

THE RELATIONSHIP OF MILITARY SERVICE & ADVERSE CHILDHOOD EXPERIENCES TO DIABETES IN AFRICAN AMERICAN ADULTS

Jana Wardian, PhD, ¹Diabetes Center of Excellence, San Antonio, TX, USA.
Emily Stone, PhD ²Defense Health Agency, San Antonio, TX, USA. Anaam Mohammed, MPH¹

Correspondence: jwardian@asu.edu



The views expressed are those of the authors and do not reflect the official views or policy of the Department of Defense or its Components



BACKGROUND



Compared to whites (7.1%), African Americans (18.7%) are disproportionately affected by diabetes.

Chatterjee et al., 2015;
Chow et al., 2012



Adverse Childhood Experiences (ACE) measure household dysfunction, neglect, physical, and sexual abuse during childhood

ACE are associated with increased risk for poor health outcomes including diabetes

Felitti et al., 1998; Koss & Marks, 1998;
Hughes et al., 2017; Huffhines, et al.,
2016

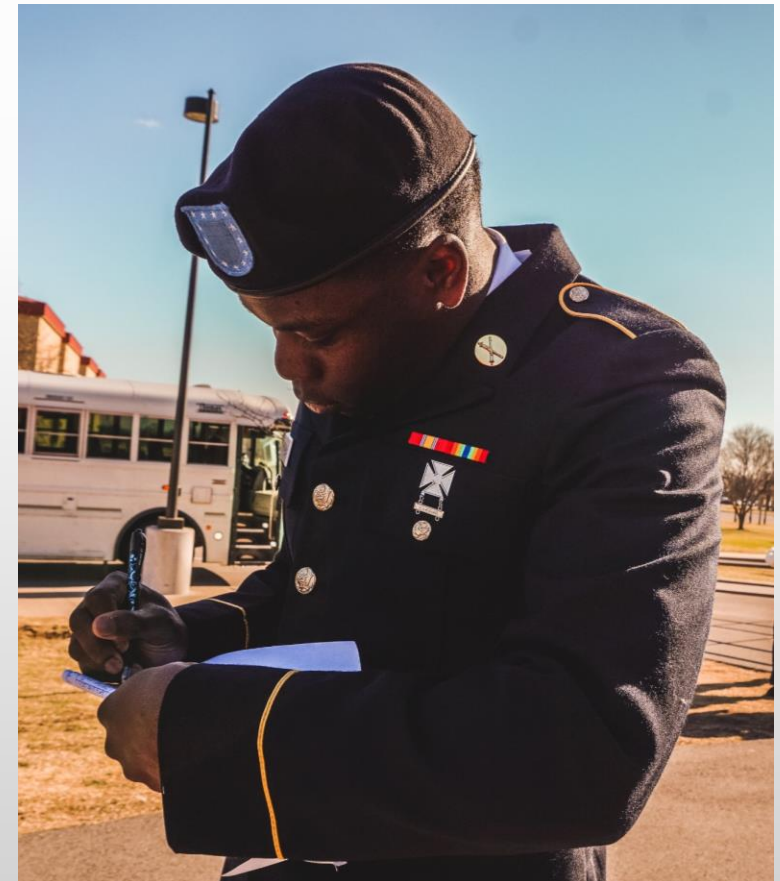


Military service may serve as a route to escape dysfunctional home environments

Blosnich, 2014; Ginexi et al.,
1994; Woodruff et al., 2006;
Young, et al., 2020

RESEARCH QUESTION

Are African Americans with a history of military service and high ACE less likely to have been diagnosed with diabetes than civilians with no military service?



METHODS

Study Design

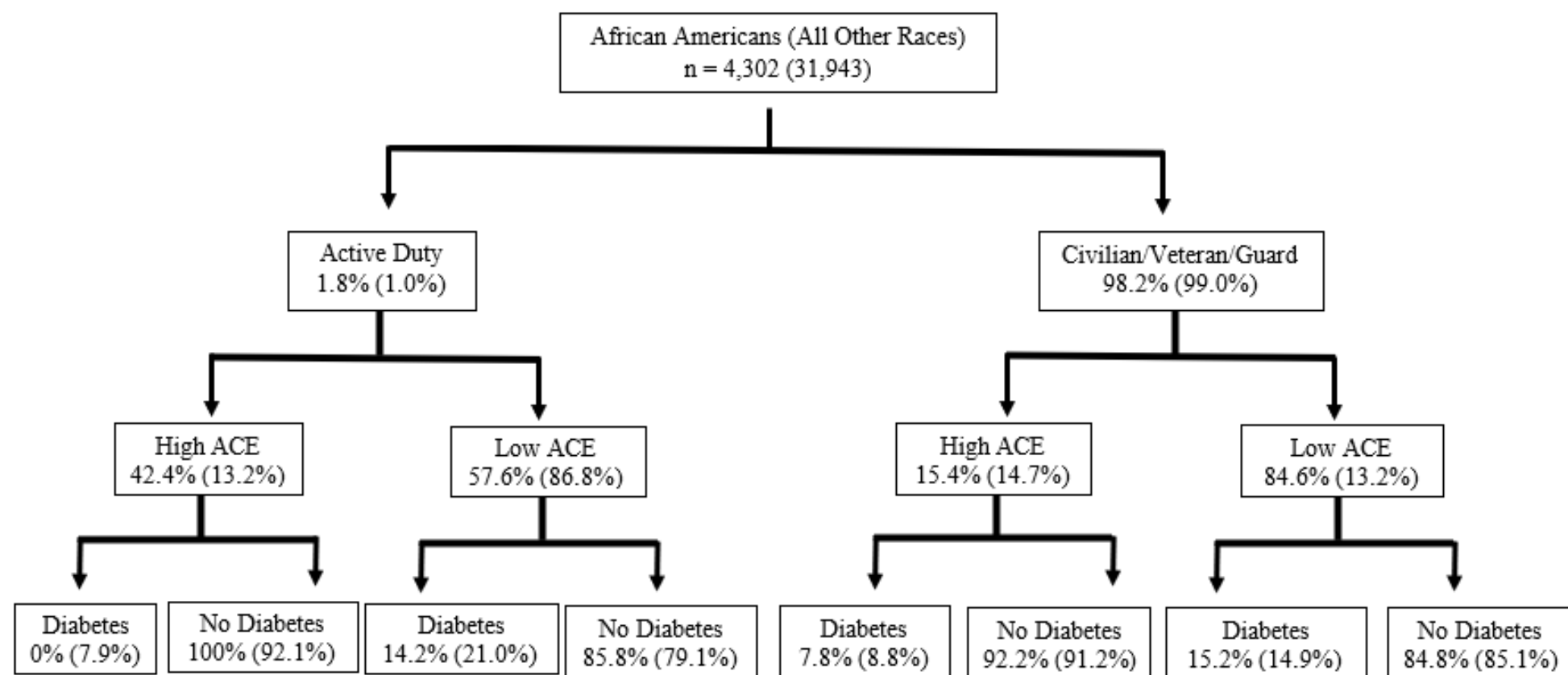
4

- Cross-sectional test of whether ACE and Active Duty military service moderate the increased probability for African Americans to be diagnosed with diabetes than other races
- **Primary hypothesis test:** whether there is a three-way interaction between being African American, active duty status, and ACE

Inclusion Criteria

- Participants who responded to the variables of interest, including ACE, military service, age, education and race on the 2009-2010 CDC Behavioral Risk Factor Surveillance System (BRFSS)

PREVALENCE OF DIABETES AMONG AFRICAN AMERICANS VS. ALL OTHER RACES IN STUDY POPULATION

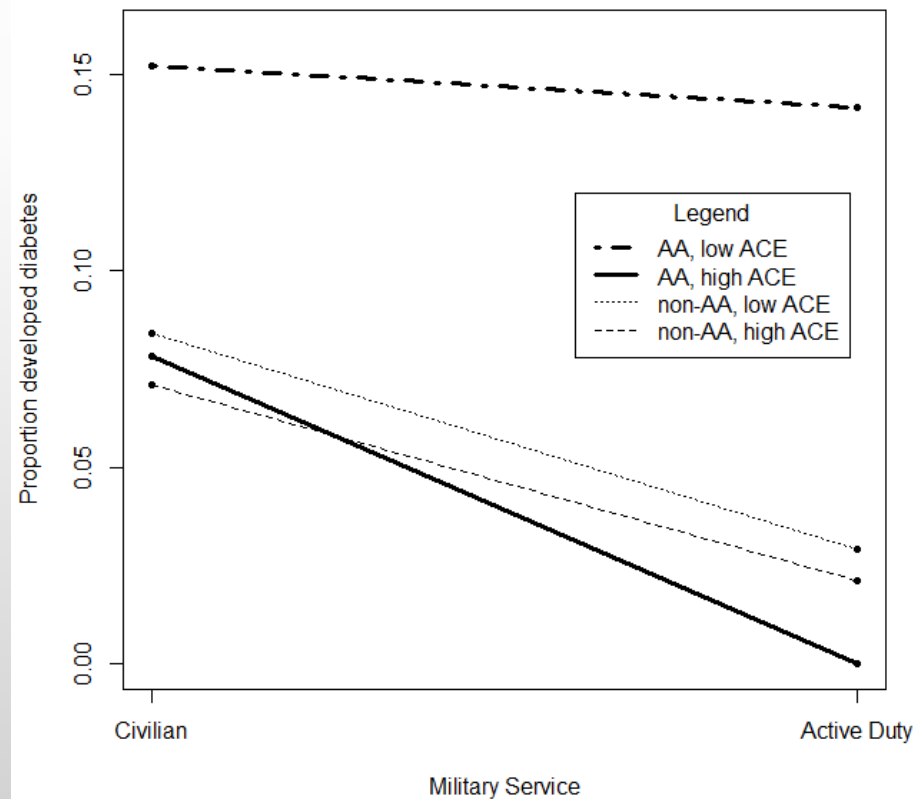


RISK FACTORS ASSOCIATED WITH DEVELOPING DIABETES

Variables	Odds Ratio	95% Confidence Interval
Active Duty (AD)	1.02	0.270-3.910
African American (AA)	2.49***	2.030-2.960
Total ACE	1.07***	1.028-1.140
Education	0.83***	0.785-0.878
Age	1.05***	1.046-1.053
Interactions		
AD:AA effect	1.42	0.21-9.560
AD:ACE effect	0.55	0.190-1.610
ACE:AA effect	0.88**	0.800-0.960
AD:ACE and AA effect	<0.01***	0.000-0.001

EFFECT OF RACE, ACE, AND MILITARY SERVICE ON RISK OF DEVELOPING DIABETES

Effect of Race, ACE, and Military Service on DM



DISCUSSION

- **African Americans** with a **history of military service** and **high ACE** are less likely to develop diabetes than their civilian counterparts.
- There may be a protective effect of military service.
- While fitness requirements might be an explanation, this is the same for both high ACE and low ACE.
- Perhaps emerging adults who come from a dysfunctional home benefit more from the structured military environment.
- Further exploration is needed to explain this relationship.