

Childhood Residue in the Aging Body

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Muhammad Ali once described old age as “a record of one’s whole life.” But childhood may encompass some of the most pivotal aspects of that record.

Two decades worth of research points to a formidable link between our earliest life experiences and our health in old age. Scientists have associated a childhood spent in poverty, for example, with a variety of medical conditions at age 50 and older.

Investigators are mining massive longitudinal data sets that tie our earliest life experiences to the quality of our physical and cognitive health in late life. In addition to a breadth of psychology specialties, this integrative research incorporates epigenetics, epidemiology, endocrinology, molecular biology, and several other fields. The body of work correlates *specific* aging-related illnesses with adverse childhood experiences, often independent of circumstances later in life.

Findings suggest that childhood deprivation can leave a particularly deep imprint on women’s health late in life, in part through cultural influences.

The role of socioeconomics

Among the longitudinal data mines yielding new insights on childhood experience and late-life health is the [Survey of Health, Ageing and Retirement in Europe](#) (SHARE), part of the European Strategy Forum on Research Infrastructures funded by the European Commission, the German Federal Ministry for Education and Research, and the U.S. National Institute on Aging. Since 2004, SHARE has been tracking 140,000 people age 50 and older in Europe. The study began with 11 Western European countries and has incorporated Eastern European nations in subsequent waves.

SHARE's ambidirectional design—both retrospective and prospective in scope—is one of the study's outstanding features, said Boris Cheval, a University of Geneva psychological scientist who has produced many findings using SHARE data.

“It allows us to examine the association between early-life SEC [socioeconomic circumstances] and the evolution on multiple health indicators (physical health, cognitive health, mental health) across aging (i.e., from 50 to 96 years),” Cheval told the *Observer* via email. “This is not possible with most of the prospective cohort designs that have a shorter follow-up (e.g., between 15 years).”

Using SHARE, Cheval has worked with researchers from a breadth of scientific fields to glean insights into possible predictors of health status in old age. He and his colleagues have applied four indicators of the SEC in which participants grew up:

- occupational position of the household's main earner
- number of books in the home
- overcrowding in the home
- housing quality

“The use of these rich indicators of early-life SEC is really nice in comparison with most data sets that often have a crude assessment of early-life SEC, such as the main occupation of the father only,” Cheval explained.

This research has uncovered several physical and cognitive conditions that correlate with the four childhood circumstances. Some of the most disturbing health problems—respiratory problems, cognitive deficits, muscle weakness—are seen in people who reported growing up in low-income settings, noted University of Ottawa neuroscientist Matthieu P. Boisgontier, who collaborates with Cheval (Cheval et al., 2018, 2019).

One study found that people who grew up in more *affluent* households had a heightened risk for certain cancers after age 50—skin and breast cancer among women and colon and rectal cancer among men. Those results held even after the researchers adjusted for SEC in adulthood. But the research team acknowledged that the results may be skewed by socioeconomic differences in health behaviors that make it harder to detect cancer; for example, poorer adults face more barriers to early screening, so their cancer simply may go undiagnosed (van der Linden et al., 2018).

Social Determinants of Health a Priority for U.S. Congress

The Congressional Social Determinants of Health Caucus, recently formed by a bipartisan group of nearly 30 U.S. Representatives, will explore ways to fund new programs and leverage existing U.S. government services to improve human health through a better understanding of social factors.

Social determinants of health, as defined by the U.S. Health Resources and Services Administration, are conditions in people's environments that affect their health, functioning, and quality of life. These environments include where people are born, live, learn, work, play, worship, and age. Studies linking early-life experiences to late-life health illustrate some of the many ways that psychological science contributes to society's understanding of this crucial topic.

At the time of writing, APS's government relations team is in touch with caucus leaders, affirming the value of the study of social determinants of health and encouraging that psychological science—and the behavioral sciences broadly—be included at every level of future congressional action on the topic. Specifically, APS is encouraging the caucus to support additional scientific research on social determinants and ways of ameliorating their effects.

Social determinants of health are increasingly a global priority. For instance, in January 2021, the World Health Organization's director general noted their relevance as contributors to resilience and emergency preparedness, especially as related to the global impacts of COVID-19.

—Andy DeSoto

APS Director of Government Relations

[Read more here.](#)

Gender and culture

SHARE-based research has also illuminated how gender and childhood cultural environments connect with health behaviors. Findings suggest that childhood deprivation can leave a particularly deep imprint on women's health late in life, in part through cultural influences. Psychological scientist Aïna Chalabaev at Grenoble Alpes University in France and her colleagues, including Cheval and Boisgontier, checked SHARE participants' responses to questions about their daily physical activities, such as walking or physical labor, as well as childhood SEC. The sample encompassed 46,000 adults from 20 European nations and Israel, giving the scientists data from both wealthy and poor societies.

The results showed that at 73 years of age—the midpoint of the participant sample's age range—women who grew up poorer were less likely than their male counterparts to be physically active. And the reason was more cultural than material. It wasn't the sheer lack of resources their parents or caregivers needed to facilitate their participation in school sports or other physical activities. It was that the cultures largely associated with poorer societies simply did not encourage physical activity for girls (Chalabaev et al., 2021). The results will be reported in a forthcoming issue of *Psychological Science*.

“Cultural factors, such as social norms and sex roles, may lead women and men to have differential access to health behaviors, with physical activity being more socially acceptable in men than in women, especially in disadvantaged SECs,” the researchers wrote.

Biological roots

Scientists have also unearthed some early stress-related *biological* triggers for health problems in old age.

Scientists like APS Fellow Charles A. Nelson III (Harvard Medical School and Boston Children’s Hospital) have described how childhood adversity becomes “biologically embedded” in our physiology and can predispose us to disease across the life course. Nelson coauthored a 2017 article calling for better clinical screening for early-life adversity (Berens et al., 2017).

Researchers have already amassed considerable data on the biological impact of childhood adversity. APS Fellows Elissa S. Epel of the University of California San Francisco, Terrie Moffitt of Duke University, and Janet Kiecolt-Glaser of The Ohio State University are among the psychological scientists at the forefront of this work. They’ve identified cellular changes associated with aging-related diseases such as osteoporosis, diabetes, stroke, cardiovascular disease, and some cancers. In a recent study, Kiecolt-Glaser and colleagues showed that adults who were abused before the age of 18 experience steeper rises in inflammation than do adults with no history of abuse (Renna et al., 2021).

Childhood adversity and cognition

Researchers also have discovered a possible impact of childhood trauma on brain health in old age. Psychological scientist Andrew J. Petkus (University of Southern California) led a team of researchers who drew on data from two samples of older adults, most diagnosed with an anxiety or depressive disorder. The researchers used the Early Trauma Inventory Self Report-Short Form to measure the adults’ experience with different types of child abuse and trauma. The team also administered a battery of tests to measure attention, memory, executive function, and other cognitive skills and examined measures of cortisol, physical health, and depressive symptoms. They found that the adults reporting childhood trauma performed more poorly on the cognitive measures compared to those reporting no trauma (Petkus et al., 2018).

In addition, clinical neuropsychologist Kylie Radford led a multidisciplinary team that surveyed roughly 300 Aboriginal Australians, ages 60 to 92, collecting reports on health, cognition, and social history—including childhood trauma. Radford and colleagues found the highest levels of late-life dementia and psychiatric problems among those who had experienced more childhood stress and adversity. The results add to previous findings showing a link between childhood struggles and cognitive decline across samples in the United States, Sweden, the Netherlands, and Central Africa (Radford et al., 2017).

Beyond biology

Research also traces some late-age health conditions to early interactions with family and peers.

Psychological researchers William J. Chopik (Michigan State University) and Robin Edelstein (University of Michigan) found a link between happy memories of childhood and self-rated health in midlife and old age. The scientists combined data on 22,000 U.S. residents from two longitudinal surveys—the [National Survey of Midlife in the United States](#) and the University of Michigan’s [Health and Retirement Study](#). The surveys, which collected responses from nationally representative samples, included questions about parental relations, overall health, and symptoms of depression. Compared to participants who reported unhappy childhood memories, participants who said they received parental affection in early childhood rated themselves healthier over time (Chopik & Edelstein, 2019).

Childhood health problems can also influence attitudes about health among older adults, according to a study led by APS Fellow Jacqui Smith of the University of Michigan. Smith’s research focuses on the links between health and attitudes about aging. In a recent study, Smith and research associate Marina Larkina collected information from more than 5,770 adults ages 50 to 98 who participated in the Health and Retirement Study. They looked for any chronic-illness diagnoses the participants had received before age 16 and self-ratings of childhood health. They controlled for childhood family income and demographic variables. Their analysis indicated that a childhood diagnosis of chronic illness soured an individual’s perceptions about their advancing age (Smith & Larkina, 2020).

Combining the data sets

Most recently, scientists have embarked on a unique initiative that will bring together large longitudinal studies in the United States, the Republic of Ireland, and Northern Ireland. The international collaboration will explore the influence of social, economic, psychological, environmental, and behavioral circumstances in childhood on gene expression and health later in life.

The project includes the Health and Retirement Study as well as the [Irish Longitudinal Study on Ageing](#) and the [Northern Ireland Cohort for the Longitudinal Study of Ageing](#). Scientists involved in the collaboration hail from the University of Southern California; the University of Michigan; Trinity College Dublin; the University of Minnesota; the University of California, Los Angeles; Yale University; and Queen’s University Belfast. They plan to expand on previous epigenetics research pointing to childhood poverty, neglect, and violence as contributors to lasting changes in genes.

All these findings have sizable public health implications. As the discoveries expand, childhood history may be a key measure in assessing individuals’ risk for illnesses associated with aging. There may come a day when our formative years are a routine part of screening for dementia, heart disease, arthritis, and other ailments. ?

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