

Presentation: Duke Roybal Center

Conducting Community Based Research with NFL & D-1 NCAA Athletes to Examine Disparities in Cognitive Aging and mTBI

Robert W. Turner, PhD

Assistant Professor

Department of Clinical Research & Leadership

Department of Neurology

School of Medicine & Health Sciences

rwtturner124@gwu.edu

Black male brain reserve, resilience & Alzheimer's disease: A life course perspective 1R13 AG01313-01 Impact Score:19

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An analysis of psychosocial risk and protective factors: accelerated cognitive aging and mTBI among retired NFL & former NCAA football players NIA 1K01 AG054762-01A1

Former NFL athletes: nearly 20,000
Approximately 1,900 active and inactive
NFL athletes

Former NCAA athletes: approximately 4 million

- Nearly half a million athletes annually
- 24 different sports
- 1,100 colleges and universities
- 893 colleges; five different division levels
(NC = 31 college football teams)
- 73,712 active collegiate football players

NFL Means Not For Long

Mental and physical health issues



“Living like this is embarrassing. I feel like a broken-down old man. Sometimes it hurts going to the bathroom. My girlfriend gotta repeat stuff all the time cause I keep forgetting what she just told me.”

Odessa Turner, 52-year-old former NFL wide receiver recently diagnosed with Alzheimer’s Disease



An analysis of psychosocial risk and protective factors: accelerated cognitive aging and mTBI among retired NFL & former NCAA football players

NIA 1K01 AG054762-01A1

Purpose: 5-yr training plan and research activities designed to increase my expertise on the interrelationship between multiple measures of psychosocial and neurocognitive factors associated with accelerated cognitive aging, mTBI and ADRD.

Question: “What are the long-term neurocognitive and psychosocial implications of Mild Traumatic Brain Injury?”

Mentorship Team:

Dr. Timothy Strauman (lead mentor)

Dr. Keith Whitfield (co-mentor)

Dr. Toni Antonucci (co-mentor)

Dr. Rajenda A. Morey (co-mentor)

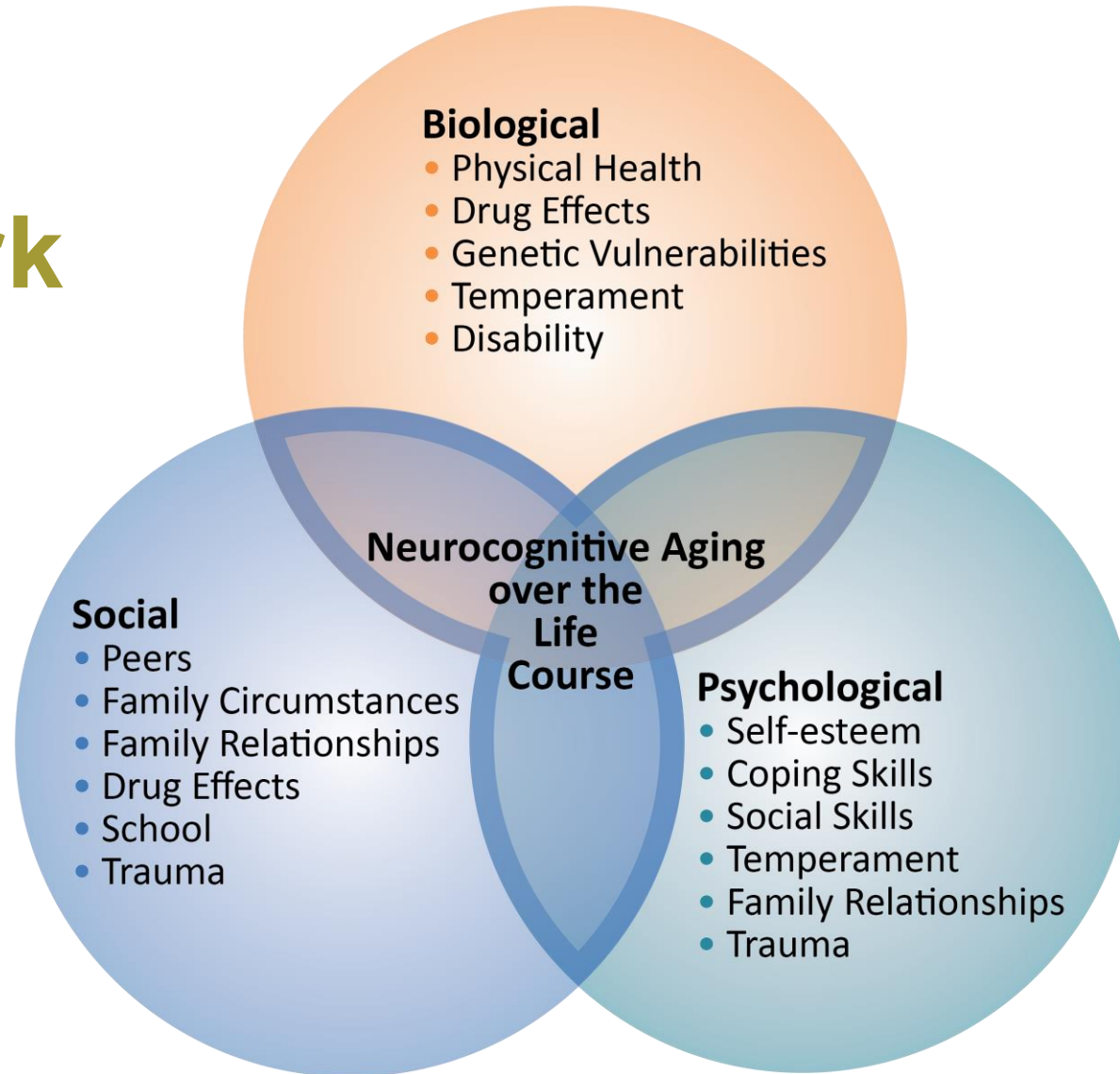
Scientific Advisors:

Dr. James S. Jackson

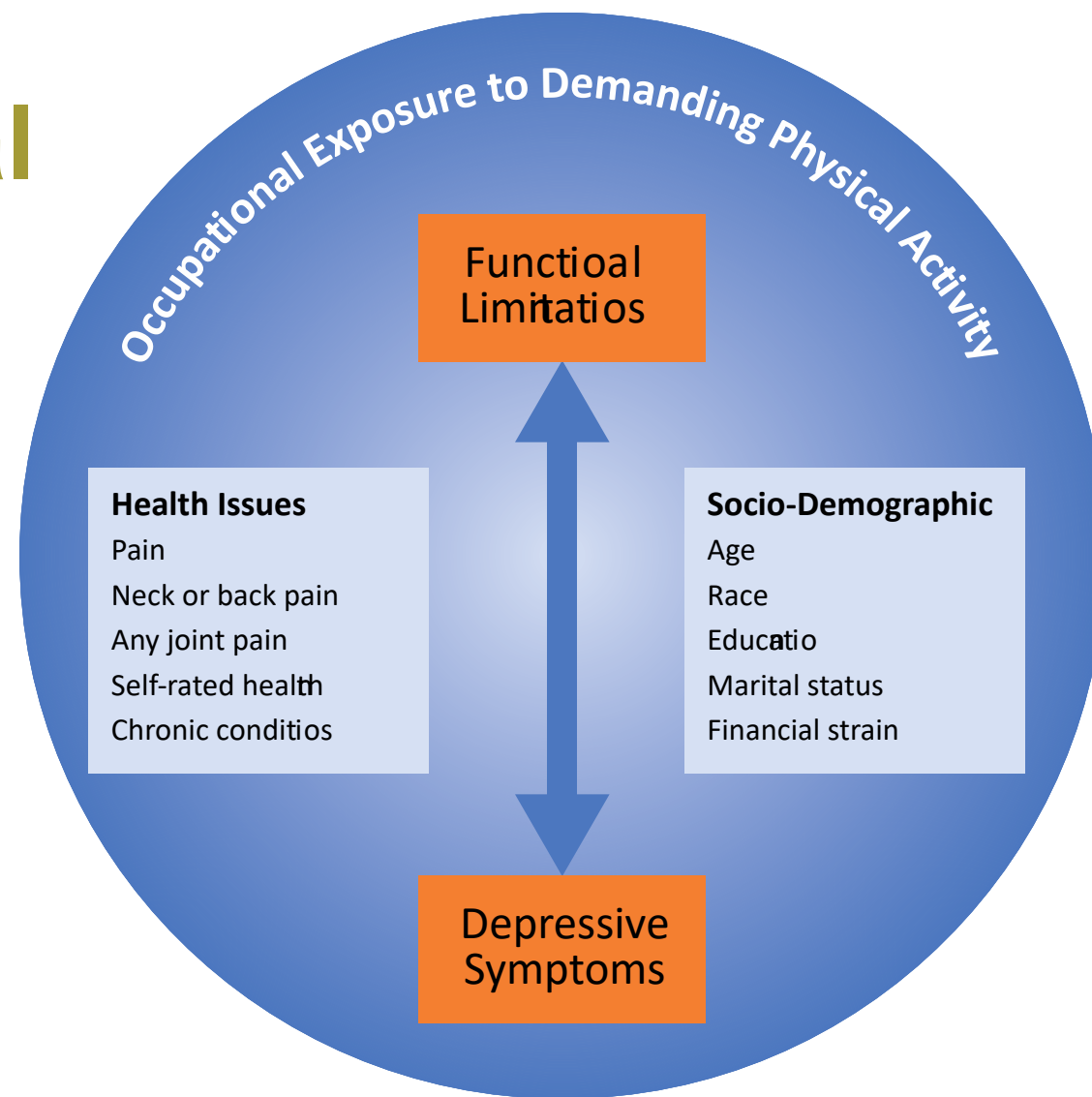
Dr. David Weir

Dr. Steven Heeringa

Research Framework



Conceptual Model



An analysis of psychosocial risk and protective factors: accelerated cognitive aging and mTBI among retired NFL & former NCAA football players

NIA 1K01 AG054762-01A1

Training goals

Improve my knowledge of brain behavior, minority aging, health disparities, and the use of survey methods.

- 1. Core principals of geriatrics:** Developing a foundational knowledge of core principles in geriatrics and brain health research
- 2. Advanced biomedical research training:** GWU Community oriented primary care MPH program
- 3. Structured Tutorial: life course perspectives on health research** with Dr. Toni Antonucci in the Life Course Development lab.
- 4. Methodological training:** focused survey methodological courses at the University of Michigan Summer Institute in Survey Research Techniques
- 5. Focused academic development and cognitive neuroscience training:** *Drs. Strauman & Morey*

An analysis of psychosocial risk and protective factors: accelerated cognitive aging and mTBI among retired NFL & former NCAA football players

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Research Aim 1: Utilize brain Diffusion Tensor Imaging (DTI) of white matter integrity to identify age-related differences in cognition between a control group of adult males (30+ years old) and former collegiate football players and NFL athletes with and without a concussion history.

Secondary Study Objectives

Research Aim 2: Cognitive assessment instruments and measures of psychosocial stress will be used to identify differences in cognitive performance between a control group of socio-demographically matched men (30+ years old) without a history of contact sport participation, as compared with former collegiate football players and former NFL athletes with and without a concussion history.

Research Aim 3: Investigate if psychological stress –both perceived stress and chronicity of stress –is significantly associated with shorter telomere length, and if there are differences in cognitive aging between a control group of older non-contact sport participants and older former NFL athletes with and without a concussion history.

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Methods:

Subjects participating in this study will undergo:

1. Focus group study
2. Questionnaires about their medical and mental health history as well as their football career and head injury experiences
3. Neurocognitive testing battery
4. Functional and structural MR neuroimaging
5. Blood serum and urine collection

Inclusion Criteria:

Inclusion criteria for all procedures:

- Adult males age 30 and older
- Capacity to consent to participation - Fluent in English Resident of USA
- Former NFL and NCAA D-I football players (2/3rds of the participants)
- Socio-demo group of men that played NCAA D-I non-contact sports (1/3rd of the participants)

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Exclusion Criteria:

Exclusion of participants with dementia or severe memory difficulties:

- Severe memory difficulties or diagnosis of dementia will be excluded
- History of a learning disability or developmental delay
- Free of implanted metal objects (including free of metal shard in eyes if previously worked with metal)
- Claustrophobia
- History of neurological injury or disease (severe head trauma, seizures, strokes, prior neurosurgery, or currently under the care of a neurologist or neurosurgeon)
- Lesions on conventional MRI - Substance abuse dependence (except for nicotine)
- Axis I psychiatric disorders (except PTSD, Generalized Anxiety Disorder, Panic Disorder, Agoraphobia, Other specific phobias, Anxiety not otherwise specified, and Depression)
- Actively taking psychotropic medication



ATTENTION FORMER D-1 COLLEGE ATHLETES

Your brain health is important to loved ones who depend on you



Who: Former D-1 college athletes age 30+
What: Cognitive testing, bio sampling, MRI scan
When: Contact to schedule an appointment
Where: Duke University Health

Register now:

www.brainhealthstudy.com/join-us

Participants are compensated \$125

Principal Investigator: Robert W. Turner, PhD, Former Professional Football Player



This study is not funded by any league or player/former player organization

Get Connected

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ATTENTION FORMER D-1 COLLEGE FOOTBALL PLAYERS

We are recruiting volunteers for our research study.
Your unique profile and life experiences will help researchers uncover important factors that affect brain health and wellness.

You may be eligible to participate if you:

- Are an adult male at least 30 years of age
- Are a former Division-1 football player who did not go on to play professionally
- Are able to participate in health questionnaires, cognitive assessments, focus groups, and in-depth interviews

Visit our website:

www.brainhealthstudy.com
for more information and registration



SCAN ME

Principal Investigator: Robert W. Turner, PhD, Former Professional Football Player



This study is not funded by any league or player/former player organization

Get Connected

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ATTENTION FORMER PROFESSIONAL FOOTBALL PLAYERS

We are recruiting former athletes to learn more about your overall health and well-being. This is the only study designed by a former professional football player specifically for former NFL Athletes.

Select NFLAA members have the opportunity to:

- Earn undergrad & grad degree at GW tuition-free
- Co-author articles for scientific journals
- Work as paid & unpaid interns
- Work as a paid research assistant

What: Ongoing brain health & aging study

When: Focus groups **June 3** from **12-2PM** or **6-8PM EST**

Where: Online via video conference

Visit our website:

www.brainhealthstudy.com/former-nfl
for more information and registration



SCAN ME

Principal Investigator: Robert W. Turner, PhD, Former Professional Football Player



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Sponsored & Funded by the National Institute on Aging

HOW DOES SPORT PARTICIPATION INFLUENCE BRAIN HEALTH?

Are you a former NFL or NCAA athlete? Your unique profile and life experiences will help researchers uncover the important factors that influence brain health & wellness.

[LEARN MORE >>](#)

Good afternoon,

Thank you again for participating in the RW Turner Lab's Athlete Brain Health and Aging Study. In hopes of keeping an open line of communication, we're excited to share our first newsletter with information and updates on our study, as well as a preliminary summary of findings from our focus groups.

Study Information and Updates

The Athlete Brain Health and Aging Study currently has **196** athletes enrolled in our study from all around the United States. Of those athletes:

- **104** former professional football players,
- **26** former college D-1 football players, and
- **18** former non-contact D-1 athletes



have completed our virtual health surveys. Our virtual health surveys are still ongoing, and we are eager to announce that we will soon begin virtual cognitive assessments, as well as in-person testing at Duke University.

In-person testing will include:



Cognitive assessment/questionnaire



Blood/urine sample collection



MRI scan

Further information on our virtual cognitive assessments and in-person tests will be sent in separate emails to all of our participants. If you are currently in North Carolina or the East Coast, and are interested in travelling to Duke University for our in-person tests, we encourage you to email at rwtturnerlab@gwu.edu.

Our team has also been analyzing the qualitative data from our focus groups that were completed by a subset of our participants this past summer. We sincerely thank all of our focus group participants for sharing valuable insights and experiences on their

Black Male Brain Reserve, Resilience & Alzheimer's Disease: Life Course Perspective

1R13 AG01313-01 Impact Score:19

R13 Scientific conference grant

Co-Ps: Robert W. Turner, II, PhD; Monica Rivera-Mindt, PhD; Carl V. Hill, PhD

Purpose: Increase the representation of Black males in cognitive aging research and better integrate their unique biopsychosociocultural risk and resilience factors into models of brain health, cognitive aging and ADRD across the life course

Aim 1: Host 3 multidisciplinary conferences that address knowledge gaps, and identify future priorities in cognitive reserve, resilience, aging, and ADRD health disparities life course research among Black males

Aim 2: Cultivate a culturally competent workforce that can advance the science and practice of lifespan brain health optimization for Black males to stimulate new life course research focused on brain health, cognitive aging, and ADRD among black males

Aim 3: Build a multisite research volunteer registry of black males

Black Male Brain Reserve, Resilience & Alzheimer's Disease: Life Course Perspective

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The underrepresentation of Black males in research has been identified as an urgent priority for investigators committed to advancing aging science, which we will address with concentrated efforts that respond to the following needs:

- 1) Improved recruitment and retention strategies
- 2) Enhancement of the NIA Health Disparities Research Framework (HDRF) with the inclusion of empirically-based factors that are responsive to the Black male experience, and
- 3) Cultivation of a culturally competent workforce that can advance the science and practice of lifespan brain health optimization for Black males.

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Lifecourse Perspectives for Understanding the Health of Black Men and NFL Athletes from Historically Black Colleges and Universities

A discussion on aging, depression, and other mental health factors that contribute to Black male health disparities

Morehouse College - Leadership Center
(Bank of America Auditorium)
830 Westview Dr. SW, Atlanta Georgia 30314
Friday, February 1, 2019 | 1:00 p.m. – 2:30 p.m.
FREE AND OPEN TO THE PUBLIC!

Featuring the Ballers:

Isaac Keys (Morehouse College - Arizona Cardinals)
Anthony Mitchell (Tuskegee University - Super Bowl champion with the Baltimore Ravens)
Tyrone Poole (Fort Valley State - two-time Super Bowl champion with the New England Patriots)
Maurice "Mo" Tyler (Morgan State University - Buffalo Bills, Denver Broncos, and San Diego Chargers)

Featuring the Academic:

Dr. Robert Turner II, former professional football player and assistant professor of clinical research and leadership at The George Washington University, School of Medicine and Health Sciences. Dr. Turner is the author of *Not For Long: The Life and Career of the NFL Athlete* (Oxford Press) and contributor on the LeBron James HBO documentary "Student Athlete."

Come learn, share, and discuss health after football!

Special thanks to Ron Rice (NFL Alumni Association), The Centers for Disease Control, and Morehouse College – Public Health Sciences Institutes!

NOSHORTCUTS

The Game Must Go On: Playing Football at All Costs

Wednesday, September 23 | 5:30 p.m. EST

Dr. Robert Turner II

Author, "Not For Long: The Life and Career of the NFL Athlete"



Dr. Carl Hill

VP of Scientific Engagement, Alzheimer's Association



Rodney Peete

USC & NFL Football Alum, TV & Radio Personality



Shaun Draughn

UNC & NFL Football Alumnus



Register on the CSBA contact page for the link and future announcements!
www.theCSBA.com/virtual-offerings



THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON, DC

Black Male Brain Reserve, Resilience & Alzheimer's Disease: Life Course Perspective

1R13 AG01313-01 Impact Score:19

Program Overview:

Based on the draw of interaction opportunities with NFL players, we anticipate very high interest levels in the proposed conferences. Each conference will include approximately 140 participants at the science-focused events (SFEs) and 250 participants at the two outreach events: *The Gala Dinner and Town Hall*. The SFEs will include two days of formal scientific programming, community engagement, research registry enrollment, and informal networking opportunities.

One quarter of the SFEs enrollment slots will be reserved for local and national community based organizations (CBOs). The conference will also foster multidisciplinary collaborative partnerships and cultivate a research workforce by providing networking sessions among emerging and established HDRF investigators, and our partners through small group mentoring and research break-out sessions.

Research ethics will be infused into every conference to address the extensive history of racialized medical research abuse with Black males, and to provide attendees with knowledge of current ethical protections and ways to critically evaluate informed consents.

Black Male Brain Reserve, Resilience & Alzheimer's Disease: Life Course Perspective

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Key features of proposed series

- ◇ Agendas that cover the NIA HDRF, by probing the biopsychosociocultural risk & resilience factors unique to Black male brain health, cognitive aging & ADRD across the life course
- ◇ Fellowships for 10 early/mid-career HDRF emerging scientist to generate original research, publish manuscripts and receive external grant funding - *Research Affinity Pod* (Rap)
- ◇ Career development, mentorship, and training for early/mid-career HDRF scientists & students of NIH-Research Centers in Minority Institutes (RCMI) that ensures a team-science approach to translational biomedical research
- ◇ Recruit 300 Black males to register in Multisite Research Volunteer Registry
- ◇ Dissemination of information in scientific manuscripts, NIA and foundation grant applications, national scientific meetings local, regional, local and regional AA & NFLA events

Partners

Institutional

- National Institute of Aging
- Alzheimer's Association

Athletic:

- NFL Alumni Association

Academic:

- USF Vinik Sport & Ent. Mgmt. program; Dept of Sociology
- USC Edward R. Roybal Inst. on Aging
- ASU Global Sport Institute

Community:

- Men's Health Network
- Florida Department of Health, Pinellas County