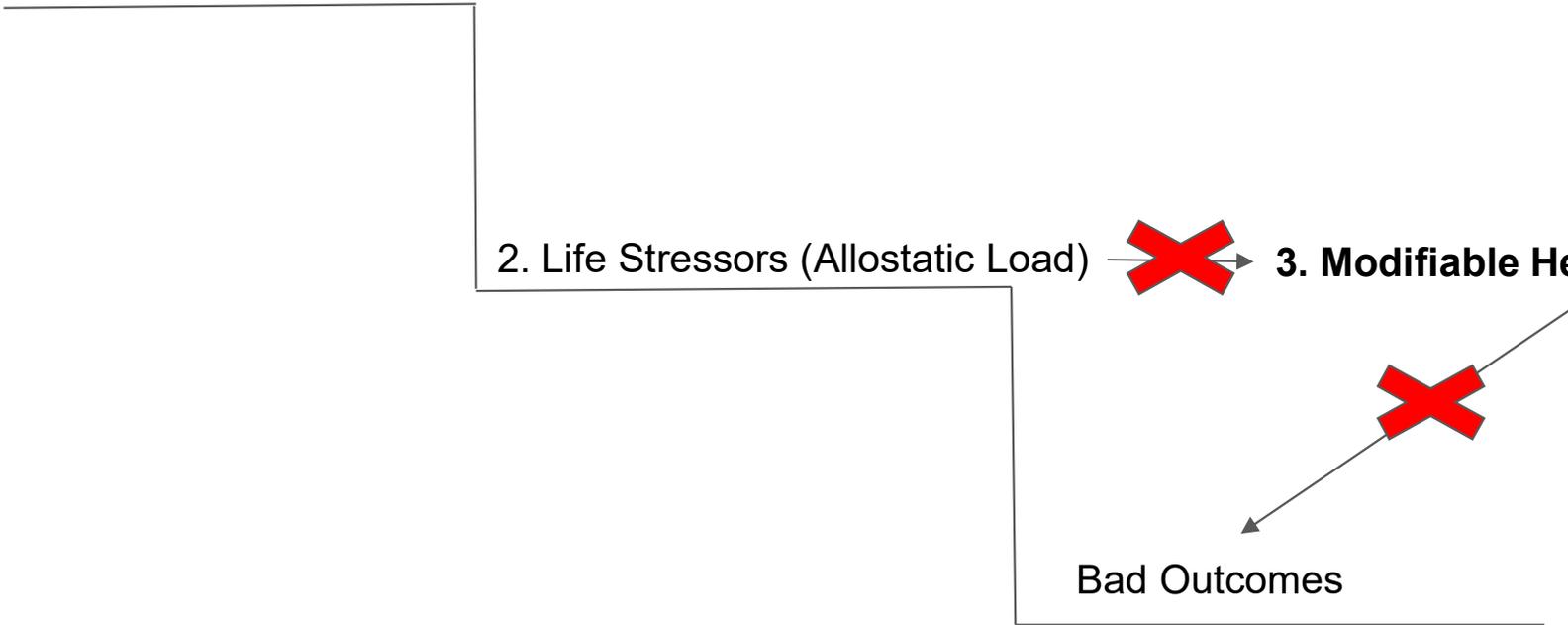
The Usual Point of Intervention:

1. Systemic Racial Inequity

2. Life Stressors (Allostatic Load)

3. **Modifiable Health Behaviors**

Bad Outcomes



A Case for Stress Informed Care

References

Ceccato, S., Kudielka, B. M., & Schwieren, C. (2016). Increased risk taking in relation to chronic stress in adults. *Frontiers in Psychology*, 6, Article 2036. <https://doi.org/10.3389/fpsyg.2015.02036>

Edwards, E., Bunting, W., Garcia, L. (2013). *The War on Marijuana in Black and White*. New York, NY: American Civil Liberties Union.

Guidi J, Lucente M, Sonino N, Fava G, A: Allostatic Load and Its Impact on Health: A Systematic Review. *Psychother Psychosom* 2021;90:11-27. doi: 10.1159/000510696

McIntosh, K., Moss, E., Nunn, R., Shambaugh, J. (2020). Examining the Black-white wealth gap. Brookings Institution. Accessed at: <https://www.brookings.edu/blog/up-front/2020/02/27/examining-the-black-white-wealth-gap/>

Scott, S. B., Graham-Engeland, J. E., Engeland, C. G., Smyth, J. M., Almeida, D. M., Katz, M. J., Lipton, R. B., Mogle, J. A., Munoz, E., Ram, N., & Sliwinski, M. J. (2015). The Effects of Stress on Cognitive Aging, Physiology and Emotion (ESCAPE) Project. *BMC psychiatry*, 15, 146. <https://doi.org/10.1186/s12888-015-0497-7>

Tomfohr LM, Pung MA, Dimsdale JE. Mediators of the relationship between race and allostatic load in African and White Americans. *Health Psychol*. 2016 Apr;35(4):322-32. doi: 10.1037/hea0000251. PMID: 27018723.

United Negro College Fund (2020). K-12 Disparity Facts and Statistics. Accessed at: <https://unconf.org/pages/k-12-disparity-facts-and-stats>

Suvarna B, Suvarna A, Phillips R, Juster RP, McDermott B, Sarnyai Z. Health risk behaviours and allostatic load: A systematic review. *Neurosci Biobehav Rev*. 2020 Jan;108:694-711. doi: 10.1016/j.neubiorev.2019.12.020. Epub 2019 Dec 14. PMID: 31846655.