Highlighted Manuscripts for Robert W. Turner II, PhD

1. Power MC, Bennett EE, **Turner II RW**, Dowling NM, Ciarleglio A, Glymour MM, Gianattasio KZ. Trends in Relative Incidence and Prevalence of Dementia Across Non-Hispanic Black and White Individuals in the United States, 2000-2016. JAMA Neurol. 2021 Mar 1;78(3):275-284. doi: 10.1001/jamaneurol.2020.4471. PMID: 33252617; PMCID: PMC7953306.

   Abstract: Dementia risk is higher among non-Hispanic Black Americans compared to non-Hispanic White Americans, but it is unclear whether these disparities have changed over time. This study examines trends in racial disparities in dementia prevalence and incidence in the United States from 2000 to 2016 using nationally representative data from the Health and Retirement Study (HRS). Participants included non-Hispanic White and non-Hispanic Black individuals aged 70 and older. Dementia prevalence was analyzed separately for each HRS wave, while dementia incidence was assessed across seven sub-cohorts spanning 2000–2016, following individuals without dementia at baseline for four years. Dementia status was determined using three validated algorithms designed to ensure comparable accuracy across racial groups. Results indicated that overall dementia prevalence declined from 2000 to 2016, whereas dementia incidence remained stable. However, racial disparities in dementia persisted, with non-Hispanic Black Americans experiencing approximately twice the dementia prevalence and 50–60% greater incidence compared to non-Hispanic White Americans throughout the study period. There was no evidence of a reduction in these disparities over time. Despite an overall decline in dementia prevalence, racial differences in dementia risk remained unchanged, underscoring the need for continued efforts to address the factors contributing to these disparities. Additional efforts to identify and mitigate the source of these disparities are warranted.

2. Adkins-Jackson PB, George KM, Besser LM, Hyun J, Lamar M, Hill-Jarrett TG, Bubu OM, Flatt JD, Heyn PC, Cicero EC, Zarina Kraal A, Pushpalata Zanwar P, Peterson R, Kim B, **Turner II RW**, Viswanathan J, Kulick ER, Zuelsdorff M, Stites SD, Arce Rentería M, Tsoy E, Seblova D, Ng TKS, Manly JJ, Babulal G. The structural and social determinants of Alzheimer's disease related dementias. Alzheimers Dement. 2023 Jul;19(7):3171-3185. doi: 10.1002/alz.13027. Epub 2023 Apr 19. PMID: 37074203; PMCID: PMC10599200.

   Abstract: Addressing disparities in AD/ADRD requires recognizing and tackling the macrosystem forces that shape the structural and social determinants of health. By applying Bronfenbrenner's Ecological Systems Theory, this review highlights how power structures—including racism, classism, sexism, and homophobia—operate at the macrosystem level to influence risk and outcomes. While existing quantitative and qualitative research underscores these systemic drivers, significant gaps remain in our understanding of how they intersect and compound. Moving forward, studies must integrate a macrosystem perspective to better capture the root causes of health inequities. Such an approach can guide the development of targeted interventions, inform policy reforms, and ultimately reduce the growing burden of AD/ADRD across diverse communities.

3. Clark E, Faruque S, Mutebi C, Nagirimadugu NV, Kim A, Mahendran M, Sullo E, Morey R, **Turner II RW**. Investigating the relationship between mild traumatic brain injury and Alzheimer's disease and related dementias: a systematic review. J Neurol. 2022 Sep;269(9):4635–4645. doi:10.1007/s00415-022-11186-9. PMID: 35648232.

   Abstract: The objective of this systematic review is to synthesize the relevant literature published after 2016 to ascertain the current landscape of science that relates mild traumatic brain injury

(mTBI) to the onset of Alzheimer's disease and related dementias (ADRD) and identify areas of need for future research. We conducted database searches and retrieved articles published after 2016 that utilized cognitive assessments to understand the relationship between mTBI and ADRD. We identified eight relevant articles in the review process, four of which presented a significant relationship between mTBI and disease or cognitive impairment outcomes. The studies included in this systematic review underscore the need for future research investigating a possible causal relationship between mTBI and ADRDs, given the high prevalence of mTBI among brain injury patients and the lack of literature specifically addressing this issue. Future research should standardize the definitions of mTBI, AD, and ADRDs to create reliable and reproducible results that more comprehensively capture the nuances of this relationship.

4. Zuelsdorff M, Sonnega A, Barnes LL, Byrd DR, Rose DK, Cox R, Norton D, **Turner II RW**. Childhood and Adulthood Trauma Associate With Cognitive Aging Among Black and White Older Adults. The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry. 2024 Mar;32(3):373–385. doi:10.1016/j.jagp.2023.09.015. PMID: 38288940. PMCID: PMC10922107.

   Abstract: This study examines the associations between lifetime exposure to traumatic events and cognitive aging among older Black and White adults using data from the Health and Retirement Study. A total of 13,952 participants aged 55 and older provided information on both childhood and adulthood trauma along with repeated cognitive assessments using the Telephone Interview for Cognitive Status over multiple waves between 2006/08 and 2014/16. Trauma was quantified as event counts for each life period, and linear regression models—incorporating both main and nonlinear effects—were used to evaluate relationships with baseline cognitive performance and subsequent trajectories. Although Black participants reported marginally lower adulthood trauma exposure compared with their White counterparts, greater childhood trauma in White participants predicted poorer baseline cognition but a paradoxically slower rate of decline over time. In contrast, adulthood trauma was robustly associated with lower baseline cognitive scores across both groups, following a nonlinear pattern whereby minimal but nonzero trauma was linked to the highest cognitive performance and greater trauma exposure corresponded with markedly poorer cognition. Notably, the association between adulthood trauma and cognitive trajectory was predominantly observed in the White sample. These findings suggest that adverse life events—particularly those experienced in adulthood—may have lasting negative impacts on late-life cognitive health, underscoring the need for clinical interventions and community-specific resources aimed at mitigating the cognitive risks associated with traumatic exposures.

5. **Turner II RW**, Sonnega A, Cupery T, Chodosh J, Whitfield KE, Weir D, Jackson JS. Functional Limitations Mediate the Relationship Between Pain and Depressive Symptoms in Former NFL Athletes. American journal of men's health. 2019 Sep;13(5):1557988319876825. doi:10.1177/1557988319876825. PMID: 31522600. PMCID: PMC6935765.

   Abstract: The objective of this study was to analyze data from the National Football League Player Care Foundation Study of Retired NFL Players to understand the potential risks for depressive symptoms in former athletes. This was achieved by investigating the relationship between pain and depressive symptoms in a multivariate context while also exploring the possible connection with functional limitations. Descriptive statistics were used to characterize the study sample and to perform bivariate comparisons by race and age cohort. Linear regression models were applied to the subsample of respondents reporting depressive symptoms using the PHQ-9. These models examined the relationship between bodily pain, injury as a reason for retirement or not re-signing

with a team, length of NFL career, sociodemographic characteristics, chronic conditions, and functional limitations in relation to depression. Interaction terms were tested to determine whether race and age moderated the influence of bodily pain and functional limitations on depressive symptoms. Bivariate associations revealed no significant differences between younger and older former players regarding pain indicators, with only slightly higher functional limitations observed among younger former players. In the multivariate models, pain was significantly associated with depressive symptoms ($\beta = 0.36$; $p < .01$), even after controlling for various relevant factors. Adding an index of functional limitations nearly halved this association ($\beta = 0.20$; $p < .01$), and functional limitations were significantly associated with depressive symptoms ($\beta = 0.40$; $p < .01$). No statistically significant interactions were identified. Overall, bodily pain was strongly associated with depressive symptoms. This association was notably diminished after accounting for the effects of functional limitations. These results may help identify aging-related physical declines in relatively younger adult men who could be at the highest risk for depression. They emphasize how physical functionality and activity may mitigate the risk of depression, even in the presence of significant bodily pain.