Overall Linkage of Divorce to Poor Health


- “The hypotheses are tested using data from 416 rural Iowa women who were interviewed repeatedly in the early 1990s when they were mothers of adolescent children; the women were interviewed again in 2001” (p. 111).

- “In the years immediately after their divorce (1991-1994), divorced women reported significantly higher levels of psychological distress than married women but no differences in physical illness. A decade later (in 2001), the divorced women reported significantly higher levels of illness, even after controlling for age, remarriage, education, income, and prior health” (p. 111).

- “…if being divorced is a chronic stressor because of the longer-term economic hardship and social isolation it causes, then the observed changes in illness over the decade can be understood to be a cumulative response to chronic conditions” (p. 121).
Physiological Mechanisms Linking Divorce to Poor Health

• **Brief Overview of Molecular Genetics**

  • Four biochemical substances called nucleotides: [Adenine, Thymine, Cytosine, and Guanine](https://en.wikipedia.org/wiki/Nucleotide), known simply as A, T, C, and G (movie [GATTACA](https://en.wikipedia.org/wiki/GATTACA) had its title formed from these letters).

  • In DNA “double-helix” (like circular staircase), [A’s always pair with T’s (in either order, AT or TA)](https://en.wikipedia.org/wiki/DNA_base_pairing) and [C’s always pair with G’s (in either order)](https://en.wikipedia.org/wiki/DNA_base_pairing). Memory aids: When Bill Clinton was president, his VP was Al Gore, so just remember Clinton-Gore. If we had a Teaching Assistant (which we don’t), you could ask your “TA.”

  • These double-helix structures are tightly coiled in each cell of your body, and the DNA in each cell would [span 6 feet if unwound](https://en.wikipedia.org/wiki/DNA_structure).

  • Segments of double-helix (AT and CG pairs) comprise [genes](https://en.wikipedia.org/wiki/Genetics) (see slide 44 of [this set](https://www.plosmedicine.org/)) and series of genes comprise [chromosomes](https://en.wikipedia.org/wiki/Chromosome).

  • We have [23 pairs of chromosomes](https://en.wikipedia.org/wiki/Chromosome). In each pair, we get [one chromosome from each parent](https://en.wikipedia.org/wiki/Chromosome).

  • At end of each chromosome are [telomeres](https://en.wikipedia.org/wiki/Telomere), which [protect the chromosome](https://en.wikipedia.org/wiki/Telomere):

    “Telomeres cap the ends of chromosomes to maintain their integrity but shorten each time the cell divides. They have been compared to the plastic tips on the ends of shoelaces, as they protect the chromosomes from falling apart and from sticking to one another.”
• Divorce/Separation and Telomere Length


• Nationally representative sample of households with at least one person older than 50.

• Shortened telomere length is thought of in terms of “accelerated cellular aging.”

• Average telomere length from longest to shortest:

  Married continuously (slightly) > never married > widowed (slightly) > married with history of divorce (slightly) > divorced/separated

• “…the association between marital disruption and salivary telomere length remained statistically significant after adjusting for demographic and socioeconomic variables, neuroticism, cigarette use, body mass, traumatic life events, and other stressful life events” (p. 60).

• PRACTICAL IMPORTANCE? “It will be incumbent upon future research to determine if small differences in telomere length translate into meaningful pathophysiological differences or clinical health outcomes” (p. 65).

• Findings could take on added importance given growing phenomenon of “gray divorce.”

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