

Research Statement

Gautam Rao

My research agenda is in Behavioral Development Economics: applying ideas from psychology and cognitive science to questions in economic development. I study both ‘universal’ psychological factors such as loss aversion, limited self-control, and failures of Bayesian learning, as well as the specific psychological conditions associated with living in poverty, such as mental ill-health and poor sleep. I use field and lab-in-the-field experiments to estimate causal effects, test theory and isolate psychological mechanisms. In “[Behavioral Development Economics](#)” (*Handbook of Behavioral Economics*, 2019), we review this rapidly growing field of research, and discuss the extent to which incorporating psychological factors into economic models makes progress on key questions in development economics.

Social preferences. I have studied how social preferences are *formed* and how they *affect economic behaviors*. Two papers study how the education system shapes students’ social preferences. In “[Familiarity Does Not Breed Contempt](#)” (*American Economic Review*, 2019), I examined a massive education-policy change in India that reserved a quarter of seats in private schools for low-income students. This led to a sudden increase in economic diversity in classrooms, affecting some cohorts in some schools and not others. Using lab and field experiments to measure outcomes, I found that being integrated in school with low-income students made students from high-income families more generous and egalitarian, less likely to discriminate against the poor, and more willing to socialize with them. These effects were driven by direct personal interactions between students, consistent with the Contact Hypothesis from social psychology (Allport, 1954). This came at the cost of modest negative impacts on the academic achievement of high-income students.

In ongoing work, we study how disciplinary policies in schools affect the social and political attitudes as well as the educational attainment of students later in life (“*The Long-Run Effects of Disciplinary Policies in Schools*”, *Working Paper*). Using data from the American Community Survey and the General Social Survey, we find that corporal punishment bans at the state level---which led to increased use of suspensions---caused reduced educational attainment, lower social trust and trust in institutions, and reduced tolerance for free speech. We are currently collecting primary survey data to replicate these findings and better understand mechanisms.

Two other papers use field experiments to study social-image motives in the field. In “[Voting to Tell Others](#)” (*Review of Economic Studies*, 2017), we tackle a classic puzzle in political economy: why do individuals bother to vote in large elections? We provide evidence that social image---wanting to be seen by others as a voter---plays a role. People are often asked after an election whether they voted. If they feel a sense of pride from saying they voted, or a sense of shame from admitting they did not vote, and if they dislike lying, then the anticipation of being asked provides a motivation to vote. We show that non-voters take costly actions to avoid being asked about their voter turnout, suggesting shame from admitting not voting. In contrast, voters neither seek out nor avoid being asked about their voting status. Non-voters also lie half the time when asked if they voted, while voters almost universally report having voted. Using a series of model-driven experimental variations, we estimate a value of voting ‘to tell others’ of about \$15 in the 2010 Congressional election in the United States, contributing 2 percentage points to turnout.

In “[Status Goods: Experimental Evidence from Platinum Credit Cards in Indonesia](#)” (*Quarterly Journal of Economics*, 2018), we provide field-experimental evidence on status goods. We work with an Indonesian bank that markets platinum credit cards to high-income customers. In a first experiment, we show that demand for the platinum card greatly exceeds demand for a nondescript control product with identical benefits, suggesting demand for the pure status aspect of the card. Transaction data reveal that platinum cards are more likely to be used in social contexts, implying social image motivations. In a second experiment, we provide evidence of positional externalities from the consumption of these status goods. The final experiment shows that increasing self-esteem causally reduces demand for status goods. We infer that part of the demand for status is purely psychological in nature, and that social image is a substitute for self-image.

In “[Estimating Social Preferences and Gift Exchange at Work](#)” (*American Economic Review*, 2022), we design three field experiments to estimate the nature and strength of workers’ social preferences towards their employer. The experiments vary the pay rates for the worker, the return to the employer, and employer generosity towards workers. We find that workers exert effort for their employer even in the absence of private incentives but are insensitive to the return to the employer. This result is consistent with models of warm glow or social norms regarding work effort, but not pure altruism towards the employer. We find modest increases in worker effort in response to employer generosity, consistent with small gift-exchange effects.

Behavioral biases and beliefs. One stream of this research studies *belief formation*. Using experiments in 2,150 municipalities in Brazil, we study the effect of research on the beliefs and policy choices of elected mayors in “[How Research Affects Policy](#)” (*American Economic Review*, 2021). In one experiment, we find that mayors and other municipal officials are personally willing to pay to learn the results of impact evaluations and update their beliefs when informed of the findings. They value larger-sample studies more, while not distinguishing on average between studies conducted in rich and poor countries. In a second experiment, we find that informing mayors about research on a simple and effective policy (reminder letters for taxpayers) increases the probability that their municipality implements the policy by 10 percentage points. Our results provide a step towards understanding the effect of research on policy and highlight the importance of information frictions between research and policy.

In “[Failing to Learn from Others](#)” (*Revised & Resubmitted, Econometrica*), we study how people aggregate information they discover themselves with information from others. In a series of incentivized lab experiments, we ask participants to guess the color composition of balls in an urn after drawing balls with replacement. Participants' guesses are substantially less sensitive to draws made by another player compared to draws made themselves. This result holds when others' signals must be learned through discussion, when they are perfectly communicated by a third party, and even when participants see their teammate drawing balls from the urn with their own eyes. We rule out distrust, confusion, errors in probabilistic thinking, and up-front inattention as channels. We argue that this phenomenon might pose a powerful barrier to social learning and may play a role in many cases of incomplete social learning, such as farmers learning less from many of their neighbors (Foster and Rosenzweig, 1995), central bankers weighting their own personal economic experiences beyond aggregate data (Malmendier et al., 2021), or underweighting of public information in information cascade experiments (Weizsäcker, 2010).

In “[Learning in the Household](#)”, we use the experimental paradigm described above to study communication and learning between spouses in India. We vary whether individuals discover information themselves or must instead learn what their spouse discovered via a discussion. Husbands neglect information discovered by their wives, while wives respond equally to information discovered by their husbands and by themselves. Our findings contrast with existing household models, which assume information pooling. In a second experiment, when paired with strangers, both men and women heavily discount their teammate's information relative to their own. We conclude that men and women do not differ in their general tendency to underweight information coming from others, but the marital context creates a countervailing force for women, resulting in a gender difference in learning (only) in the household.

Another stream of research studies the *consequences* of biased beliefs about oneself. In “[Self-Control and Demand for Preventive Health](#)” (*Review of Economics and Statistics*, 2021), we show that self-control problems cause people in rural India to under-invest in preventive health visits, but that commitment devices---a textbook solution---fail to solve the problem, since most people who sign up for them fail to follow through on their commitment. Our estimates imply that most consumers are partially naïve: sophisticated enough about their self-control problems to demand some commitment, but overly optimistic about whether a given level of commitment is strong enough to be effective. The results suggest that commitment devices may in practice be welfare diminishing, at least in some contexts, and serve as a cautionary tale about their role in health care.

“[The Endowment Effect and Collateralized Loans](#)” shows that the endowment effect---the phenomenon whereby owning a good increases one's valuation of it---inhibits demand for loans which use a borrower's existing assets as collateral. Using a field experiment in Kenya, we show that borrowers instead strongly prefer loans collateralized using the new durable assets being financed by the loans themselves. They are willing to pay 9% per month higher interest for such Same-Asset Collateralized Loans (SACLs) despite the endowed and new assets being randomized, and thus similarly valued before ownership. Our findings imply that assets which are difficult to use as collateral---which cannot be financed by SACLs---will be invested in less, even if the borrower has other collateral. We argue that borrowers' preference for SACLs is driven by naïvete: they initially perceive that they have little to lose when offered a SACL, but subsequently come to develop an attachment to the new asset, resulting in high repayment effort. Consistent with this, borrowers underestimate their future attachment to an asset before owning it, and SACLs do not have higher default rates despite having higher demand. We derive the conditions under which offering consumers SACLs increases or conversely decreases borrower welfare.

Psychology of poverty. A recent strand of my work has studied two psychological conditions associated with living in poverty: poor sleep and poor mental health. In “[The Economic Consequences of Increasing Sleep Among the Urban Poor](#)” (*Quarterly Journal of Economics*, 2021), we establish that the urban poor in India, who face extremely difficult living conditions, have sleep quality and duration comparable to those suffering from serious sleep disorders in rich countries. We test multiple interventions to increase sleep using a field experiment, and find that increased nighttime sleep offers few economic benefits, contrary to expert predictions and existing research from sleep labs. In contrast, short daytime naps boost productivity, mental health, cognitive function, and savings, but crowd out work time. This paper both establishes new facts

about sleep in a low-income setting and highlights the importance of studying sleep in the field. In a short peer-reviewed article coauthored with a leading sleep scientist, Dr. Susan Redline of Harvard Medical School, we elaborate on the value of using field experiments and an economic lens to study sleep, complementing existing observational and lab studies from public health and sleep science (“[Informing Sleep Policy through Field Experiments](#)”, *Science* 2021).

In “[The Long-Run Effects of Psychotherapy on Depression, Beliefs, and Economic Outcomes](#)”, we work with a team of psychiatrists to study the long-run effect of treating depression using simplified forms of psychotherapy delivered by lay workers in India. Five years after treatment ended, those who received therapy remain significantly less likely to suffer from depression. The intervention averted 9 months of depression on average over five years and cost only \$66. We also provide a behavioral-science view of therapy, emphasizing its effects on beliefs about oneself. We find that therapy changed people's beliefs about themselves in three ways. First, it reduced their likelihood of seeing themselves as a failure or feeling bad about themselves. Second, when faced with a novel work opportunity, therapy reduced over-optimistic belief updating and thus reduced overconfidence. Third, it increased self-assessed levels of patience and altruism. Therapy did not increase levels of employment or consumption, possibly because of other constraints on employment in the largely female study sample.

In “[Poverty, Depression and Anxiety: Causal Evidence and Mechanisms](#)” (*Science*, 2020), we again collaborate with a psychiatrist (Dr. Vikram Patel of Harvard Medical School) to conduct an interdisciplinary review of the literature on the causal relationship between poverty and common mental illnesses. Research shows that mental illness reduces employment and therefore income and that psychological interventions generate economic gains. Similarly, negative economic shocks cause mental illness, and anti-poverty programs such as cash transfers improve mental health. The literature provides little causal evidence on the underlying mechanisms, which are an important priority for future research.