

## COMMENTARY

# Trust and the poverty trap

Martha J. Farah<sup>a,1</sup> and Cayce J. Hook<sup>b</sup>

Myopia for the future, especially in relation to economic decisions, has long been associated with low socioeconomic status (SES). Indeed, the use of the word “myopic” to describe the poor in this context dates back over a hundred years in economics (1). Although we all tend to discount future rewards to some degree, for example preferring \$100 today to a slightly larger sum in the future, higher levels of discounting are associated with lower levels of SES. As Jachimowicz et al. (2) point out, the reasons for temporal discounting and its association with SES continue to be debated among psychologists, sociologists, and economists. The authors advance our understanding of this association by demonstrating the influence of community trust on the discounting–SES relation. Their discovery, that low SES predisposes to high discounting mainly in circumstances of low community trust, illuminates the causes of steeper discounting among the poor and, importantly, highlights a potentially modifiable causal factor.

## Present-Mindedness as a Poverty Trap

Why is temporal discounting by the poor such an intensively studied topic? Many cognitive measures differ as a function of SES, including intelligence quotient (3), memory (4), executive function (5), and academic achievement (6). However, compared with these other disparities, the SES disparity in intertemporal choice behavior has the most prima facie relevance to poverty, because it concerns economic decisions. All other things being equal, steep future discounting will lower financial well-being in the long run by systematically steering people toward less money, and discouraging saving for the future. Beyond purely monetary choices, it encourages unskilled paid work over education. In each case, smaller economic benefits are chosen and future financial security and earning potential are sacrificed. This is represented by the top arrow of Fig. 1.

The idea that steep discounting would lead to lowered SES is borne out by studies of real-world decision making. For example, in a study that followed 11,000 Swedes over five decades, steeper discounting on a single intertemporal choice task with hypothetical monetary rewards



**Fig. 1. Present-mindedness, or discounting of the future, has a reciprocal causal relation with poverty.**

at age 13 predicted long-term earnings, even when controlling for family SES and performance on a test of cognitive ability (7).

What makes present-mindedness a poverty trap, as opposed merely to a risk factor for becoming poor? It is the reciprocal effect of SES on temporal discounting, shown in the bottom arrow of Fig. 1. This is the direction of causality investigated by Jachimowicz et al. (2).

A real-world example of this comes from a study of Croatians’ choices for financing their retirement when offered a choice between a lump sum and a series of delayed pension payments. Although the expected value of the delayed payments was higher, many people opted for the lump sum, and this was particularly true of the lower-income respondents (8).

Because steep future discounting seems to be both a cause and effect of low SES, it can be called a “poverty trap.” The predicament of being poor causes people to make decisions that exacerbate their economic problems, creating a vicious cycle. Although neither direction of causality is well understood at present, the poverty-to-discounting direction presents an especially large and complex set of candidate causes.

Jachimowicz et al. (2) cite the culture of poverty as a potential cause for present-mindedness. According

<sup>a</sup>Department of Psychology, Center for Neuroscience & Society, University of Pennsylvania, Philadelphia, PA 19104; and <sup>b</sup>Department of Psychology, Stanford University, Stanford, CA 94305

Author contributions: M.J.F. and C.J.H. wrote the paper.

The authors declare no conflict of interest.

See companion article on page 5401.

<sup>1</sup>To whom correspondence should be addressed. Email: mfarah@psych.upenn.edu.

to this theory, the poor have adapted to the constraints of poverty by developing a culture—that is, a set of beliefs, attitudes, and practices—that among other things prioritizes immediate gratification over future benefits (9). They also cite the “scarcity” mindset, which reduces the cognitive resources needed to make the most advantageous intertemporal choices (10), and the related idea that the stress and negative affect caused by poverty compromise decision quality (11). Still other theories about the poverty-to-discounting relation exist. It has been shown that powerlessness, which is associated with poverty, can induce present-mindedness (12). The greater risk of premature death among the poor has also been put forth as a reason for preferring rewards sooner rather than later (13). Biological mechanisms also seem to play a role. Animal studies suggest that early life deprivation may increase temporal discounting (14) through its impact on the development of the relevant brain systems (15). Further highlighting the biological embedding of early life experience as it affects adult temporal discounting, the DRD4 genotype moderates the effect of childhood SES on discounting, independent of adult SES (16).

Jachimowicz et al. (2) highlight two additional types of cause. The first is immediate financial need, which is higher at lower levels of income. If that hypothetical \$100 can be used to avoid being evicted by the landlord this month, it would be counterproductive to pass it up in favor of the \$150 next month. The second is the role of different kinds of trust in intertemporal choice. General trust in others is required to accept a promise of delayed rewards, and this is known to be higher among individuals with higher SES. Trust in one’s community offers a buffer from crises associated with immediate need and should therefore lessen need-related discounting.

As the authors point out, alternative accounts of steep discounting in poverty are not necessarily incompatible with their ideas, because trust is likely to diminish stress and may even promote different cultural attitudes. It should be added that a robust phenomenon such as the present-mindedness of poverty may be overdetermined, with multiple economic, psychological, and even biological factors conspiring to steepen future discounting in poverty.

### Community Trust in the Laboratory and the Real World

Given the many correlated factors potentially at play in causing lower-income individuals to discount more steeply, Jachimowicz et al. (2) set themselves a challenging task: to identify and disentangle specific factors responsible and assess the relations among those factors in predicting discounting. Their hypothesis that community trust reduces the influence of immediate need on discounting received confirmation in four different studies with varied research designs. When community trust, income, and temporal discounting were measured directly, community trust moderated the relation between income and future discounting. Specifically, low-income individuals with high community trust did not display the usual steeper rate of

discounting compared with higher-income individuals; only those with low income and low community trust differed from the rest of the sample. Using archival data with newly collected measures of community trust across different states in the United States, they examined a real-world behavior reflective of future discounting, namely the use of payday loans. Such loans have high interest rates and are used primarily by low-income individuals. As expected based on the hypothesis that community trust can buffer the immediacy of financial need among low-income individuals, and thereby decrease future discounting, states with higher levels of community trust had lower use of payday loans.

**When community trust, income, and temporal discounting were measured directly, community trust moderated the relation between income and future discounting. Specifically, low-income individuals with high community trust did not display the usual steeper rate of discounting compared with higher-income individuals.**

To address the issue of causality, specifically whether community trust reduces discounting behavior among the poor, the authors went beyond the observational findings just described. First, they took their research into the laboratory and induced feelings of high or low income and high or low community trust. As predicted, they found moderation of the income effect on discounting by community trust. Second, in an intriguing real-world demonstration that community trust can reshape the intertemporal preferences of the poor, Jachimowicz et al. (2) examined the effects of a large-scale intervention to increase community trust in Bangladesh. The intervention took place over 2 y, during which community volunteers worked with others in the community to enhance communication between community members and the local government and to help community members access government resources. In addition, the government implemented a new and more inclusive method of policy making. Following the intervention, the researchers measured future discounting. As predicted, the intertemporal choices by people whose communities received the intervention were less myopic than the choices of people in the control communities.

It is obvious that poverty alleviation requires more than a single silver bullet. The relation between present-mindedness and poverty is likely to be complex and multifactorial, and this relation is but one of many reasons that poverty persists over lifetimes and across generations. Undoing these effects will require many kinds of intervention. However, by identifying a causal role for a modifiable factor in a field context, Jachimowicz et al. (2) have taken an impressive first step toward one such intervention.

1 Peart SJ (2000) Irrationality and intertemporal choice in early neoclassical thought. *Can J Econ* 33:175–189.

2 Jachimowicz JM, Chafik S, Munrat S, Prabhu JC, Weber EU (2017) Community trust reduces myopic decisions of low-income individuals. *Proc Natl Acad Sci USA* 114:5401–5406.

3 Gottfried AW, Gottfried AE, Bathurst K, Guerin DW, Parramore MM (2003) Socioeconomic status in children’s development and family environment: Infancy through adolescence. *Socioeconomic Status, Parenting and Child Development*, eds Bornstein MH, Bradley RH (Lawrence Erlbaum Associates, Mahwah, NJ), pp 189–207.

4 Hermann D, Guadagno MA (1997) Memory performance and socio-economic status. *Appl Cogn Psychol* 11:113–120.

- 5 Lawson GM, Hook CJ, Farah MJ A meta-analysis of the relationship between socioeconomic status and executive function performance among children. *Dev Sci*, in press.
- 6 Sirin SR (2005) Socioeconomic status and academic achievement: A meta-analytic review of research. *Rev Educ Res* 75:417–453.
- 7 Golsteyn BH, Grönqvist H, Lindahl L (2014) Adolescent time preferences predict lifetime outcomes. *Econ J (Oxf)* 124:F739–F761.
- 8 Brown JR, Ivković Z, Weisbenner S (2015) Empirical determinants of intertemporal choice. *J Financ Econ* 116:473–486.
- 9 Lewis O (1966) *La Vida: A Puerto Rican Family in the Culture of Poverty—San Juan and New York* (Random House, New York).
- 10 Mullainathan S, Shafir E (2013) *Scarcity: Why Having Too Little Means So Much* (Macmillan, New York).
- 11 Haushofer J, Fehr E (2014) On the psychology of poverty. *Science* 344:862–867.
- 12 Joshi PD, Fast NJ (2013) Power and reduced temporal discounting. *Psychol Sci* 24:432–438.
- 13 Griskevicius V, Tybur JM, Delton AW, Robertson TE (2011) The influence of mortality and socioeconomic status on risk and delayed rewards: A life history theory approach. *J Pers Soc Psychol* 100:1015–1026.
- 14 Perry JL, Stairs DJ, Bardo MT (2008) Impulsive choice and environmental enrichment: Effects of d-amphetamine and methylphenidate. *Behav Brain Res* 193:48–54.
- 15 Darna M, Beckmann JS, Gipson CD, Bardo MT, Dvoskin LP (2015) Effect of environmental enrichment on dopamine and serotonin transporters and glutamate neurotransmission in medial prefrontal and orbitofrontal cortex. *Brain Res* 1599:115–125.
- 16 Sweitzer MM, et al. (2013) Polymorphic variation in the dopamine D4 receptor predicts delay discounting as a function of childhood socioeconomic status: Evidence for differential susceptibility. *Soc Cogn Affect Neurosci* 8:499–508.