

Title: A network analysis approach to identifying dimensional structure among adversities

Study Team: Margaret Sheridan, PhD, Kate McLaughlin, PhD, and Jeanne Brooks-Gunn, PhD

Abstract: Exposure to childhood adversity is common, and is associated with risk for numerous negative outcomes in childhood, adolescence, and adulthood. The effects of adversity on health, such as increased risk for cardiovascular disease or psychopathology are observable even into late adulthood. The prevailing approach for examining the developmental consequences of adversity exposure is a cumulative risk model which gives little guidance with regards to the mechanisms through which adversity increases risk for negative outcomes and thus the form of intervention that is likely to be most successful. We have articulated an alternative to the cumulative risk model which proposes a set of mechanisms explaining how *dimensions* of adverse experiences influence risk for negative life outcomes and in particular psychopathology. Existing data from our group and others, support the hypothesis that the dimensions of deprivation and threat are separable, however, current analytic approaches have stymied further progress. Current studies use a single adversity as an indicator of the entire dimension of exposure (e.g., neglect as a proxy for deprivation). However, a better approach would be to account for the theorized similarity across adversities within a dimension. As we describe more fully in the proposal, traditional factor analytic approaches are not suited to test the predictions of the dimensional model which specifically predicts correlation between predictors and outcomes within a dimension. To address this gap in the literature, we propose using a novel analytic approach—network analysis—to first assess evidence for the two dimensional model and then explore the possibility that other dimensions exist. We propose completing these analyses in two publically available datasets: Fragile Families (through age 15 follow up) and CARIDA. These datasets have several advantages including, in particular in CARDIA, measurement of cardiovascular outcomes which are predictive of late life health. Using network modeling to identify the structure of associations between multiple predictors and outcomes will advance the National Institutes of Aging (NIA) Goal B under “Understanding the Dynamics of the Aging Process” by better understanding the societal factors which influence aging and the mechanisms through which these factors exert their effects.