Adverse Childhood Experiences: Separate and Cumulative Effects on Adolescent Health and Well-Being

Kelly Balistreri (kellyba@bgsu.edu) & Marta Alvira-Hammond (malvira@bgsu.edu)
Department of Sociology
Bowling Green State University

Background
- Adverse childhood experiences (ACE) are linked to depression, substance abuse, mortality, and chronic health problems in adulthood.
- Few studies have examined the more proximate effects of ACE on health and well-being in adolescents.
- The cumulative risk hypothesis suggests it may be the combination of multiple risk factors that is detrimental to well-being.
- Most studies on ACE exposure and health assess adults’ current well-being and use select, non-representative samples.
- Family functioning is important for children’s health and could potentially buffer or exaggerate effects of ACE exposure.

Current Study
- Uses nationally representative data from the National Survey of Children’s Health.
- Examines ACE exposure and outcomes among adolescents (ages 12–17) rather than adults.
- Examines ACE exposure in two ways:
  - Each individual ACE relative to others and net of other factors
  - Cumulative ACE exposure net of other factors
- Focuses on two outcomes as reported by parents:
  - Global health
  - Emotional well-being

Data, Sample, & Methods
- 2011/2012 National Survey of Children’s Health (NSCH):
  - Households with children under age 18 in all 50 states and the District of Columbia
  - One child randomly selected to be the subject of the interview
  - Parent or guardian answered questions about themselves, the family, and child
- Analytic sample:
  - Respondents with adolescent children ages 12–17
  - Respondents to the 124-item survey for all of the sample
  - N = 33,774 of 91,671 interviews, weighted to represent the population
- We use weighted multivariate logistic regression
  - We also investigate whether linear, quadratic, and cubic terms of ACE interact
  - Interaction terms between cumulative ACE and family functioning

Co-Occurrence of ACE

Table 1. Prevalence of individual ACE (rows) conditional on another (columns)

Health & Well-Being Outcomes

Figure 1. Distribution of ACE across analytic sample
Figure 2. Percentage of adolescents with exposure to no ACE, 1 or 2 ACE, or 3 or more ACE
Figure 3. Prevalence of each ACE among total sample and among those who have had a household member with a mental illness
Figure 4. Adjusted odds ratios of cumulative and individual ACE predicting poor emotional well-being

Table 2. Prevalence of individual ACE (rows) conditional on another (columns)

Figure 6. Percentage of adolescents with poor health or poor emotional well-being, by ACE exposure

Figure 5. Adjusted odds ratios of cumulative and individual ACE predicting poor emotional well-being

Figure 7. Predicted probabilities of poor emotional well-being by family functioning and ACE exposure

Results
- ACEs do not occur in isolation, and children exposed to one ACE are at greater risk of experiencing others.
- Economic hardship, mental illness in the home, and discrimination were significantly associated with poor health.
- Having divorced parents, being a victim of or witness to neighborhood violence, and mental illness in the home were significantly associated with low emotional well-being.
- Odds of poor health increased with each additional ACE reported by 14%**, odds of poor emotional well-being by 46%***.
- At higher levels of ACE exposure, higher family functioning reduced the probability of reported emotional problems among adolescents.

Conclusions
- Certain groups may have compounded risk for experiencing adverse life events as well as the negative outcomes associated with them.
- findings suggest the cumulative risk hypothesis, a child’s going from no ACE exposure to just one ACE worsens concern for future health and well-being.
- Results show attention to the importance of mental illness as both a risk factor and an outcome among adolescents.
- Researchers and programs should not limit their scope to individual adverse events.
- Programs and services should consider evaluating and targeting family functioning when addressing ACE and well-being.

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