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Early Psychosocial Experiences and Trajectories of Cardiometabolic Risk in Later Life: Findings from the VA Normative Aging Study

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Early adversity is associated with elevated morbidity and mortality risk in adulthood, yet the underlying pathways are not well understood. In this study, we evaluated the impact of positive and negative early psychosocial experiences on the dynamics of cardiometabolic risk in later life. Cardiometabolic risk reflects pathophysiologic processes which contribute ultimately to disease onset. In this study, we leverage 3 decades of longitudinal data to test whether early stress brings about poor health by accelerating the trajectory of cardiometabolic risk in later life.

The sample comprised 825 initially healthy men from the Veterans Affairs Normative Aging Study (NAS), who received health examinations every 3-5 years from 1981 to 2011. Three dimensions of early experiences (psychosocial stressors, presence of close relationships, parental socioeconomic status) were measured retrospectively. Cardiometabolic risk was computed as the mean z-score of 7 biomarkers collected at the periodic health examinations: systolic and diastolic blood pressure, high-density lipoprotein (reverse-scored), low-density lipoprotein, triglycerides, fasting glucose, and body-mass index.

Multilevel regression (stratified by baseline age) was used to characterize trajectories of cardiometabolic risk over time, and to assess the impact of the three dimensions of early psychosocial experiences on levels and changes in risk. In the youngest cohort (baseline age: 38-53; *M*=49, *SD*=3), presence of close relationships was related to more psychosocial stressors in childhood, as well as to elevated cardiometabolic risk from midlife to early old age. In contrast, among the two older cohorts (baseline age: 54-60, M=57, SD=2; baseline age: 61-70, *M*=64, *SD*=3), presence of close relationships in childhood was linked to lower cardiometabolic risk in later life. In post-hoc analyses, cardiometabolic risk was, in turn, associated with elevated incidence of cardiometabolic diseases (coronary heart disease, congestive heart failure, Type 2 diabetes, and stroke) and with all-cause mortality. Our findings provide novel evidence that early psychosocial conditions can lead to accelerated pathophysiologic processes in later life.