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Deprivation in childhood linked to impulsive behavior in adulthood

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Inflation is running high around the globe, largely fueled by Russia's war in Ukraine and the COVID pandemic. As a result, many households are having to choose between eating and heating.

Deprivation has a terrible immediate effect on children—as anyone who has experienced real hunger knows—but it can also affect things like impulsive behavior in later life.

"Trait impulsivity", the preference for immediate gratification, has been linked to spending more on food, especially unhealthy, highly calorific food. Studies have shown that children who experience poverty and food insecurity tend to have a higher body-mass index as adults than those who do not.

In a study published in *Scientific Reports* earlier this year, my colleagues and I showed that children who experience deprivation make more impulsive choices than children who don't.

We studied 146 children, with an average age of eight, living in some of the most deprived areas of England and compared them with children living in some of the most affluent neighborhoods.

Children were given a choice between taking home a small amount of money (for example, £1) or getting £10 a week, or even more a year later. How long a person is willing to wait for the larger amount of money can be used to calculate a "discount rate" that shows how much the waiting time reduces the value of the money.

An impulsive person might prefer £1 now because the value of £10 in six months is "discounted" to less than £1 right now. This means that, for them, the £10, is discounted by £9 over the six-month wait.

A less impulsive person might be willing to wait six months for £10, but not wait for a whole year for £15. This means that, for them, the value of the £15 is discounted by £5 over the additional six-month wait. This discount rate is a measure of how impulsive someone is.

The results showed that children living in the most deprived areas had significantly higher discount rates than children living in the least deprived areas, regardless of age or intelligence, indicating that deprivation was the causal factor in the children's choice.

A stable trait

This preference for immediate outcomes is a stable personality trait that remains constant throughout a person's life.

In our most recent study, published in *Royal Society Open Science*, we investigated impulsivity in over 1,000 older adults aged between 50 and 90. We found that older adults, living in the most deprived areas, show the same preference for smaller-sooner financial outcomes as the children in our first study.

We also found that a person's job predicted the choices they made. Adults working in technical or routine occupations, such as mechanics or cleaners, chose to receive smaller amounts of money than wait for larger amounts compared with people in professional occupations, such as engineers or scientists.

These findings are concerning because impulsivity doesn't just predict obesity. These findings tell us a lot about why people living in poorer areas tend to be unhealthier than people living in wealthy areas.

People who experience deprivation as children are more likely to choose to do things that, although they might be pleasurable in the short term, are unhealthy in the long run. This includes overeating, taking drugs, smoking cigarettes and gambling.

We know too, that impulsivity can help to explain why some people go on to become addicts, while other people can avoid some of the more

harmful effects of drugs and alcohol.

Deprivation is one of many factors that can lead to impulsive behavior throughout a person's lifetime. Genetics also plays a role in impulsivity. Policymakers can't do anything about a person's genes but they can influence the nation's long-term mental and physical health by minimizing child poverty. Failing to do so will have long-term implications for the children living through today's cost of living crisis.

More information: Richard J. Tunney, Economic and social deprivation predicts impulsive choice in children, *Scientific Reports* (2022). DOI: 10.1038/s41598-022-12872-4

Richard J. Tunney et al, Individual differences in decision-making: evidence for the scarcity hypothesis from the English Longitudinal Study of Ageing, *Royal Society Open Science* (2022). DOI: 10.1098/rsos.220102

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