

Clinical and Public Health Interventions

Applying Neurobiological Insights on
Stress to Foster Resilience Across the
Life Span: A Workshop

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NASEM -Washington, DC ----March 26, 2025

Disclosure Statement

I have no actual or potential conflict of interest in relation to this presentation.



FUNDING SUPPORT

Centers for Disease Control and Prevention

National Institute of Mental Health

National Institute on Alcohol Abuse and Alcoholism

National Institute of Child Health and Human Development

National Institute of Drug Abuse

Lois Autrey Betts Family Endowment



VIEWPOINTS

The tragedy of Black youth suicide

Black children ages 5 to 12 are twice as likely to die by suicide as their White peers, and Black teen suicides are growing at shocking rates. What's going on, and what can be done to help save young Black lives?



By Arielle H. Sheftall, PhD

April 11, 2023

Syndemic Conditions Perpetuate Behavioral Health Disparities

- ❑ Over the past decade, the suicide rate among African Americans ages 10 to 14 increased 233% as compared to 120 percent of non-Hispanic whites.
- ❑ African American, Black females, grades 9-12, were 60% more likely to attempt suicide in 2019, as compared to non-Hispanic white females of the same age.
- ❑ 2000 to 2020, Black youth, ages 10-19 experienced the largest increase in suicide rates, a shocking 78%.
- ❑ Among children, ages 5-12, Black youth were approximately 2 Xs more likely to die by suicide than their White counterparts
- ❑ 2018-2023, suicide was the second leading cause of death for Blacks or African Americans
 - increased by 36% significantly for those ages 10 to 24
 - 22.9% for those ages 24-44 years
- ❑ Suicide death rates are 4X greater among Black or African American men compared to Black or African American women



Consequences of Syndemic Conditions Elevate biological aging in a sample of Black young adults and middle aged adults

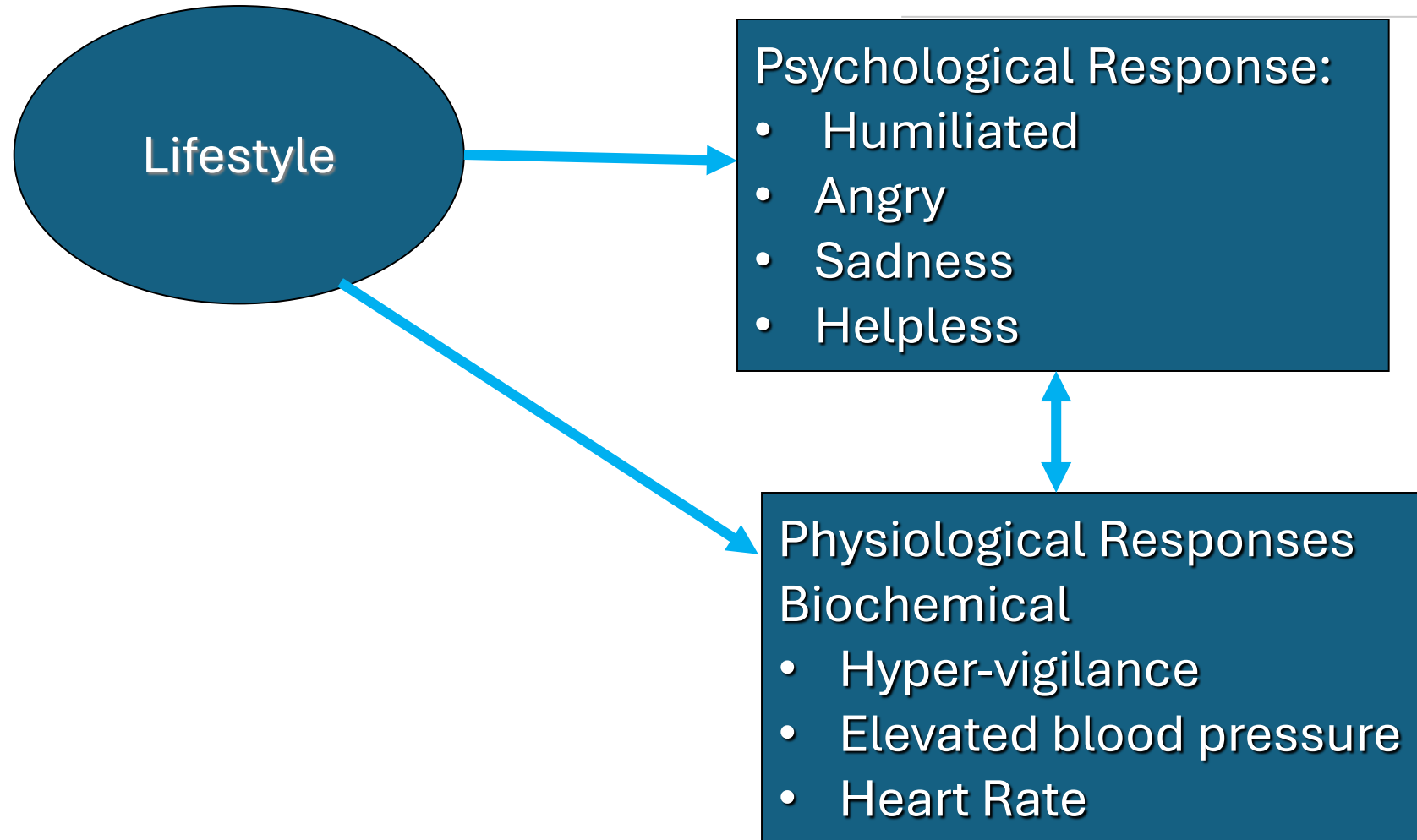
- Neighborhood disadvantage may undermine healthy aging and is particularly relevant for understanding health disparities.
- Black American sample: 448 young adults and 493 middle-aged adults (FACHS).

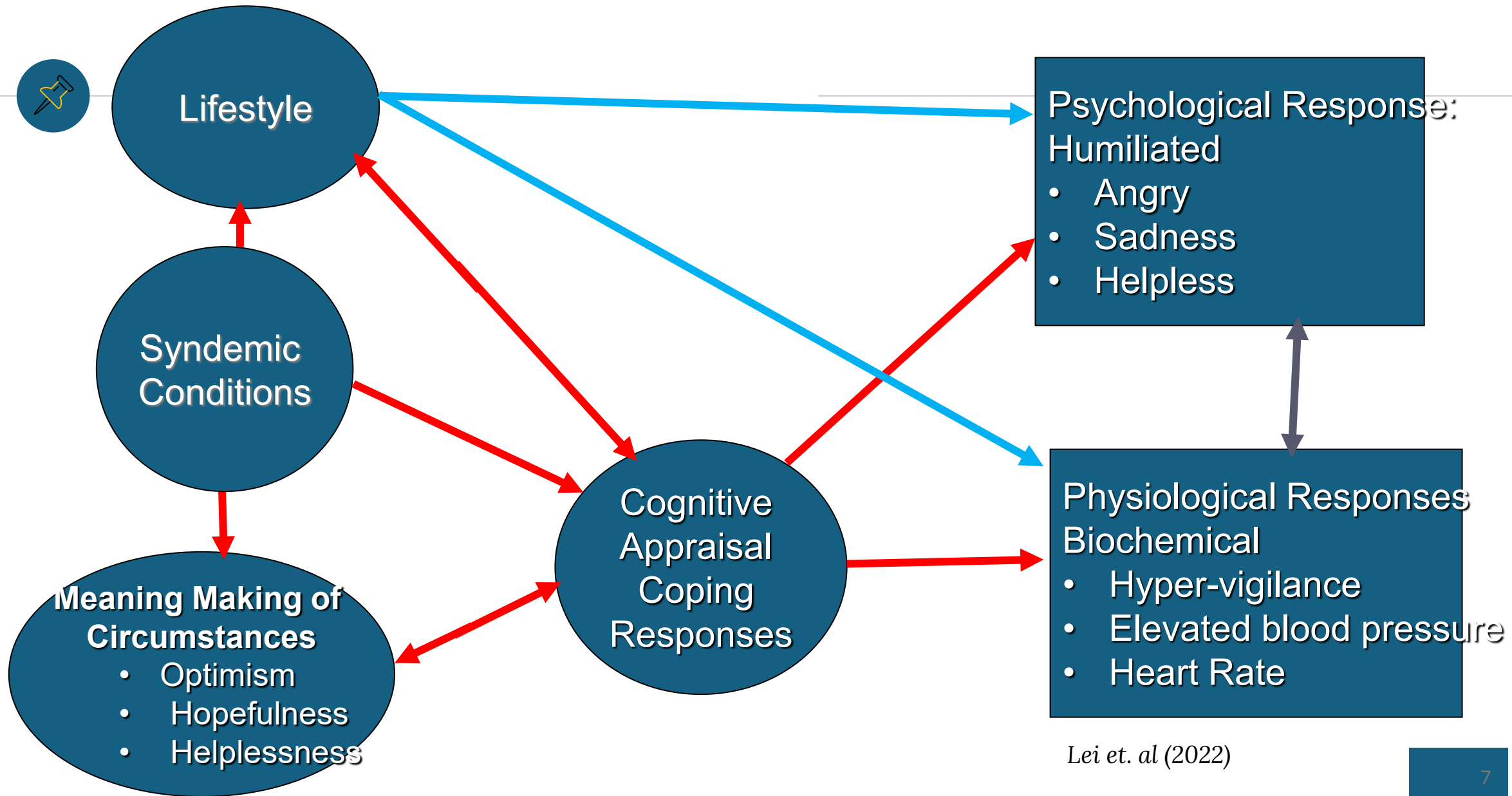
Robust regression models with inverse-probability-of-treatment weighting examining the effects of neighborhood disadvantage on epigenetic aging.

	Young adulthood (N = 448)			Middle age (N = 493)		
	PhenoAgeAccel	GrimAgeAccel	DunedinPoAm	PhenoAgeAccel	GrimAgeAccel	DunedinPoAm
	<i>b</i> /(SE)	<i>b</i> /(SE)	<i>b</i> /(SE)	<i>b</i> /(SE)	<i>b</i> /(SE)	<i>b</i> /(SE)
Neighborhood disadvantage	.490* (.207)	.571** (.159)	.006* (.003)	.677** (.243)	.365* (.178)	.007* (.003)

Lei et. al (2022)

Downstream Explanations





Adverse Childhood Experiences (ACEs)

Preventing early trauma to improve adult health

#vitalsigns
NOV. 2019

Vital^{CDC}signs™

1 in 6

1 in 6 adults experienced four or more types of ACEs.

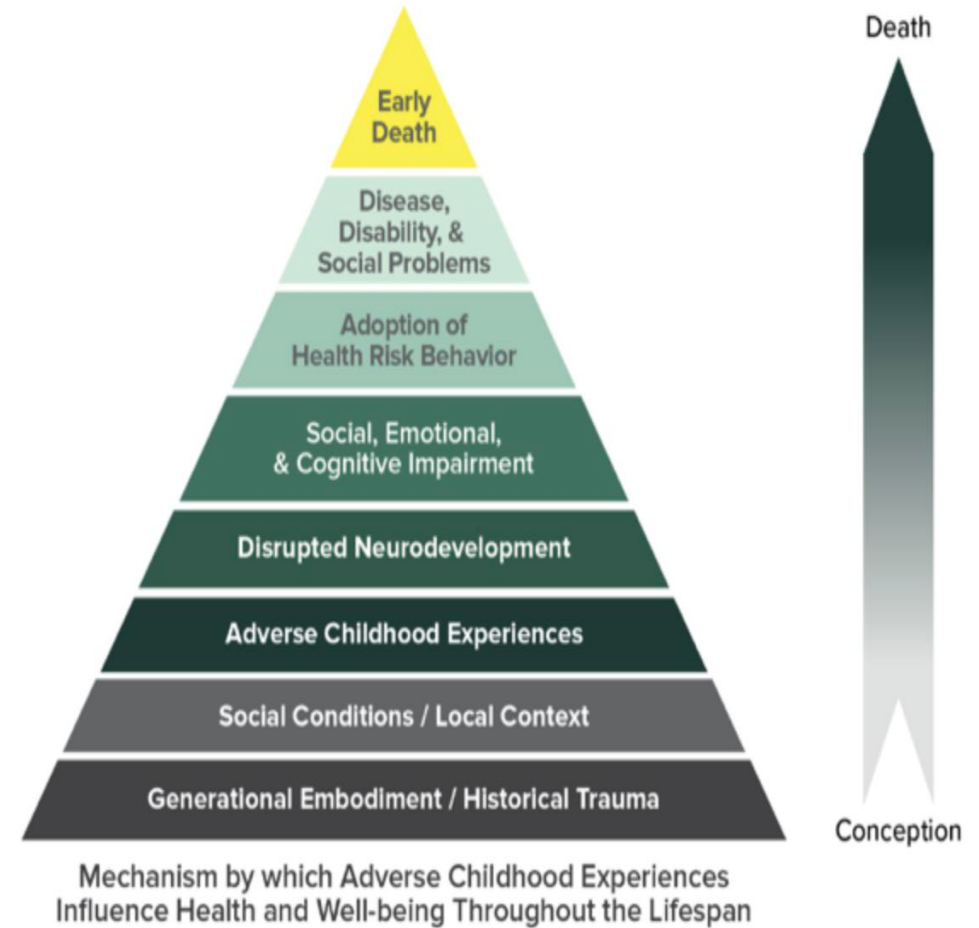
5 of 10

At least 5 of the top 10 leading causes of death are associated with ACEs.

44%

Preventing ACEs could reduce the number of adults with depression by as much as 44%.

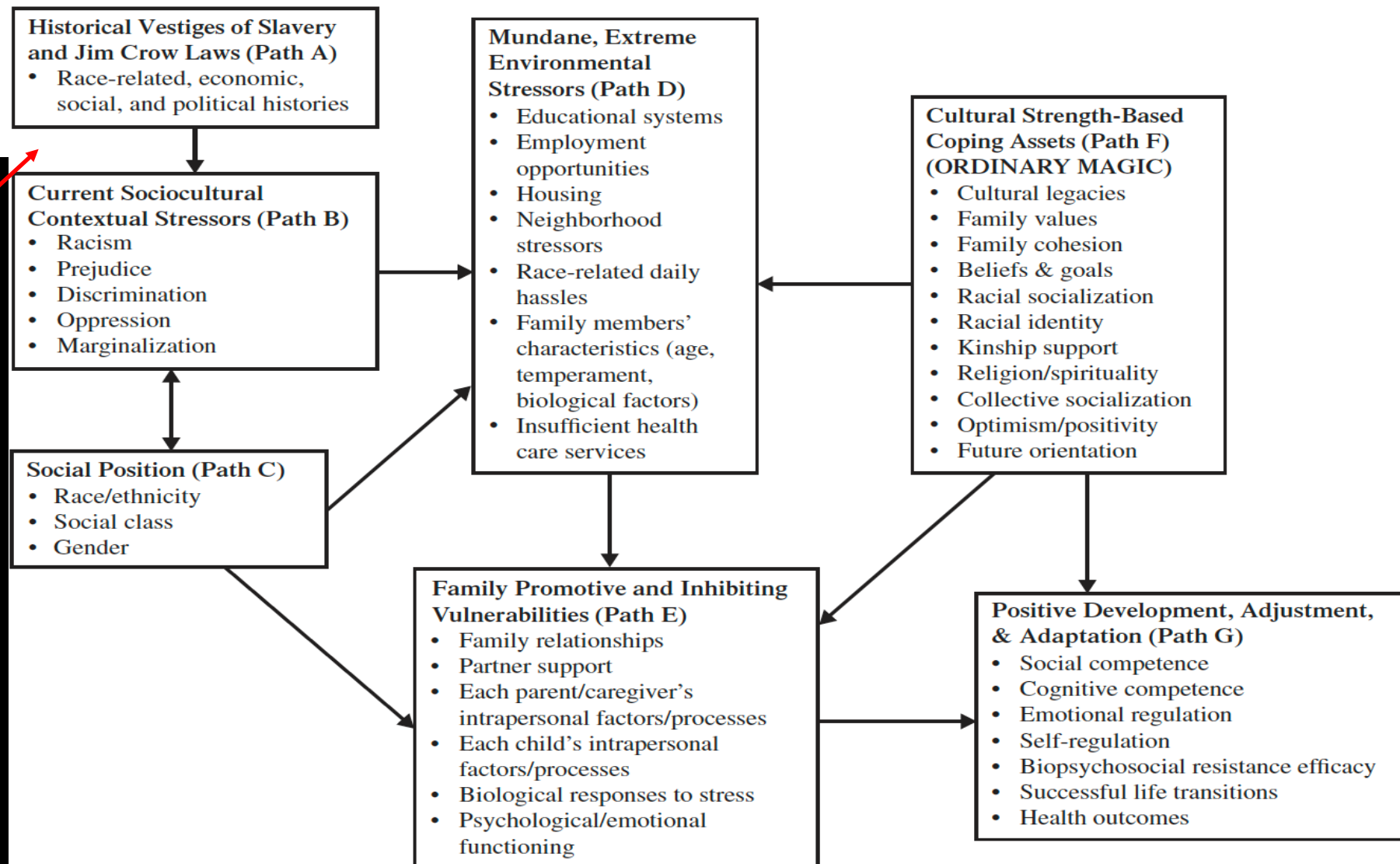
Racism is an adverse experience



Excavating New Constructs for Family Stress
Theories in the Context of Everyday Life
Experiences of Black American Families

Generational
Embodiment of
Historical Trauma

FIGURE 1. INTEGRATIVE MODEL FOR THE STUDY OF STRESS IN BLACK AMERICAN FAMILIES.



Seizing the moments and lessons learned from the global response to COVID-19 pandemic: Creating a platform to shape the scientific and public discourse of research on adolescence

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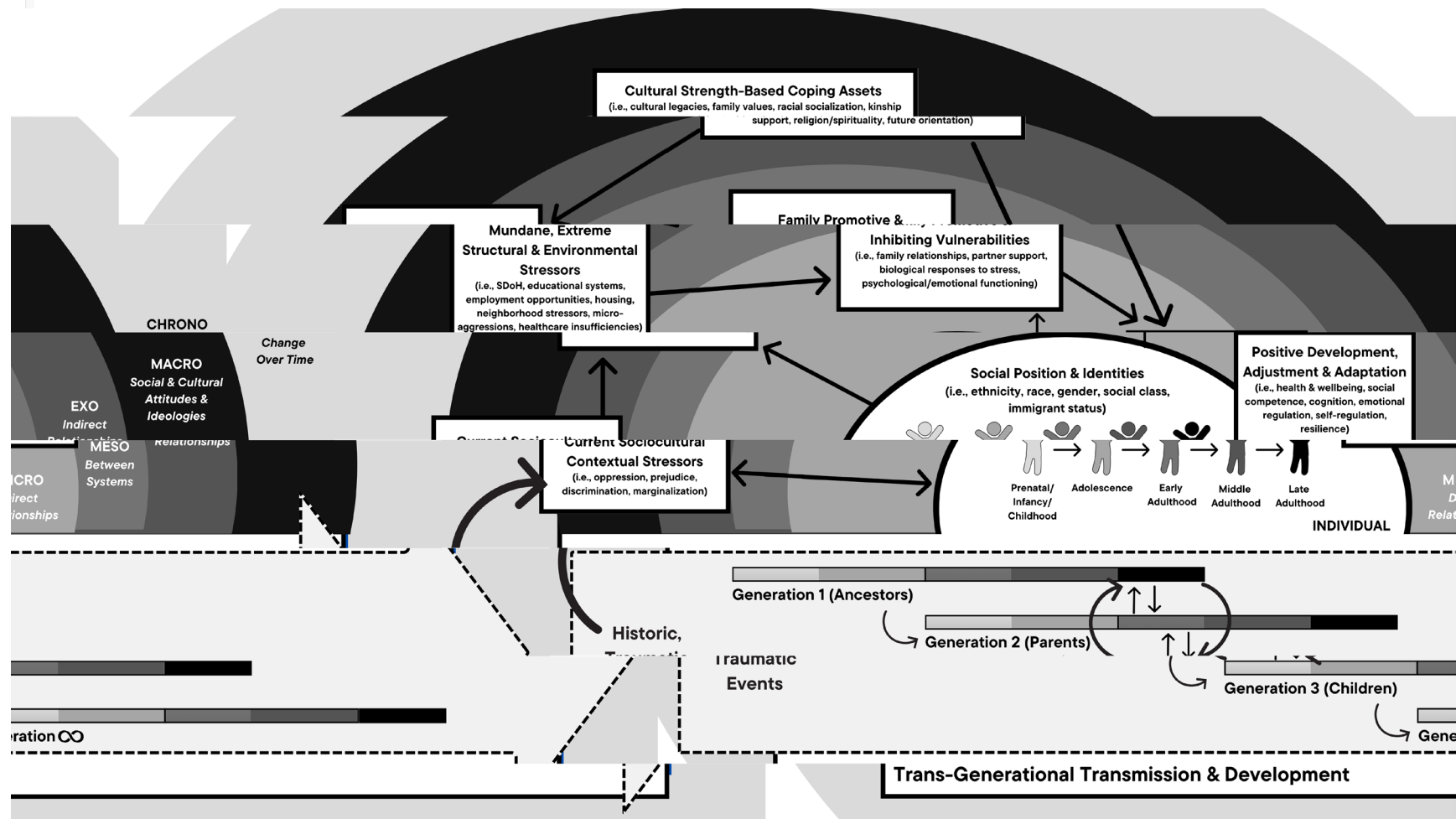
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Abstract

COVID-19 response offers a model to guide research and preventive interventions targeting adolescents, their families, and communities. My 2022 SRA Presidential Address posed: *What if the COVID-19 Response Served as a Guidepost for Future Research on Adolescence? Solution versus Problem-Focused Agenda.* Several “pandemics” were already underway, emerging from historic and contemporary events that threaten the safety and survival of human lives. The Multi-Transgenerational Life Course Theoretical model was selected to demonstrate pathways through which the transmission of generational exposure to crisis and trauma impact adolescents’ developmental trajectories. Recommendations to inform and guide an adolescent research rapid response agenda are proposed minds to advance equity and social justice can become realities.

KEYWORDS

adolescence development, structural stressors, transgenerational life



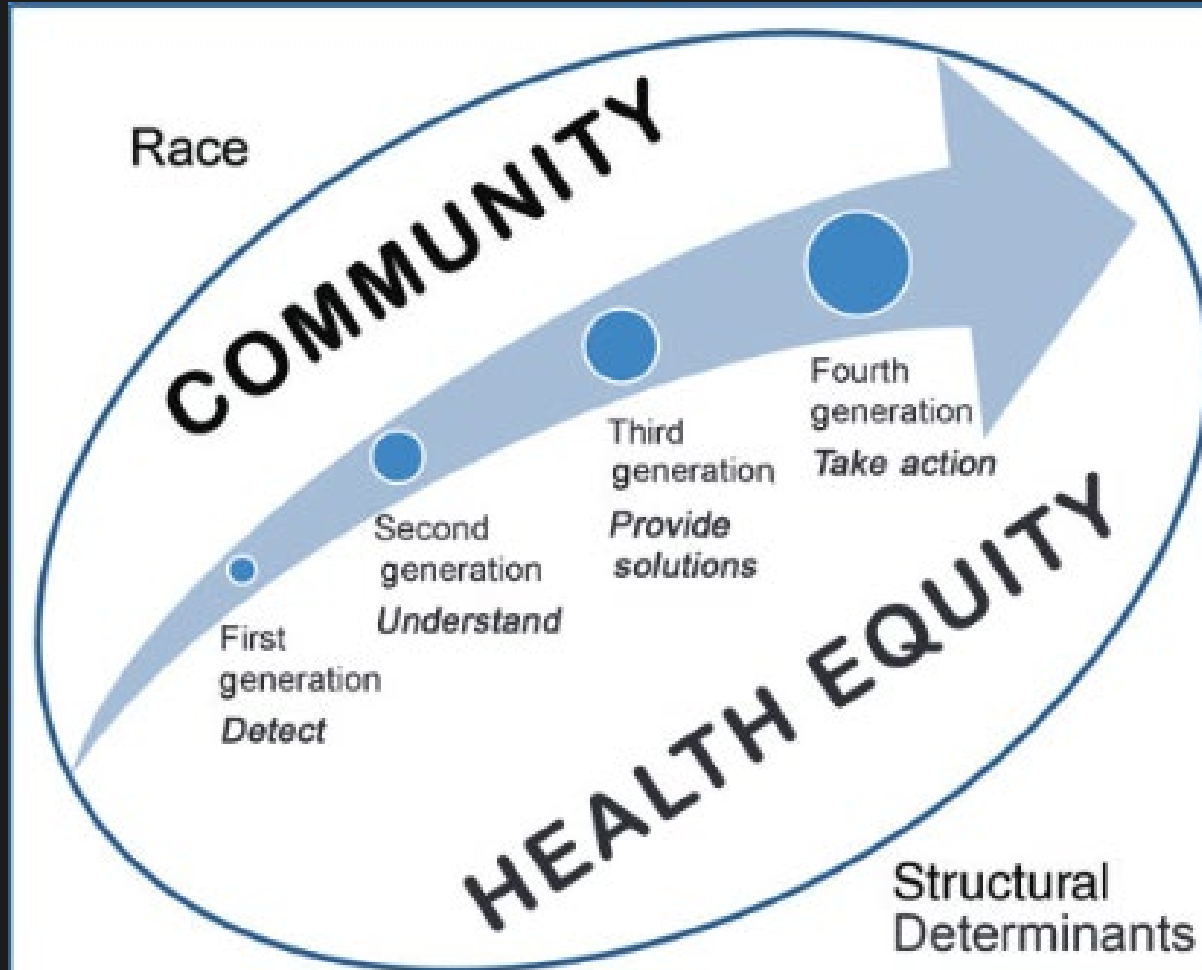
Multi-Transgenerational Life Course Theoretical Framework of Transmission of Historical Trauma and Adaptive Responses, Murry et al., 2025

Mundane Extreme Environmental Stress (SDoH) affects Brain Structure and Function— Allostatic Load Hypothesis

- Activates the sympathetic nervous system (SNS) and the hypothalamic–pituitary–adrenal (HPA) axis
- Elevated activation of these systems/axes has been linked to increased inflammation (Miller et al., 2009)
- Inflammation has been linked to
 - increases in cardiovascular disease
 - autoimmune diseases, including asthma
 - Compromised mental health outcomes, such as depression (Bennett et al., 2019, and increased suicidal vulnerability (Murry et al., under review)
 - Activation calibrating and in hypervigilant state in anticipation of confronting threat to one's safety (Murry et al., 2023)

The background of the slide is a piece of marbled paper. The top portion is a solid, deep teal color. Below this, the marbling features swirling patterns of ochre, mustard yellow, and dark brown. The bottom section of the image shows a more intricate, cracked, and layered pattern in shades of tan and brown, resembling aged parchment or a dry riverbed.

Navigating Toxic Waters



Health equity action research trajectory (Thomas et al 2011)

Phases of Study of Resilience in Research on Black Families

First generation

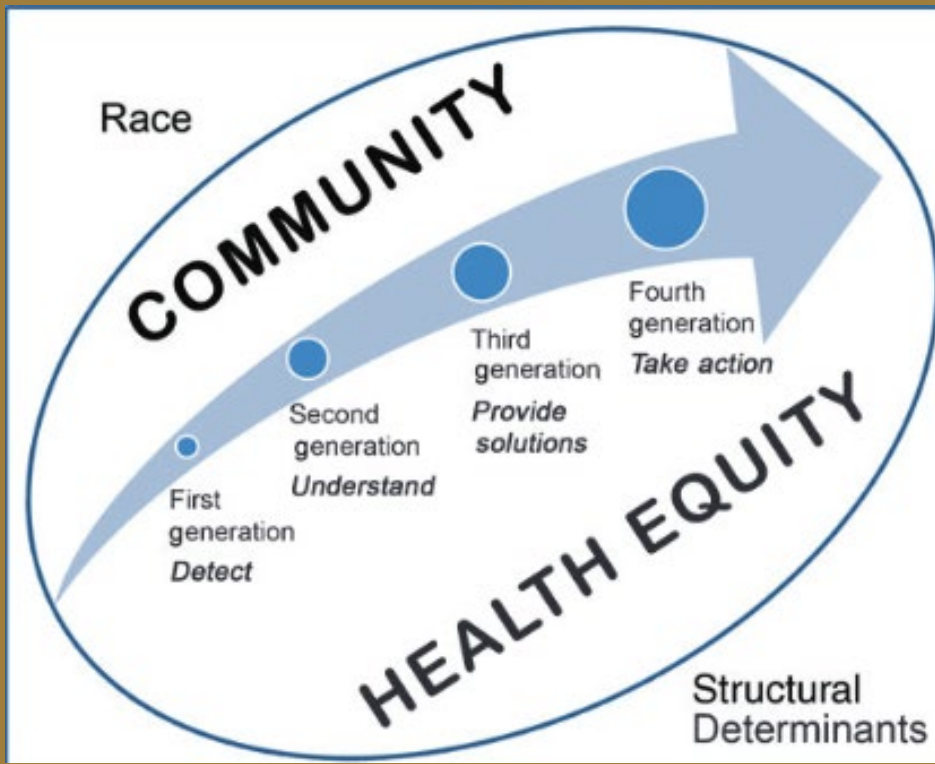
- Explaining and detecting inequities

Second generation

- Exploring reasons for disadvantages in Black families

Third generation:

- Focusing on explaining resilience through strength-based approaches



Health equity action research trajectory (Thomas et al 2011)

Fourth Generation of Resilience Research
Refocus resilience research to include resistance as active, intentional actions to challenge upstream policies and practices that create and sustain adversities, inequities, and disparities.



Critical examination of resilience and resistance in African American families: Adaptive capacities to navigate toxic oppressive upstream waters

Published online by Cambridge University Press: 04 September 2023

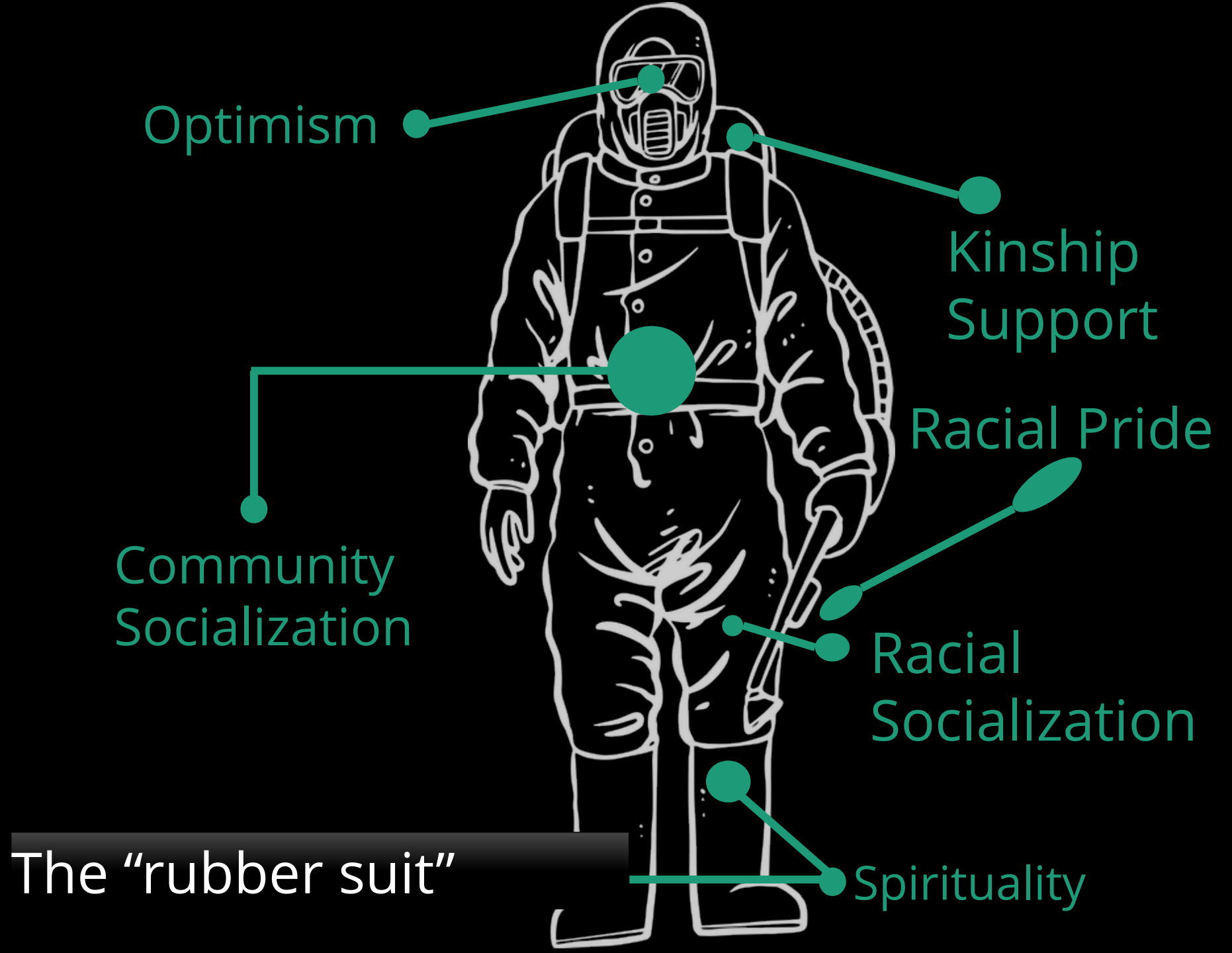
Velma McBride Murry , Juliet M. Nyanamba , Rachel Hanebutt , Marlana Debreau ,
Kelsey A.B. Gastineau , Aijah K.B. Goodwin  and Lipika Narisetti 

[Show author details](#)

HIGHLIGHTS

- Mislabeling resilience when coping are acts of resistance
- Allies (e.g., educators, health care providers, clinicians) can assist with enhancing support to increase capacities for families to navigate adversities, as resilience and resistance promoters

'Ordinary magic' in African American families





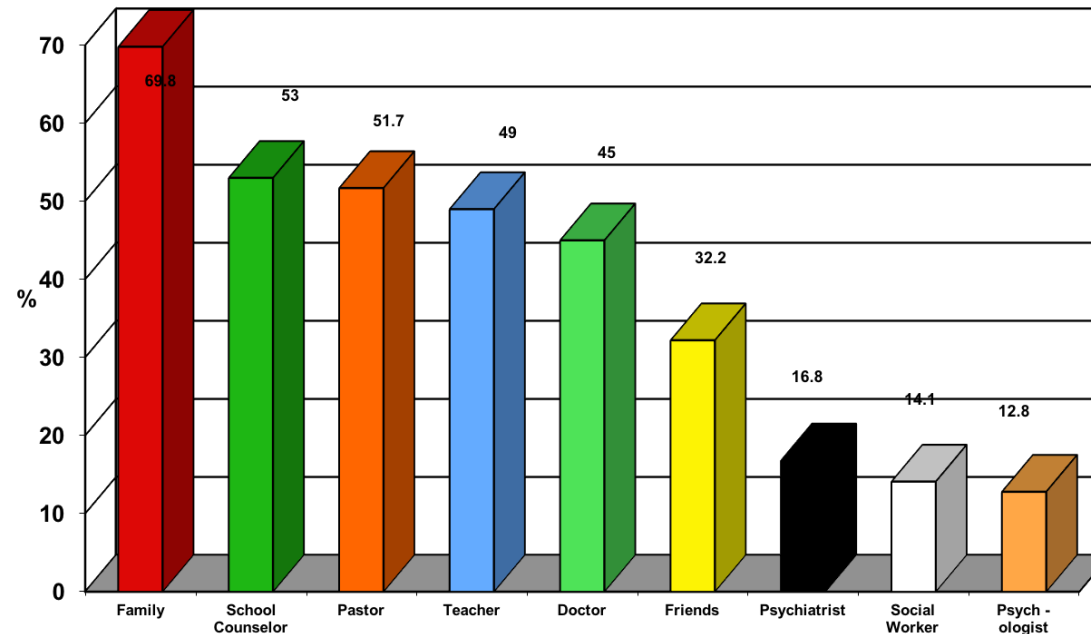
Enhancing Adaptive and Resistant Coping Strategies through Behavioral Health through Family-Based Preventive Interventions

Examining Perceptions About Mental Health Care and Help-Seeking Among Rural African American Families of Adolescents

Murry, Velma McBride; Heflinger, Craig Anne; Suiter, Sarah V; Brody, Gene H. Journal of Youth and Adolescence ; New York Vol. 40, Iss. 9, (Sep 2011): 1118-31.

[ProQuest document link](#)

What are preferred sources of mental health care for your child's behavior and/or emotional problems?



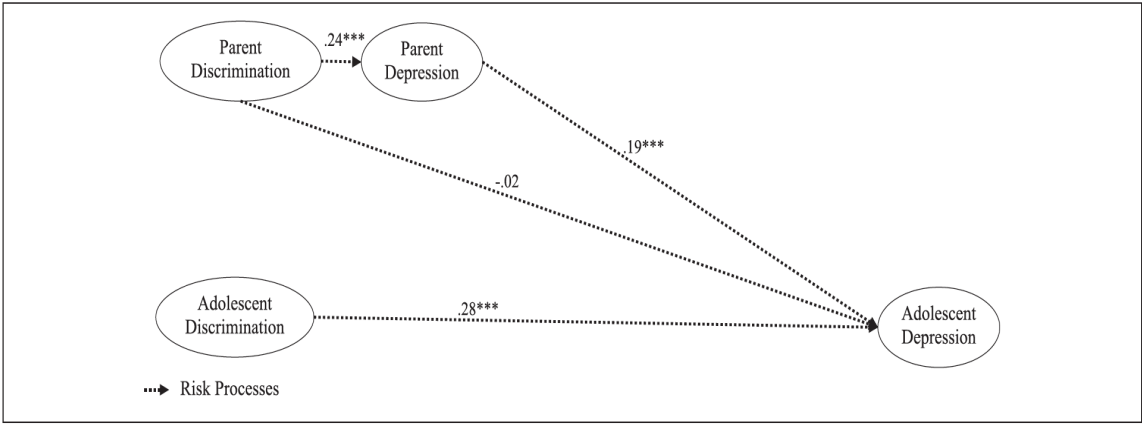
Effects of the Pathways
for African American
Success Program:
Reductions in Adolescent
Depression Through
the Promotion of
Racial Equity-Informed
Parenting and Racial
Pride

Cady Berkel¹, Velma McBride Murry²,
Rachel Hanebutt², Nalani Thomas¹,
Marlena Debreux², and Catherine Gonzalez²

Journal of Prevention and
Health Promotion
1–33
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Figure 2

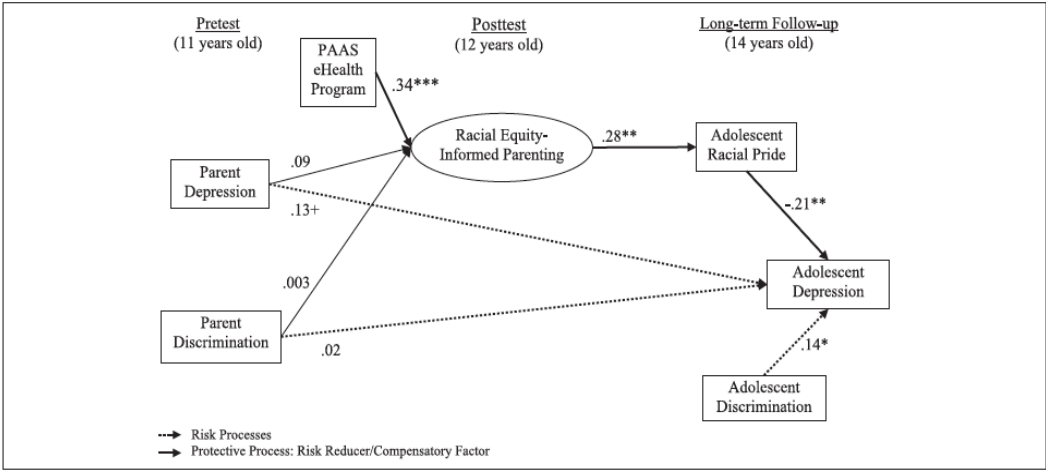
Concurrent Relations Between Discrimination and Adolescent Depression at Pretest



Notes: $X^2(1) = 0.80$; $p = .37$; * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Figure 3

Examination of the Protective Effects of the Pathways for African American Success eHealth Program on Adolescent Depression



Notes: Autoregressive pathways to model change across time for parenting, racial pride, and depression were included in the model, but are excluded from the figure for visual clarity.

Model fit: $X^2(63) = 77.10$, $p = .11$; RMSEA = 0.04 (90% CI = 0.00, 0.06); CFI = 0.93; SRMR = 0.07.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$. + $p \leq .10$.

Indirect intervention effects on racial pride through parenting: $\beta = .097$ (95% CI = 0.006, 0.223).

Indirect intervention effects on adolescent depression through parenting and racial pride: $\beta = -.021$ (95% CI = -0.083, -0.002).

Functional Connectivity During Reward-Seeking in Adolescents Enrolled in a Risk-Reduction Intervention

Marie L. Gillespie, PhD,¹ Akul Sharma, MSc,¹ Theo G.M. van Erp, PhD,¹ Monique Ernst, PhD,²

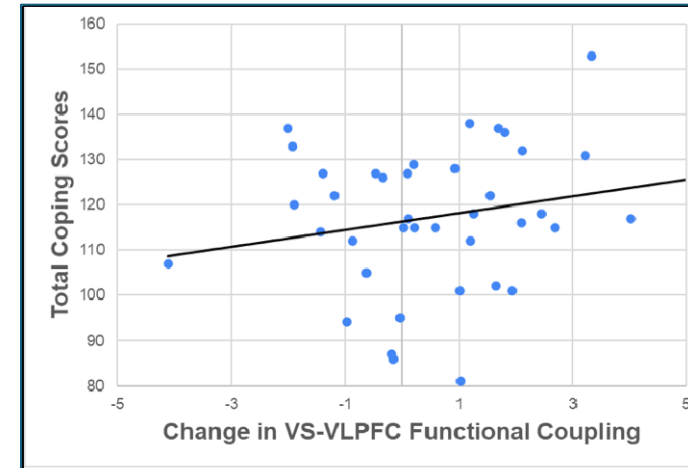
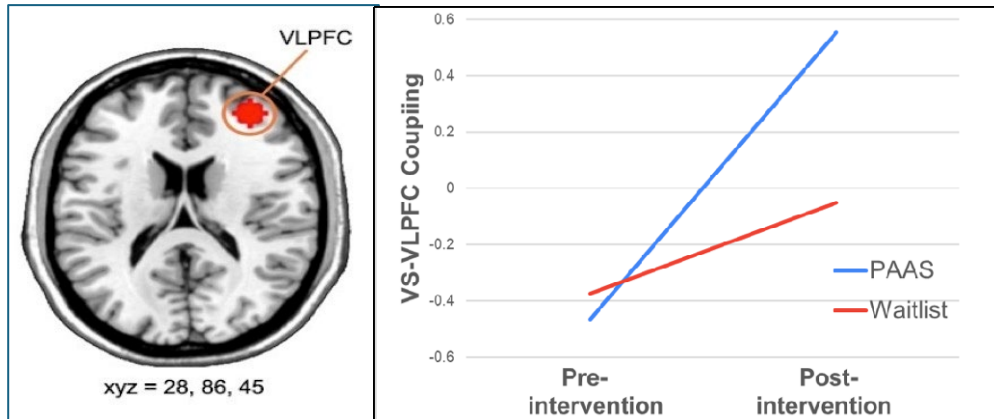
Velma McBride Murry, PhD,³ & Uma Rao, MD^{1,4}

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⁴Children's Hospital of Orange County, Orange, CA

PAAS participants [$t(21)=2.88$, $p \leq .01$], but not Waitlist youth [$t(24)=-0.69$, NS], **exhibited significant increases in functional coupling between the VS and ventrolateral PFC (VLPFC) over time** (Figures 2 and 3).



Increases in VS-VLPFC coupling for the full sample were associated with improved coping skills at follow-up [$B=2.20$, $SE=1.06$, $p \leq .05$] (Figure 4).

These preliminary results suggest that PAAS, a family-based, culturally-salient, life-skills program, may influence stronger functional coupling between reward-seeking and inhibitory control systems.

Take Home Message & Next Steps



- Family-based programs, such as SAAF and PAAS, are also likely beneficial for other groups experiencing mundane extreme environmental stressors
- Few evidence-based preventive interventions have incorporated marginalization or “othering” to prepare families to navigate adversities through the enhancement of resilience and resistance.
- The omission of generational risk and protective processes as malleable targets in preventive intervention may be missed opportunities to leverage nuances of transmittable patterns that have been passed down in families navigate challenging life situations.
- Effective and scalable interventions are needed to protect both parents/caregivers and their children from toxic exposure to interpersonal and systemic emergent stress, including discrimination (Berkel et al., 2024; Murry, 2025).
- Critical steps include targeting refining, adapting, creating, and cultivating upstream targeted preventive interventions
- Focusing on ways to eradicate the need to be resilient or to resist by intervening on system and structural level processes to effectively meet the needs of specific population



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Thank You

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