The desperation threshold: a model to explain decisions in poverty

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Curriculum Vitae

Benoît de Courson was born on June 16, 1998, in Paris. He obtained his scientific Baccalauréat in 2015. After attending intensive humanities and social sciences preparatory classes (Khâgne B/L) at Janson de Sailly from 2015 to 2017, he was admitted to the École Normale Supérieure-PSL. He obtained a Bachelor's degree in History from Panthéon Sorbonne University (2018), a first year master's degree in Cognitive Science from ENS-EHESS (2019), and a Master's degree in Mathematics from Sorbonne University (2020). From 2021 to 2025, he pursued his PhD in social sciences at Leiden University. His doctoral research was supported and funded by the Max Planck Institute for the Study of Crime, Security & Law and the Institut Jean Nicod (EHESS, ENS-PSL). Following the completion of his doctoral research, he started a position as a postdoctoral Research Officer on the rep2si project at the London School of Economics & Political Science.

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I owe a lot to my colleagues and friends, two categories that have been quite porous in my life, as I have been blessed with peculiarly nice colleagues and smart friends. I worry that people might read too much in the order in which I cite them. I obviously don’t love you equally, but humans tend to have a certain sensitivity to inequality. Alphabetical order would have been boring and would have created a fiction of equality, at odds with this entire dissertation. I therefore used a shuffling algorithm, slightly tweaked with weights that will die with me. I think this is the first time I deliberately hide data from the public, and I hope it is the last. I might have also p-hacked the random seed to have a wonderful person on the top of the list, only god knows. My point is: if you appear high, that might be a sign that I really like you. If you are low, I’m sure it is just bad luck. I am facing a stringent word limit here so I am not able to tell each of you my reasons to be grateful, but I’m sure you know them.

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References

Adler, N. E., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: preliminary data in healthy white women. *Health Psychology*, *19*(6), 586–592. https://doi.org/10.1037//0278-6133.19.6.586

Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology : An Interdisciplinary Journal*, *30*(1), 47–88.

Akesaka, M., Eibich, P., Hanaoka, C., & Shigeoka, H. (2023). Temporal Instability of Risk Preference among the Poor: Evidence from Payday Cycles. *American Economic Journal: Applied Economics*, *15*(4), 68–99. https://doi.org/10.1257/app.20220073

Allen, C., & Nettle, D. (2021). Hunger and socioeconomic background additively predict impulsivity in humans. *Current Psychology*, *40*(5), 2275–2289. https://doi.org/10.1007/s12144-019-0141-7

Anderson, E. (2000). *Code of the street: Decency, violence, and the moral life of the inner city* (Reprint edition). W. W. Norton & Company.

Backhouse, R. E., & Cherrier, B. (2017). The age of the applied economist: The transformation of economics since the 1970s. *History of Political Economy*, *49*(Supplement), 1–33.

Bak, P., Tang, C., & Wiesenfeld, K. (1988). Self-organized criticality. *Physical Review A*, *38*(1), 364.

Banerjee, A. (2004). *The two poverties* (S. Dercon, Ed.; p. 0). Oxford University Press. https://doi.org/10.1093/0199276838.003.0004

Banerjee, A. V. (2003). Contracting constraints, credit markets, and economic development. In M. Dewatripont, L. P. Hansen, & S. J. E. Turnovsky (Eds.), *Advances in economics and econometrics: Theory and applications, eighth world congress* (pp. 1–46). Cambridge University Press.

Banerjee, A. V., & Duflo, E. (2007). The economic lives of the poor. *The Journal of Economic Perspectives*, *21*(1), 141–168. https://doi.org/10.1257/jep.21.1.141

Banerjee, A. V., & Newman, A. F. (1994). Poverty, incentives, and development. *The American Economic Review*, *84*(2), 211–215. https://www.jstor.org/stable/2117831

Banerjee, A., & Mullainathan, S. (2010). *The shape of temptation: Implications for the economic lives of the poor* (Working Paper NBER Working Paper No. 15973). National Bureau of Economic Research. https://doi.org/10.3386/w15973

Barclay, P., Mishra, S., & Sparks, A. M. (2018). State-dependent risk-taking. *Proceedings of the Royal Society B: Biological Sciences*, *285*(1881). https://doi.org/10.1098/rspb.2018.0180

Barnum, T. C., & Nagin, D. (2023). *Deterrence and Sanction Certainty Perceptions*. https://doi.org/10.1093/acrefore/9780190264079.013.248

Barone, G., & Mocetti, S. (2016). Inequality and trust: New evidence from panel data. *Economic Inquiry*, *54*(2), 794–809.

Barsky, R. B., Juster, F. T., Kimball, M. S., & Shapiro, M. D. (1997). Preference parameters and behavioral heterogeneity: An experimental approach in the health and retirement study. *The Quarterly Journal of Economics*, *112*(2), 537–579. https://doi.org/10.1162/003355397555280

Bateson, M., & Nettle, D. (2017). The telomere lengthening conundrum – it could be biology. *Aging Cell*, *16*(2), 312–319. https://doi.org/10.1111/acel.12555

Baumard, N. (2019). Psychological origins of the industrial revolution. *Behavioral and Brain Sciences*, *42*, e189. https://doi.org/10.1017/S0140525X1800211X

Beccaria, C. (1764). *Of crimes and punishments*.

Becker, G. S. (1968). Crime and punishment: An economic approach. *Journal of Political Economy*, *76*(2), 169–217.

Bennett, J. A., & Pietras, C. J. (2021). Human choices respond to added costs according to the energy budget rule. *Learning and Motivation*, *75*, 101745. https://doi.org/10.1016/j.lmot.2021.101745

Bentham, J. (1789). *An Introduction to the Principles of Morals and Legislation* (J. H. Burns & H. L. A. Hart, Eds.). Oxford University Press. https://doi.org/10.1093/oseo/instance.00077240

Bertrand, M., & Morse, A. (2011). Information Disclosure, Cognitive Biases, and Payday Borrowing. *The Journal of Finance*, *66*(6), 1865–1893. https://doi.org/10.1111/j.1540-6261.2011.01698.x

Binswanger, H. P. (1980). Attitudes toward risk: Experimental measurement in rural india. *American Journal of Agricultural Economics*, *62*(3), 395–407.

Bird, E. J. (2001). Does the welfare state induce risk-taking? *Journal of Public Economics*, *80*(3), 357–383. https://doi.org/10.1016/S0047-2727(00)00117-1

Blasco, J. (2023). Measuring deep poverty in developed countries. A cumulative indicator of income and material deprivation. *LIEPP Working Paper*, *155*. https://doi.org/hal-04342540

Blau, J. R., & Blau, P. M. (1982). The cost of inequality: Metropolitan structure and violent crime. *American Sociological Review*, *47*(1), 114–129. https://doi.org/10.2307/2095046

Bolte, G., Tamburlini, G., & Kohlhuber, M. (2010). Environmental inequalities among children in europe—evaluation of scientific evidence and policy implications. *European Journal of Public Health*, *20*(1), 14–20. https://doi.org/10.1093/eurpub/ckp213

Boon-Falleur, M., André, J.-B., Baumard, N., & Nettle, D. (2024). Household wealth is associated with perceived trustworthiness in a diverse set of countries. *Social Psychological and Personality Science*, 1–11. https://doi.org/10.1177/19485506241289461

Bouchaud, J.-P. (2009). The (unfortunate) complexity of the economy. *Physics World*, *22*(04), 28. https://doi.org/10.1088/2058-7058/22/04/39

Boudon, R. (2003). Beyond Rational Choice Theory. *Annual Review of Sociology*, *29*, 1–21. https://doi.org/10.1146/annurev.soc.29.010202.100213

Box-Steffensmeier, J. M., Burgess, J., Corbetta, M., Crawford, K., Duflo, E., Fogarty, L., Gopnik, A., Hanafi, S., Herrero, M., Hong, Y., Kameyama, Y., Lee, T. M. C., Leung, G. M., Nagin, D. S., Nobre, A. C., Nordentoft, M., Okbay, A., Perfors, A., Rival, L. M., ... Wagner, C. (2022). The future of human behaviour research. *Nature Human Behaviour*, *6*(1), 15–24. https://doi.org/10.1038/s41562-021-01275-6

Brady, D. (2023). Poverty, not the poor. *Science Advances*, *9*(34), eadg1469. https://doi.org/10.1126/sciadv.adg1469

Breit, M., Preuß, J., Scherrer, V., & Preckel, F. (2023). Why the use of segmented regression analysis to explore change in relations between variables is problematic: A simulation study. *Psychological Methods*, 1–47. https://doi.org/10.1037/met0000576

Brezina, T., Agnew, R., Cullen, F. T., & Wright, J. P. (2016). The Code of the Street: A Quantitative Assessment of Elijah Anderson's Subculture of Violence Thesis and Its Contribution to Youth Violence Research. *Youth Violence and Juvenile Justice*, *2*(4), 303–328. https://doi.org/10.1177/1541204004267780

Brezina, T., Tekin, E., & Topalli, V. (2009). "Might not be a tomorrow": A multimethods approach to anticipated early death and youth crime. *Criminology*, *47*(4), 1091–1129.

Caballero, G. A. (2010). *Risk preferences under extreme poverty: a field experiment*. https://doi.org/10.2139/ssrn.1720983

Callen, M., Isaqzadeh, M., Long, J. D., & Sprenger, C. (2014). Violence and Risk Preference: Experimental Evidence from Afghanistan. *American Economic Review*, *104*(1), 123–148. https://doi.org/10.1257/aer.104.1.123

Calnitsky, D., & Gonalons-Pons, P. (2021). The impact of an experimental guaranteed income on crime and violence. *Social Problems*, *68*(3), 778–798. https://doi.org/10.1093/socpro/spaa001

Camp, G. M. (1968). *Nothing to lose: A study of bank robbery in america* [Ph.D. dissertation]. Yale University.

Caraco, T., Martindale, S., & Whittam, T. S. (1980). An empirical demonstration of risk-sensitive foraging preferences. *Animal Behaviour*, *28*(3), 820–830. https://doi.org/10.1016/S0003-3472(80)80142-4

Cardenas, J. C., & Carpenter, J. (2013). Risk attitudes and economic well-being in Latin America. *Journal of Development Economics*, *103*, 52–61. https://doi.org/10.1016/j.jdeveco.2013.01.008

Cartar, R. V. (1991). A test of risk-sensitive foraging in wild bumble bees. *Ecology*, *72*(3), 888–895.

Carvalho, L. S. (2010). *Poverty and Time Preference* (SSRN Working Paper 1625524). Social Science Research Network. https://doi.org/10.2139/ssrn.1625524

Carvalho, L. S., Meier, S., & Wang, S. W. (2016). Poverty and Economic Decision-Making: Evidence from Changes in Financial Resources at Payday. *American Economic Review*, *106*(2), 260–284. https://doi.org/10.1257/aer.20140481

Cassar, A., Healy, A., & Kessler, C. von. (2017). Trust, risk, and time preferences after a natural disaster: Experimental evidence from thailand. *World Development*, *94*, 90–105. https://doi.org/10.1016/j.worlddev.2016.12.042

Chavas, J.-P. (2013). On the microeconomics of food and malnutrition under endogenous discounting. *European Economic Review*, *59*, 80–96. https://doi.org/10.1016/j.euroecorev.2013.01.002

Chayanov, A. V. (1926). *The theory of peasant economy*. University of Wisconsin Press.

Cherrier, B. (2023). The Price of Virtue: Some Hypotheses on How Tractability Has Shaped Economic Models. *Œconomia. History, Methodology, Philosophy*, *13-1*, 23–48. https://doi.org/10.4000/oeconomia.14116

Cohen, D., & Nisbett, R. E. (2016). Self-Protection and the Culture of Honor: Explaining Southern Violence: *Personality and Social Psychology Bulletin*. https://doi.org/10.1177/0146167294205012

Cohen, S., Alper, C. M., Doyle, W. J., Adler, N., Treanor, J. J., & Turner, R. B. (2008). Objective and subjective socioeconomic status and susceptibility to the common cold. *Health Psychology*, *27*(2), 268–274. https://doi.org/10.1037/0278-6133.27.2.268

Coleman, J. S. (1990). *Foundations of social theory*. Harvard university press.

Collins, D., Morduch, J., Rutherford, S., & Ruthven, O. (2009). *Portfolios of the poor: How the world's poor live on $2 a day*. Princeton University Press.

D'Orsogna, M. R., & Perc, M. (2015). Statistical physics of crime: A review. *Physics of Life Reviews*, *12*, 1–21. https://doi.org/10.1016/j.plrev.2014.11.001

Daly, M. (2017). *Killing the Competition : Economic Inequality and Homicide*. Routledge. https://doi.org/10.4324/9780203787748

Daly, M. (2023). Inequality, grievances, and the variability in homicide rates. *Evolution and Human Behavior*, *44*(3), 296–304.

Daly, M., & Wilson, M. (1997). Crime and conflict: Homicide in evolutionary psychological perspective. *Crime and Justice*, *22*, 51–100. https://doi.org/10.1086/449260

Daly, M., & Wilson, M. (2001). Risk-taking, intrasexual competition, and homicide. *Nebraska Symposium on Motivation*, *47*, 1–36.

de Courson, B., Frankenhuis, W. E., & Nettle, D. (2025). Poverty is associated with both risk avoidance and risk taking: Empirical evidence for the desperation threshold model from the UK and france. *Proceedings of the Royal Society B: Biological Sciences*, *292*(2040), 20242071. https://doi.org/10.1098/rspb.2024.2071

de Courson, B., Frankenhuis, W. E., Nettle, D., & Van Gelder, J.-L. (2023). Why is violence high and persistent in deprived communities? A formal model. *Proceedings of the Royal Society B*, *290*(1993), 20222095.

de Courson, B., Frankenhuis, W., Gelder, J.-L. van, & Nettle, D. (2025). *Explaining the paradoxical effects of poverty on decision making: The desperation threshold model*. https://doi.org/10.31234/osf.io/bdvpa_v1

de Courson, B., & Nettle, D. (2021). Why do inequality and deprivation produce high crime and low trust? *Scientific Reports*, *11*(1), 1937. https://doi.org/10.1038/s41598-020-80897-8

Deditius-Island, H. K., Szalda-Petree, A. D., & Kucera, S. C. (2007). Sex differences in risk sensitivity under positive and negative budgets and predictors of choice. *The Journal of General Psychology*, *134*(4), 435452. https://doi.org/10.3200/GENP.134.4.435-452

Dener, E., Kacelnik, A., & Shemesh, H. (2016). Pea plants show risk sensitivity. *Current Biology*, *26*(13), 1763–1767.

Dickinson, T., Topalli, V., & Wright, R. (2025). A criminology of time. *The British Journal of Criminology*, azaf027.

Diecidue, E., & Van De Ven, J. (2008). Aspiration Level, Probability of Success and Failure, and Expected Utility. *International Economic Review*, *49*(2), 683–700. https://doi.org/10.1111/j.1468-2354.2008.00494.x

Dillon, J. L., & Scandizzo, P. L. (1978). Risk attitudes of subsistence farmers in northeast brazil: A sampling approach. *American Journal of Agricultural Economics*, *60*(3), 425–435.

Dobbie, W., & Skiba, P. M. (2013). Information Asymmetries in Consumer Credit Markets: Evidence from Payday Lending. *American Economic Journal: Applied Economics*, *5*(4), 256–282. https://doi.org/10.1257/app.5.4.256

Doepke, M., & Zilibotti, F. (2008). Occupational choice and the spirit of capitalism*. *The Quarterly Journal of Economics*, *123*(2), 747–793. https://doi.org/10.1162/qjec.2008.123.2.747

Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J., & Wagner, G. G. (2011). Individual risk attitudes: Measurement, determinants, and behavioral consequences. *Journal of the European Economic Association*, *9*(3), 522–550. https://doi.org/10.1111/j.1542-4774.2011.01015.x

Dölling, D., Entorf, H., Hermann, D., & Rupp, T. (2009). Is Deterrence Effective? Results of a Meta-Analysis of Punishment. *European Journal on Criminal Policy and Research*, *15*(1), 201–224. https://doi.org/10.1007/s10610-008-9097-0

Donkers, B., Melenberg, B., & Van Soest, A. (2001). Estimating risk attitudes using lotteries: A large sample approach. *Journal of Risk and Uncertainty*, *22*(2), 165–195. https://www.jstor.org/stable/41761025

Du Bois, W. E. B. (2010). *The Philadelphia Negro: A Social Study*. University of Pennsylvania Press. https://doi.org/10.9783/9780812201802

Ducate, C. S., Bostrom, S. R., Proctor, K. R., & Niemeyer, R. E. (2024). *The theory crisis in criminology: Causes, consequences, and solutions*. CrimRxiv. https://doi.org/10.21428/cb6ab371.7c56d280

Duvoux, N. (2023). *L'avenir confisqué: Inégalités de temps vécu, classes sociales et patrimoine*. PUF.

Eckel, C. C., El-Gamal, M. A., & Wilson, R. K. (2009). Risk loving after the storm: A bayesian-network study of hurricane katrina evacuees. *Journal of Economic Behavior & Organization*, *69*(2), 110–124. https://doi.org/10.1016/j.jebo.2007.08.012

Eckel, C. C., Grossman, P. J., Johnson, C. A., Oliveira, A. C. M. de, Rojas, C., & Wilson, R. K. (2012). School environment and risk preferences: Experimental evidence. *Journal of Risk and Uncertainty*, *45*(3), 265–292. https://doi.org/10.1007/s11166-012-9156-2

Eisner, M. (2003). Long-term historical trends in violent crime. *Crime and Justice*, *30*, 83–142. https://doi.org/10.1086/652229

Ellis, B. J., Del Giudice, M., Dishion, T. J., Figueredo, A. J., Gray, P., Griskevicius, V., Hawley, P. H., Jacobs, W. J., James, J., Volk, A. A., & Wilson, D. S. (2012). The evolutionary basis of risky adolescent behavior: implications for science, policy, and practice. *Developmental Psychology*, *48*(3), 598–623. https://doi.org/10.1037/a0026220

Elster, J. (2007). *Explaining social behavior: More nuts and bolts for the social sciences* (2nd ed.). Cambridge University Press. https://doi.org/10.1017/CBO9781107763111

Epper, T. (2015). Income expectations, limited liquidity, and anomalies in intertemporal choice. *University of St. Gallen, School of Economics and Political Science Discussion Paper No*, *19*.

Epper, T., Fehr, E., Fehr-Duda, H., Kreiner, C. T., Lassen, D. D., Leth-Petersen, S., & Rasmussen, G. N. (2020). Time Discounting and Wealth Inequality. *American Economic Review*, *110*(4), 1177–1205. https://doi.org/10.1257/aer.20181096

Epper, T., Fehr, E., Hvidberg, K. B., Kreiner, C. T., Leth-Petersen, S., & Nytoft Rasmussen, G. (2022). Preferences predict who commits crime among young men. *Proceedings of the National Academy of Sciences*, *119*(6), e2112645119.

Epstein, J. (2008). Why model? *Journal of Artificial Societies and Social Simulation*, *11*(4), 12.

Epstein, J. M. (2012). *Generative social science: Studies in agent-based computational modeling*. Princeton University Press.

Eronen, M., & Bringmann, L. F. (2021). The Theory Crisis in Psychology: How to Move Forward. *Perspectives on Psychological Science*, *16*(4), 779–788. https://doi.org/10.1177/1745691620970586

Fajnzylber, P., Lederman, D., & Loayza, N. (2002). Inequality and violent crime. *The Journal of Law and Economics*, *45*(1), 1–39. https://doi.org/10.1086/338347

Fessler, D. M. T., Tiokhin, L. B., Holbrook, C., Gervais, M. M., & Snyder, J. K. (2014). Foundations of the Crazy Bastard Hypothesis: Nonviolent physical risk-taking enhances conceptualized formidability. *Evolution and Human Behavior*, *35*(1), 26–33. https://doi.org/10.1016/j.evolhumbehav.2013.09.003

Fisher, I. (1930). *The theory of interest*. Macmillan.

Fitzpatrick, K., & Coleman-Jensen, A. (2014). Food on the fringe: Food insecurity and the use of payday loans. *Social Service Review*, *88*(4), 553–593. https://doi.org/10.1086/679388

Foley, C. F. (2011). Welfare payments and crime. *The Review of Economics and Statistics*, *93*(1), 97–112. https://doi.org/10.1162/REST_a_00068

Frankenhuis, W. E., & Nettle, D. (2020). The Strengths of People in Poverty. *Current Directions in Psychological Science*, *29*(1), 16–21. https://doi.org/10.1177/0963721419881154

Frankenhuis, W. E., Panchanathan, K., & Smaldino, P. E. (2023). Strategic Ambiguity in the Social Sciences. *Social Psychological Bulletin*, *18*, 1–25. https://doi.org/10.32872/spb.9923

Frederick, S., Loewenstein, G., & O'donoghue, T. (2002). Time discounting and time preference: A critical review. *Journal of Economic Literature*, *40*(2), 351–401.

Frey, R., Pedroni, A., Mata, R., Rieskamp, J., & Hertwig, R. (2017). Risk preference shares the psychometric structure of major psychological traits. *Science Advances*, *3*(10), e1701381. https://doi.org/10.1126/sciadv.1701381

Friedman, M. (1957). *The permanent income hypothesis* (pp. 20–37). Princeton University Press.

Friedman, M., & Savage, L. J. (1948). The utility analysis of choices involving risk. *Journal of Political Economy*, *56*(4), 279–304. https://www.jstor.org/stable/1826045

Gambetta, D. (2009). *Codes of the underworld: How criminals communicate*. Princeton University Press. https://www.jstor.org/stable/j.ctt7tbn3

Gelder, J.-L. van, & Frankenhuis, W. E. (2025). Short-Term Mindsets and Crime. *Annual Review of Criminology*, *8*(Volume 8, 2025), 333–358. https://doi.org/10.1146/annurev-criminol-022422-124536

Genest, W., Stauffer, W. R., & Schultz, W. (2016). Utility functions predict variance and skewness risk preferences in monkeys. *Proceedings of the National Academy of Sciences*, *113*(30), 8402–8407.

Gladstone, J. J., & Pomerance, J. (2025). A glass half full of money: Dispositional optimism and wealth accumulation across the income spectrum. *Journal of Personality and Social Psychology*, *128*(1), 147–195. https://doi.org/10.1037/pspp0000530

Glaeser, E. L., Sacerdote, B., & Scheinkman, J. A. (1995). *Crime and social interactions*. https://www.nber.org/papers/w5026

Gollier, C. (2002). What does the classical theory have to say about household portfolios? In *Household portfolios* (pp. 27–54). MIT Press.

Gravelle, H. (1998). How much of the relation between population mortality and unequal distribution of income is a statistical artefact? *BMJ*, *316*(7128), 382–385. https://doi.org/10.1136/bmj.316.7128.382

Green, L., Myerson, J., Lichtman, D., Rosen, S., & Fry, A. (1996). Temporal discounting in choice between delayed rewards: The role of age and income. *Psychology and Aging*, *11*(1), 79–84. https://doi.org/10.1037/0882-7974.11.1.79

Griskevicius, V., Ackerman, J. M., Cantú, S. M., Delton, A. W., Robertson, T. E., Simpson, J. A., Thompson, M. E., & Tybur, J. M. (2013). When the economy falters, do people spend or save? Responses to resource scarcity depend on childhood environments. *Psychological Science*, *24*(2), 197–205.

Griskevicius, V., Tybur, J. M., Delton, A. W., & Robertson, T. E. (2011). The influence of mortality and socioeconomic status on risk and delayed rewards: A life history theory approach. *Journal of Personality and Social Psychology*, *100*(6), 1015–1026. https://doi.org/10.1037/a0022403

Guiso, L., & Paiella, M. (2008). Risk aversion, wealth, and background risk. *Journal of the European Economic Association*, *6*(6), 11091150. https://doi.org/10.1162/JEEA.2008.6.6.1109

Gurr, T. R. (2015). *Why men rebel*. Routledge. https://doi.org/10.4324/9781315631073

Haisley, E., Mostafa, R., & Loewenstein, G. (2008). Myopic risk-seeking: The impact of narrow decision bracketing on lottery play. *Journal of Risk and Uncertainty*, *37*(1), 57–75. https://www.jstor.org/stable/41761444

Hanaoka, C., Shigeoka, H., & Watanabe, Y. (2018). Do Risk Preferences Change? Evidence from the Great East Japan Earthquake. *American Economic Journal: Applied Economics*, *10*(2), 298–330. https://doi.org/10.1257/app.20170048

Handa, S., Seidenfeld, D., & Tembo, G. (2020). The impact of a large-scale poverty-targeted cash transfer program on intertemporal choice. *Economic Development and Cultural Change*, *69*(1), 485–512. https://doi.org/10.1086/702997

Hardin, G. (1968). The tragedy of the commons. *Science*, *162*(3859), 1243–1248. https://doi.org/10.1126/scie

nce.162.3859.1243
Harford, T. (2015). *The undercover economist strikes back: How to run–or ruin–an economy*. Penguin.
Haushofer, J., & Fehr, E. (2014). On the psychology of poverty. *Science*, *344*(6186), 862867. https://doi.org/10.1126/science.1232491
Haushofer, J., & Salicath, D. (2023). The psychology of poverty: Where do we stand? *Social Philosophy and Policy*, *40*(1), 150–184.
Haushofer, J., Schunk, D., & Fehr, E. (2013). *Negative Income Shocks Increase Discount Rates* (Working Paper 163). University of Zurich. https://ideas.repec.org/p/iso/educat/0132.html
Heeks, M., Reed, S., Tafsiri, M., & Prince, S. (2018). The economic and social costs of crime second edition. *Home Office Research Report99*.
Hertwig, R., & Erev, I. (2009). The description–experience gap in risky choice. *Trends in Cognitive Sciences*, *13*(12), 517–523. https://doi.org/10.1016/j.tics.2009.09.004
Hill, E. M., Ross, L. T., & Low, B. S. (1997). The role of future unpredictability in human risk-taking. *Human Nature (Hawthorne, N.Y.)*, *8*(4), 287–325. https://doi.org/10.1007/BF02913037
Holdsworth, L., Tiyce, M., & Hing, N. (2020). Exploring the relationship between problem gambling and homelessness: Becoming and being homeless. *Gambling Research: Journal of the National Association for Gambling Studies (Australia)*, *23*(2), 39–54. https://doi.org/10.3316/informit.659354563147675
Holt, C. A., & Laury, S. K. (2002). Risk Aversion and Incentive Effects. *American Economic Review*, *92*(5), 1644–1655. https://doi.org/10.1257/000282802762024700
Houston, A. I., McNamara, J. M., & I, H. A. (1999). *Models of Adaptive Behaviour: An Approach Based on State*. Cambridge University Press.
Hsieh, C.-C., & Pugh, M. D. (1993). Poverty, income inequality, and violent crime: a meta-analysis of recent aggregate data studies. *Criminal Justice Review*, *18*(2), 182202. https://doi.org/10.1177/073401689301800203
Humphreys, M., & Weinstein, J. M. (2008). Who Fights? The Determinants of Participation in Civil War. *American Journal of Political Science*, *52*(2), 436–455. https://doi.org/10.1111/j.1540-5907.2008.00322.x
Idler, E. L., & Benyamini, Y. (1997). Self-rated health and mortality: A review of twenty-seven community studies. *Journal of Health and Social Behavior*, 21–37.
Iversen, T., & Soskice, D. (2001). An asset theory of social policy preferences. *American Political Science Review*, *95*(4), 875–893.
Jacobs, B. A., & Wright, R. (1999). Stick-up, Street Culture, and Offender Motivation. *Criminology*, *37*(1), 149–174. https://doi.org/10.1111/j.1745-9125.1999.tb00482.x
Johnson, E. A., Webster, H., Morrison, J., Thorold, R., Mathers, A., Nettle, D., Pickett, K. E., & Johnson, M. T. (2025). What role do young people believe universal basic income can play in supporting their mental health? *Journal of Youth Studies*, *28*(1), 175–194. https://doi.org/10.1080/13676261.2023.2256236
Johnstone, R. A. (2001). Eavesdropping and animal conflict. *Proceedings of the National Academy of Sciences*, *98*(16), 9177–9180. https://doi.org/10.1073/pnas.161058798
Johnstone, R. A., & Bshary, R. (2004). Evolution of spite through indirect reciprocity. *Proceedings of the Royal Society of London. Series B: Biological Sciences*, *271*(1551), 1917–1922. https://doi.org/10.1098/rspb.2003.2581
Jost, J. T., Banaji, M. R., & Nosek, B. A. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology*, *25*(6), 881–919.
Kacelnik, A., & Bateson, M. (1996). Risky theories—the effects of variance on foraging decisions. *American*

Zoologist, *36*(4), 402–434. https://doi.org/10.1093/icb/36.4.402

Kacelnik, A., & El Mouden, C. (2013). Triumphs and trials of the risk paradigm. *Animal Behaviour*, *86*(6), 1117–1129. https://doi.org/10.1016/j.anbehav.2013.09.034

Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus; Giroux.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, *47*(2), 363–391.

Kameda, T., Inukai, K., Higuchi, S., Ogawa, A., Kim, H., Matsuda, T., & Sakagami, M. (2016). Rawlsian maximin rule operates as a common cognitive anchor in distributive justice and risky decisions. *Proceedings of the National Academy of Sciences*, *113*(42), 11817–11822.

Kapteyn, A., & Wansbeek, T. (1985). The individual welfare function: A review. *Journal of Economic Psychology*, *6*(4), 333–363.

Kelley, J., & Evans, M. D. R. (2017). Societal inequality and individual subjective well-being: Results from 68 societies and over 200,000 individuals, 1981–2008. *Social Science Research*, *62*, 1–23. https://doi.org/10.1016/j.ssresearch.2016.04.020

Kelly, M. (2000). Inequality and crime. *The Review of Economics and Statistics*, *82*(4), 530–539. https://doi.org/10.1162/003465300559028

Ketelaar, T., & Ellis, B. J. (2000). Are evolutionary explanations unfalsifiable? Evolutionary psychology and the lakatosian philosophy of science. *Psychological Inquiry*, *11*(1), 1–21.

Kettlewell, N., Rijsdijk, F., Siribaddana, S., Sumathipala, A., Tymula, A., Zavos, H., & Glozier, N. (2024). Natural disaster and risk preferences: Evidence from sri lankan twins. *Applied Economics*, *56*(5), 558–581.

Kish-Gephart, J. J. (2017). Social class & risk preferences and behavior. *Current Opinion in Psychology*, *18*, 89–92. https://doi.org/10.1016/j.copsyc.2017.07.034

Kohler, T. A., & West, C. R. V. (1996). *The calculus of self-interest in the development of cooperation: Sociopolitical development and risk among the northern anasazi*. CRC Press.

Kokko, H. (2007). *Modelling for field biologists and other interesting people*. Cambridge University Press. https://doi.org/10.1017/CBO9780511811388

Krivo, L. J., & Peterson, R. D. (1996). Extremely disadvantaged neighborhoods and urban crime. *Social Forces*, *75*(2), 619–648. https://doi.org/10.2307/2580416

Kropotkin, P. (1902). *Mutual aid: A factor of evolution*. McClure Phillips & Co. https://www.gutenberg.org/ebooks/4341

Krupp, D. B., & Cook, T. R. (2018). Local Competition Amplifies the Corrosive Effects of Inequality. *Psychological Science*, *29*(5), 824–833. https://doi.org/10.1177/0956797617748419

Kunreuther, H. (1971). *Risk taking and farmers' crop growing decisions* (Center Discussion Paper 115). Economic Growth Center, Yale University.

Kunreuther, H., & Wright, G. (1974). Safety-First, Gambling, and the Subsistence Farmer. *Miscellaneous Series*, *59*. https://ideas.repec.org//p/ags/psumis/257756.html

Kuznar, Lawrence A. (2001). Risk sensitivity and value among andean pastoralists: Measures, models, and empirical tests. *Current Anthropology*, *42*(3), 432–440. https://doi.org/10.1086/320483

Lakatos, I. (1963). *Proofs and refutations*. Nelson.

Lantz, P. M., House, J. S., Lepkowski, J. M., Williams, D. R., Mero, R. P., & Chen, J. (1998). Socioeconomic factors, health behaviors, and MortalityResults from a nationally representative prospective study of US adults. *JAMA*, *279*(21), 1703–1708. https://doi.org/10.1001/jama.279.21.1703

Lawrance, E. C. (1991). Poverty and the rate of time preference: Evidence from panel data. *Journal of Political*

Economy, *99*(1), 54–77.
Levitt, S. D. (2001). Alternative strategies for identifying the link between unemployment and crime. *Journal of Quantitative Criminology*, *17*, 377–390.
Lewis, O. (1963). The culture of poverty. *Trans-Action*, *1*(1), 17–19.
Lightner, A. D., Pisor, A. C., & Hagen, E. H. (2023). In need-based sharing, sharing is more important than need. *Evolution and Human Behavior*, *44*(5), 474–484.
Lipton, M. (1968). The theory of the optimizing peasant. *The Journal of Development Studies*, *4*.
Lipton, M. (1977). Rice and risk. Decision making among low-income farmers. *The Economic Journal*, *87*(348), 825–828. https://doi.org/10.2307/2231398
Lipton, P. (2017). Inference to the Best Explanation. In *A Companion to the Philosophy of Science* (pp. 184–193). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781405164481.ch29
Lucas, R. E. Jr. (1976). Econometric policy evaluation: A critique. In K. Brunner & A. H. Meltzer (Eds.), *The phillips curve and labor markets* (Vol. 1, pp. 19–46). North-Holland.
Lundahl, M. (1977). Review of rice and risk, decision making among low-income farmers. *The Scandinavian Journal of Economics*, *79*(3), 390–393. https://doi.org/10.2307/3439727
Lybbert, T. J., & Barrett, C. B. (2007). Risk responses to dynamic asset thresholds. *Review of Agricultural Economics*, *29*(3), 412418. https://www.jstor.org/stable/4624849
Lybbert, T. J., & Barrett, C. B. (2011). Risk-Taking Behavior in the Presence of Nonconvex Asset Dynamics. *Economic Inquiry*, *49*(4), 982–988. https://doi.org/10.1111/j.1465-7295.2009.00198.x
Lybbert, T. J., Just, D. R., & Barrett, C. B. (2013). Estimating risk preferences in the presence of bifurcated wealth dynamics: Can we identify static risk aversion amidst dynamic risk responses? *European Review of Agricultural Economics*, *40*(2), 361–377. https://doi.org/10.1093/erae/jbs027
Lynch, J., Smith, G. D., Harper, S., Hillemeier, M., Ross, N., Kaplan, G. A., & Wolfson, M. (2004). Is Income Inequality a Determinant of Population Health? Part 1. A Systematic Review. *The Milbank Quarterly*, *82*(1), 5–99. https://doi.org/10.1111/j.0887-378X.2004.00302.x
Mace, R. (1990). Pastoralist herd compositions in unpredictable environments: A comparison of model predictions and data from camel-keeping groups. *Agricultural Systems*, *33*(1), 111. https://doi.org/10.1016/0308-521X(90)90067-Z
Mace, R., & Houston, A. (1989). Pastoralist strategies for survival in unpredictable environments: A model of herd composition that maximises household viability. *Agricultural Systems*, *31*(2), 185–204. https://doi.org/10.1016/0308-521X(89)90020-6
MacLeod, J. (2018). *Ain't no makin' it: Aspirations and attainment in a low-income neighborhood, third edition* (3rd ed.). Routledge. https://doi.org/10.1201/9780429495458
MacLeod, W. B. (n.d.). *Optimal deterrence, inequality and the jean-valjean effect*. https://doi.org/10.3386/w31786
Maertens, A., Chari, A. V., & Just, D. R. (2014). Why farmers sometimes love risks: Evidence from india. *Economic Development and Cultural Change*, *62*(2), 239–274. https://doi.org/10.1086/674028
Malthus, T. R. (1798). *An essay on the principle of population*. J. Johnson. https://oll.libertyfund.org/title/malthus-an-essay-on-the-principle-of-population-1798
Mangel, M., & Clark, C. W. (1988). *Dynamic Modeling in Behavioral Ecology*. Princeton University Press.
Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive function. *Science*, *341*(6149), 976–980. https://doi.org/10.1126/science.1238041
Marx, K. (1849). *Wage-Labor and Capital*. Neue Rheinische Zeitung.

Masson, R. T. (1974). Utility Functions with Jump Discontinuities: Some Evidence and Implications from Peasant Agriculture. *Economic Inquiry*, *12*(4), 559–566. https://doi.org/10.1111/j.1465-7295.1974.tb00422.x

Mata, R., Frey, R., Richter, D., Schupp, J., & Hertwig, R. (2018). Risk Preference: A View from Psychology. *Journal of Economic Perspectives*, *32*(2), 155–172. https://doi.org/10.1257/jep.32.2.155

Matsueda, R. L. (2017). Toward an Analytical Criminology: The Micro–Macro Problem, Causal Mechanisms, and Public Policy. *Criminology*, *55*(3), 493–519. https://doi.org/10.1111/1745-9125.12149

Maynard Smith, J. (1982). *Evolution and the theory of games*. Cambridge University Press. https://doi.org/10.1017/CBO9780511806292

Maynard Smith, J., & Parker, G. A. (1976). The logic of asymmetric contests. *Animal Behaviour*, *24*(1), 159–175. https://doi.org/10.1016/S0003-3472(76)80110-8

McCarthy, B., & Hagan, J. (1992). Mean streets: The theoretical significance of situational delinquency among homeless youths. *American Journal of Sociology*, *98*(3), 597–627. https://www.jstor.org/stable/2781459

McCloskey, D. N. (1976). English open fields as behavior towards risk. *Research in Economic History*, *1*, 124–170. https://www.semanticscholar.org/paper/English-Open-Fields-as-Behavior-Towards-Risk-McCloskey/6fb21407bbd92cf671d735f14aa78d979d92749a

McCloskey, D. N. (2007). *The Bourgeois Virtues: Ethics for an Age of Commerce*. University of Chicago Press. https://press.uchicago.edu/ucp/books/book/chicago/B/bo3750637.html

McElreath, R. (2003). Reputation and the evolution of conflict. *Journal of Theoretical Biology*, *220*, 345–357. https://doi.org/10.1006/jtbi.2003.3166

Mell, H., Baumard, N., & André, J.-B. (2021). Time is money. Waiting costs explain why selection favors steeper time discounting in deprived environments. *Evolution and Human Behavior*, *42*(4), 379–387. https://doi.org/10.1016/j.evolhumbehav.2021.02.003

Merton, R. K. (1938). Social structure and anomie. *American Sociological Review*, *3*(5), 672–682. https://doi.org/10.2307/2084686

Messner, S. F., & Rosenfeld, R. (1994). *Crime and the American Dream*. Wadsworth.

Mishra, S. (2014). Decision-making under risk: Integrating perspectives from biology, economics, and psychology. *Personality and Social Psychology Review*, *18*(3), 280–307. https://doi.org/10.1177/1088868314530517

Mishra, S., & Fiddick, L. (2012). Beyond Gains and Losses: The Effect of Need on Risky Choice in Framed Decisions. *Journal of Personality and Social Psychology*, *102*, 1136–1147. https://doi.org/10.1037/a0027855

Mishra, S., Gregson, M., & Lalumière, M. L. (2012). Framing effects and risk-sensitive decision making. *British Journal of Psychology*, *103*(1), 83–97. https://doi.org/10.1111/j.2044-8295.2011.02047.x

Mishra, S., & Lalumière, M. L. (2010). You can't always get what you want: The motivational effect of need on risk-sensitive decision-making. *Journal of Experimental Social Psychology*, *46*(4), 605–611. https://doi.org/10.1016/j.jesp.2009.12.009

Miyata, S. (2003). Household's risk attitudes in indonesian villages. *Applied Economics*, *35*(5), 573–583. https://doi.org/10.1080/0003684022000020823

Monroe, J. (2005). Women in street prostitution: The result of poverty and the brunt of inequity. *Journal of Poverty*, *9*(3), 69–88.

Morduch, J. (1995). Income smoothing and consumption smoothing. *Journal of Economic Perspectives*, *9*(3), 103–114.

Mosley, P., & Verschoor, A. (2005). Risk attitudes and the 'vicious circle of poverty'. *The European Journal of Development Research*, *17*(1), 59–88. https://doi.org/10.1080/09578810500066548

Muthukrishna, M., & Henrich, J. (2019). A problem in theory. *Nature Human Behaviour*, *3*(3), 221–229. https://doi.org/10.1038/s41562-018-0522-1

Nagin, D. S. (2013). Deterrence: A review of the evidence by a criminologist for economists. *Annual Review of Economics*, *5*(1), 83–105. https://doi.org/10.1146/annurev-economics-072412-131310

Nettle, D. (2009). An evolutionary model of low mood states. *Journal of Theoretical Biology*, *257*(1), 100–103. https://doi.org/10.1016/j.jtbi.2008.10.033

Nettle, D. (2015). *Tyneside neighbourhoods: Deprivation, social life and social behaviour in one british city*. Open Book Publishers. https://doi.org/10.11647/OBP.0084

Nettle, D., Chevallier, C., Courson, B. de, Johnson, E. A., Johnson, M. T., & Pickett, K. E. (2025). Short-term changes in financial situation have immediate mental health consequences: Implications for social policy. *Social Policy & Administration*, *59*(2), 293–308. https://doi.org/10.1111/spol.13065

Nettle, D., Chrisp, J., Johnson, E. A., & Johnson, M. T. (2025). What do people want from a welfare system? Conjoint survey evidence from UK adults. *Poverty & Public Policy*, *17*(2), e70018.

Nettle, D., & Dickins, T. E. (2022). Why is greater income inequality associated with lower life satisfaction and poorer health? Evidence from the european quality of life survey, 2012. *The Social Science Journal*, 1–12.

Nettle, D., & Saxe, R. (2020). Preferences for redistribution are sensitive to perceived luck, social homogeneity, war and scarcity. *Cognition*, *198*, 104234.

O'Donnell, M., Dev, A. S., Antonoplis, S., Baum, S. M., Benedetti, A. H., Brown, N. D., Carrillo, B., Choi, A. L., Connor, P., & Donnelly, K. (2021). Empirical audit and review and an assessment of evidentiary value in research on the psychological consequences of scarcity. *Proceedings of the National Academy of Sciences*, *118*(44), e2103313118.

Page, L., Savage, D. A., & Torgler, B. (2014). Variation in risk seeking behaviour following large losses: A natural experiment. *European Economic Review*, *71*, 121–131. https://doi.org/10.1016/j.euroecorev.2014.04.009

Patterson, E. B. (1991). Poverty, Income Inequality, and Community Crime Rates. *Criminology*, *29*(4), 755–776. https://doi.org/10.1111/j.1745-9125.1991.tb01087.x

Payne, B. K., Brown-Iannuzzi, J. L., & Hannay, J. W. (2017). Economic inequality increases risk taking. *Proceedings of the National Academy of Sciences of the United States of America*, *114*(18), 4643–4648. https://doi.org/10.1073/pnas.1616453114

Pepper, G. V., & Nettle, D. (2014). Perceived extrinsic mortality risk and reported effort in looking after health. *Human Nature*, *25*(3), 378–392. https://doi.org/10.1007/s12110-014-9204-5

Pepper, G. V., & Nettle, D. (2017). The behavioural constellation of deprivation: Causes and consequences. *Behavioral and Brain Sciences*, *40*. https://doi.org/10.1017/S0140525X1600234X

Pettit, P. (2014). *Just freedom: A moral compass for a complex world*. W. W. Norton & Company.

Pickett, K. E., & Wilkinson, R. G. (2015). Income inequality and health: A causal review. *Social Science & Medicine*, *128*, 316–326.

Pietras, C. J., Cherek, D. R., Lane, S. D., & Tcheremissine, O. (2006). Risk reduction and resource pooling on a cooperation task. *The Psychological Record*, *56*(3), 387401. https://doi.org/10.1007/BF03395557

Pietras, C. J., & Hackenberg, T. D. (2001). Risk-sensitive choice in humans as a function of an earnings budget. *Journal of the Experimental Analysis of Behavior*, *76*(1), 119. https://doi.org/10.1901/jeab.2001.76-1

Pietras, C. J., Locey, M. L., & Hackenberg, T. D. (2003). Human Risky Choice Under Temporal Constraints: Tests of an Energy-Budget Model. *Journal of the Experimental Analysis of Behavior*, *80*(1), 59–75. https://doi.org/10.1901/jeab.2003.80-59

Pietras, C. J., Searcy, G. D., Huitema, B. E., & Brandt, A. E. (2008). Effects of monetary reserves and rate of gain on human risky choice under budget constraints. *Behavioural Processes*, *78*(3), 358–373. https://doi.org/10.1016/j.beproc.2008.01.016

Piff, P. K., Kraus, M. W., Côté, S., Cheng, B. H., & Keltner, D. (2010). Having less, giving more: The influence of social class on prosocial behavior. *Journal of Personality and Social Psychology*, *99*(5), 771–784. https://doi.org/10.1037/a0020092

Piff, P. K., Stancato, D. M., Cote, S., Mendoza-Denton, R., & Keltner, D. (2012). Higher social class predicts increased unethical behavior. *Proceedings of the National Academy of Sciences*, *109*(11), 4086–4091. https://doi.org/10.1073/pnas.1118373109

Pinker, S. (2012). *The Better Angels of Our Nature: Why Violence Has Declined* (Reprint édition). Penguin Books.

Pratt, T. C., & Cullen, F. T. (2005). Assessing macro-level predictors and theories of crime: A meta-analysis. *Crime and Justice*, *32*, 373–450. https://doi.org/10.1086/655357

Quick, M., Li, G., & Brunton-Smith, I. (2018). Crime-general and crime-specific spatial patterns: A multivariate spatial analysis of four crime types at the small-area scale. *Journal of Criminal Justice*, *58*, 22–32. https://doi.org/10.1016/j.jcrimjus.2018.06.003

Radkani, S., Holton, E., De Courson, B., Saxe, R., & Nettle, D. (2023). Desperation and inequality increase stealing: Evidence from experimental microsocieties. *Royal Society Open Science*, *10*(7), 221385.

Ravallion, M., & Ravallion, M. (2016). *The economics of poverty: History, measurement, and policy*. Oxford University Press.

Rawls, J. (1971). *A theory of justice: Original edition*. Harvard University Press. https://doi.org/10.2307/j.ctvjf9z6v

Reimers, S., Maylor, E. A., Stewart, N., & Chater, N. (2009). Associations between a one-shot delay discounting measure and age, income, education and real-world impulsive behavior. *Personality and Individual Differences*, *47*(8), 973–978.

Riis-Vestergaard, M. I., & Haushofer, J. (2017). Stuff goes wrong, so act now. *Behavioral and Brain Sciences*, *40*, e340. https://doi.org/10.1017/S0140525X17001091

Robson, A. J. (1992). Status, the distribution of wealth, private and social attitudes to risk. *Econometrica: Journal of the Econometric Society*, 837–857.

Rode, C., Cosmides, L., Hell, W., & Tooby, J. (1999). When and why do people avoid unknown probabilities in decisions under uncertainty? Testing some predictions from optimal foraging theory. *Cognition*, *72*(3), 269304. https://doi.org/10.1016/S0010-0277(99)00041-4

Rossmo, D. K., & Summers, L. (2022). Uncertainty and heuristics in offender decision-making: Deviations from rational choice. *Journal of Criminal Justice*, *81*, 101923. https://doi.org/10.1016/j.jcrimjus.2022.101923

Roumasset, J. A. (1971). *Risk and Choice of Technique for Peasant Agriculture: Safety First and Rice Production in the Philippines* (Workshop Series 1). Social Systems Research Institute, University of Wisconsin.

Roy, A. D. (1952). Safety first and the holding of assets. *Econometrica*, *20*(3), 431–449. https://doi.org/10.2307/1907413

Rubin, P. H., & Paul, C. W. (1979). An Evolutionary Model of Taste for Risk. *Economic Inquiry*, *17*(4), 585–

596. https://doi.org/10.1111/j.1465-7295.1979.tb00549.x
Rudolph, M., & Starke, P. (2020). How does the welfare state reduce crime? The effect of program characteristics and decommodification across 18 OECD-countries. *Journal of Criminal Justice*, *68*, 101684. https://doi.org/10.1016/j.jcrimjus.2020.101684
Rufrancos, H., Power, M., Pickett, K. E., & Wilkinson, R. (2013). Income inequality and crime: A review and explanation of the time series evidence. *Sociology and Criminology-Open Access*, *1*.
Rung, J. M., & Madden, G. J. (2018). Experimental reductions of delay discounting and impulsive choice: A systematic review and meta-analysis. *Journal of Experimental Psychology: General*, *147*(9), 1349.
Sampson, R. J. (1997). Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy. *Science*, *277*(5328), 918–924. https://doi.org/10.1126/science.277.5328.918
Sampson, R. J. (2012). *Great American City: Chicago and the Enduring Neighborhood Effect* (W. J. Wilson, Ed.). University of Chicago Press. https://press.uchicago.edu/ucp/books/book/chicago/G/bo5514383.html
Scheel, A. M., Tiokhin, L., Isager, P. M., & Lakens, D. (2021). Why Hypothesis Testers Should Spend Less Time Testing Hypotheses. *Perspectives on Psychological Science*, *16*(4), 744–755. https://doi.org/10.1177/1745691620966795
Schelling, T. C. (1971). Dynamic models of segregation. *The Journal of Mathematical Sociology*, *1*(2), 143–186. https://doi.org/10.1080/0022250X.1971.9989794
Schildberg-Hörisch, H. (2018). Are risk preferences stable? *Journal of Economic Perspectives*, *32*(2), 135–154. https://doi.org/10.1257/jep.32.2.135
Schroyen, F., & Aarbu, K. O. (2018). Attitudes Towards Large Income Risk in Welfare States: An International Comparison. *Economica*, *85*(340), 846–872. https://doi.org/10.1111/ecca.12267
Schultz, T. W. (1964). *Transforming traditional agriculture.* (Yale University Press).
Scott, J. C. (1977). *The moral economy of the peasant: Rebellion and subsistence in southeast asia*. Yale University Press. https://doi.org/10.12987/9780300185553
Searcy, G. D., & Pietras, C. J. (2011). Optimal risky choice in humans: Effects of amount of variability. *Behavioural Processes*, *87*(1), 88–99.
Sen, A. (1983). Poor, relatively speaking. *Oxford Economic Papers*, *35*(2), 153–169. https://www.jstor.org/stable/2662642
Shah, A. K., Mullainathan, S., & Shafir, E. (2012). Some consequences of having too little. *Science*, *338*(6107), 682–685. https://doi.org/10.1126/science.1222426
Sharma, E., Tully, S. M., & Wang, X. (2023). Scarcity and intertemporal choice. *Journal of Personality and Social Psychology*, *125*(5), 1036.
Shaw, C. R., & McKay, H. D. (1942). *Juvenile delinquency and urban areas*. University of Chicago Press.
Sheehy-Skeffington, J., & Rea, J. (2017). *How poverty affects people's decision-making processes* [Research Report]. Joseph Rowntree Foundation. https://www.jrf.org.uk/report/how-poverty-affects-peoples-decision-making-processes
Shover, N. (1996). *Great pretenders: Pursuits and careers of persistent thieves*. Routledge. https://doi.org/10.4324/9780429493751
Simon, H. A. (1955). A behavioral model of rational choice. *The Quarterly Journal of Economics*, *69*(1), 99–118. https://doi.org/10.2307/1884852
Simonsohn, U. (2018). Two Lines: A Valid Alternative to the Invalid Testing of U-Shaped Relationships With Quadratic Regressions. *Advances in Methods and Practices in Psychological Science*, *1*(4), 538–555.

https://doi.org/10.1177/2515245918805755
Singer, P. (2009). *The Life You Can Save: Acting Now to End World Poverty*. Random House Inc.
Smaldino, P. E. (2017). Models are stupid, and we need more of them. *Computational Social Psychology*, 311331.
Smaldino, P. E. (2020). How to translate a verbal theory into a formal model. *Social Psychology*, *51*(4), 207–218. https://doi.org/10.1027/1864-9335/a000425
Smith, A. (1776). *The wealth of nations*. W. Strahan; T. Cadell.
Sommet, N., & Elliot, A. J. (2023). A competitiveness-based theoretical framework on the psychology of income inequality. *Current Directions in Psychological Science*, *32*(4), 318–327.
Sommet, N., Morselli, D., & Spini, D. (2018). Income inequality affects the psychological health of only the people facing scarcity. *Psychological Science*, *29*(12), 1911–1921.
Spears, D. (2011). Economic decision-making in poverty depletes behavioral control. *The BE Journal of Economic Analysis & Policy*, *11*(1).
Starmans, C., Sheskin, M., & Bloom, P. (2017). Why people prefer unequal societies. *Nature Human Behaviour*, *1*(4), 1–7.
Stauffer, W. R., Lak, A., & Schultz, W. (2014). Dopamine reward prediction error responses reflect marginal utility. *Current Biology*, *24*(21), 2491–2500.
Stephens, D. W. (1981). The logic of risk-sensitive foraging preferences. *Animal Behaviour*, *29*(2), 628629. https://doi.org/10.1016/S0003-3472(81)80128-5
Sunde, U., Dohmen, T., Enke, B., Falk, A., Huffman, D., & Meyerheim, G. (2022). Patience and comparative development. *The Review of Economic Studies*, *89*(5), 2806–2840.
Tanaka, T., Camerer, C. F., & Nguyen, Q. (2010). Risk and time preferences: Linking experimental and household survey data from vietnam. *American Economic Review*, *100*(1), 557–571. https://doi.org/10.1257/aer.100.1.557
Thome, H. (2007). Explaining the long-term trend in violent crime: A heuristic scheme and some methodological considerations. *International Journal of Conflict and Violence (IJCV)*, *1*(2), 185202–185202.
Tiokhin, L. (2021). *5 modeling misconceptions*. https://doi.org/10.13140/RG.2.2.19688.39688
Topalli, V., Wright, R., & Fornango, R. (2015). Drug dealers, robbery and retaliation. Vulnerability, deterrence and the contagion of violence. *British Journal of Criminology*, *42*, 337–351. https://doi.org/10.1093/bjc/42.2.337
Townsend, P. (1979). *Poverty in the united kingdom: A survey of household resources and standards of living*. University of California Press.
Truesdale, B. C., & Jencks, C. (2016). The health effects of income inequality: Averages and disparities. *Annual Review of Public Health*, *37*(1), 413–430.
Tucker, B. (2012). Do risk and time experimental choices represent individual strategies for coping with poverty or conformity to social norms? Evidence from rural southwestern madagascar. *Current Anthropology*, *53*(2), 149–180. https://doi.org/10.1086/664569
Turchin, P., Gavrilets, S., & Goldstone, J. A. (2017). Linking "micro" to "macro" models of state breakdown to improve methods for political forecasting. *Cliodynamics*, *8*(2).
Van Herwaarden, F. G., & Kapteyn, A. (1981). Empirical comparison of the shape of welfare functions. *European Economic Review*, *15*(3), 261–286.
Van Praag, B. (1971). The welfare function of income in belgium: An empirical investigation. *European Economic Review*, *2*(3), 337–369.
Veblen, T. (1899). *The theory of the leisure class: An economic study of institutions*. Macmillan.

Vieider, F. M., Chmura, T., & Martinsson, P. (2012). Risk attitudes, development, and growth: Macroeconomic evidence from experiments in 30 countries. *Discussion Papers, WZB Junior Research Group Risk and Development*. https://ideas.repec.org//p/zbw/wzbrad/spii2012401.html

Vilalta, C., Cadena, E., Garrocho, C., & Fondevila, G. (2024). Beyond the immediate effects of income inequality on homicide rates: A reply to daly's critique. *Evolution and Human Behavior*, *45*(4), 106597.

Vohs, K. D. (2013). The poor's poor mental power. *Science*, *341*(6149), 969–970. https://doi.org/10.1126/science.1244172

Walters, G. D., & Mandracchia, J. T. (2017). Testing criminological theory through causal mediation analysis: Current status and future directions. *Journal of Criminal Justice*, *49*, 53–64. https://doi.org/10.1016/j.jcrimjus.2017.02.002

Wang, X. T. (2002). Risk as reproductive variance. *Evolution and Human Behavior*, *23*(1), 35–57.

Wardle, H., Keily, R., Astbury, G., & Reith, G. (2014). 'Risky Places?': Mapping Gambling Machine Density and Socio-Economic Deprivation. *Journal of Gambling Studies*, *30*(1), 201–212. https://doi.org/10.1007/s10899-012-9349-2

Weber, M. (1905). Die protestantische ethik und der geist des kapitalismus. *Archiv Für Sozialwissenschaft Und Sozialpolitik*, *21*, 1110.

Weisburd, D., Bushway, S., Lum, C., & Yang, S.-M. (2004). Trajectories of Crime at Places: A Longitudinal Study of Street Segments in the City of Seattle*. *Criminology*, *42*(2), 283–322. https://doi.org/10.1111/j.1745-9125.2004.tb00521.x

Wiggins, D. (1998). *Needs, values, truth: Essays in the philosophy of value* (Vol. 6). Oxford University Press.

Wik, M., Aragie Kebede, T., Bergland, O., & Holden, S. T. (2004). On the measurement of risk aversion from experimental data. *Applied Economics*, *36*(21), 2443–2451. https://doi.org/10.1080/0003684042000280580

Wilkinson, R. (2004). Why is Violence More Common Where Inequality is Greater? *Annals of the New York Academy of Sciences*, *1036*(1), 1–12. https://doi.org/https://doi.org/10.1196/annals.1330.001

Wilkinson, R. G., Kawachi, I., & Kennedy, B. P. (1998). Mortality, the Social Environment, Crime and Violence. *Sociology of Health & Illness*, *20*(5), 578–597. https://doi.org/10.1111/1467-9566.00120

Wilkinson, R. G., & Pickett, K. E. (2009). Income inequality and social dysfunction. *Annual Review of Sociology*, *35*(1), 493–511.

Wilkinson, R., & Pickett, K. (2010). *The Spirit Level: Why Greater Equality Makes Societies Stronger*. Bloomsbury Publishing.

Wilson, M., & Daly, M. (1985). Competitiveness, risk taking, and violence: The young male syndrome. *Ethology and Sociobiology*, *6*(1), 59–73.

Wilson, M., & Daly, M. (1997). Life expectancy, economic inequality, homicide, and reproductive timing in Chicago neighbourhoods. *BMJ*, *314*(7089), 1271. https://doi.org/10.1136/bmj.314.7089.1271

Wilson, W. J. (2012). *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. University of Chicago Press.

Winterhalder, B., Lu, F., & Tucker, B. (1999). Risk-senstive adaptive tactics: Models and evidence from subsistence studies in biology and anthropology. *Journal of Archaeological Research*, *7*(4), 301–348. https://doi.org/10.1007/BF02446047

Wolff, A., Carbuccia, L., Makine, Z., & Nettle, D. (2025). *Living on the edge: Investigating experiences of poverty through the lens of the desperation threshold model*. OSF Preprints. https://doi.org/10.31235/osf.io/r4svz_v1

Yesuf, M., & Bluffstone, R. A. (2009). Poverty, Risk Aversion, and Path Dependence in Low-Income Countries: Experimental Evidence from Ethiopia. *American Journal of Agricultural Economics*, *91*(4), 1022–1037. https://doi.org/10.1111/j.1467-8276.2009.01307.x

Zeisberger, S. (2022). Do people care about loss probabilities? *Journal of Risk and Uncertainty*, *65*(2), 185–213.