

Economic Conditions at Birth and Later-Life DNA Methylation Age Acceleration

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Abstract :

Economic conditions and adversities early in life are known to impact a range of health and cognitive outcomes later in life. Studies in economics have speculated that the underlying causal pathway involves epigenetic mechanisms affecting gene regulation. We advance on this by identifying causal effects of early-life economic conditions on DNA methylation (DNAm) later in life. Specifically, we examine the extent to which the individual biological age (as predicted by DNAm) differs from the chronological age. We use the state of the economic business cycle at birth to proxy economic conditions early in life. The analyses use five merged UK data sets of elderly individuals. The results show strong and highly significant effects.