

Abstract

Background: Well-established literature points to early life experiences and childhood adversities setting the foundation for health and development and influencing life trajectories. Nurturing, responsive caregiving in a safe and stable environment is associated with healthy, productive lives throughout adulthood. On the other hand, adverse experiences in childhood are associated with poor health and wellbeing, risky behaviour and reduced human capital. How this adversity is measured and the context in which it is measured may provide insight into the relationship between adversity and outcomes over and above what has been found in high-income countries.

Aim: The overall aim of this study is to examine adverse childhood experiences (ACEs) in a South African birth cohort. Specific objectives of the study include: a) developing prospective and retrospective profiles of ACEs in the sample, b) establishing levels of agreement between these two profiles of ACEs, c) estimating the prevalence and clustering of ACEs in this population-based urban sample, d) examining the associations between exposure to ACEs and a range of physical and mental health and social outcomes, and e) understanding the role that recent stress plays in the relationship between exposure to ACEs and poor outcomes.

Methods: This study uses a secondary analysis design using data from the longitudinal Birth to Thirty cohort. The cohort began in 1990 with the enrolment of 3,273 pregnant mothers and has followed the children born to these women for more than thirty years. The 10-item ACE Index developed by the CDC-Kaiser's ACEs Study was expanded to include five additional ACEs common in the South African context – chronic unemployment, violence in the community, household death, parent death, and separation from parents. Prospective profiles of ACEs were collated from data collected over the first 18 years of the child's life, initially reported by primary caregivers until age 11, then self-reported from ages 11 to 18. Retrospective profiles of ACEs were collected in young adulthood when the participants were 22 years old, along with an index of recent stressors. A series of human capital outcomes – those encompassing physical and mental health and psychosocial adjustment, were assessed at age 28. ACEs in the sample were conceptualized in three ways – as single adversities, such as physical or sexual abuse, cumulative adversity in the form of the ACE score, and clusters of adversity determined by their patterning. Cohen's kappa statistics and concordance rates were generated to establish the levels of agreement and consistency between prospective and retrospective reports of ACEs (timing) and between reports given by caregivers and children at age 11 (source). Descriptive statistics and latent class analysis were used to estimate the prevalence of ACEs and to explore the patterning of ACEs among participants. Logistic regression analysis explored associations between all three conceptualizations of ACEs and outcomes, disaggregated by sex. Mediation and moderation analyses were conducted to examine the influence of recent stress on mental health outcomes.

Findings: Comparisons between prospective and retrospective reports of ACEs show that there is relatively low-to-moderate agreement between timing and sources of reports of ACEs. Agreement varies depending on the adversity in question – with greater levels for objective

experiences such as parental death and lower levels for subjective experiences such as chronic unemployment. Differences in agreement were partly due to prospective and retrospective reports identifying largely different groups of people; those who only report high exposure prospectively, those who only report high exposure retrospectively and those that overlap. Using either prospective or retrospective reports, the prevalence of ACEs in this sample were high, although there were significant decreases in prevalence from prospective reporting to retrospective reporting. ACEs tended to co-occur, and where one ACE was reported, the likelihood of others increased. Clusters of ACEs split distinctively into high-low:dysfunction abuse categories; with one group likely to have low exposure, another with high generalized exposure to all ACEs, a third with moderate exposure characterized by household dysfunction and a fourth with moderate exposure driven by emotional abuse and/or neglect. All three conceptualizations of ACEs were significantly associated with poorer outcomes. Single ACEs such as physical, sexual and emotional abuse, and exposure to intimate partner violence, were independently and strongly associated with poorer outcomes in adulthood. Increased exposure to ACEs, or cumulative adversity, was also linked to poorer outcomes in a graded manner, with the likelihood of experiencing poor outcomes increasing along with exposure. The clusters with high levels of exposure to ACEs and moderate levels of exposure driven by emotional abuse were most at risk for poor outcomes. There were significant differences in exposure to ACEs, outcomes and the associations between the two by sex. Associations also differed for prospective and retrospective reporting with the strength of association varying depending on the outcome in question. Recent stressors were found to play a confounding role in the relationship between ACEs exposure and poor outcomes. Although recent stressors had a different impact on those who reported high ACEs exposure prospectively versus those who reported high ACEs exposure retrospectively. The influence of recent stressors on the mental health of those who reported high exposure to ACEs prospectively supported a sensitization model. In contrast, the role of recent stressors on the mental health of those who reported high exposure to ACEs retrospectively supported a stress inoculation model. This suggests two potential pathways for risk.

Conclusion: In combination and accumulation, it is demonstrated here that adverse experiences in childhood have an impact on health and wellbeing in adulthood. Specific individual ACEs can be teased out for their independent effect on outcomes, but the additive effects of multiple adversities lead to almost exponential increases in the risk for a myriad of negative physical and mental health and social outcomes. These findings provide important links from South Africa's context of high levels of violence in all forms and multiple hardships that families with large burdens of care endure, with little support, to many of the human capital outcomes on which productive, healthy and happy lives depend. Born at the dawn of democracy, with anticipation for opportunity, many of the children in this cohort were raised in contexts of adversity that may have been experienced as normative in those settings. Regardless of whether these experiences leave enough of a mark to be recalled later in life, the strain of cumulative adversity has had persistent and serious effects on their mental health, their ability to finish school, find a job and stay out of trouble.