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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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Willem, I want to thank you from the bottom of my heart. You and I are quite different, and I suspect that’s why I learned so much from you, in writing, epistemology, method, open science... These days I sometimes find myself being organised or even rigorous, and I realise what I owe you. I must have driven you crazy a couple of times, I really admire how you managed to stay kind to me!

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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Even though I have been an extremely unattentive student, I would not be here without my teachers, in particular: Yves Moreau, Pierre Bost, Fabrice Laroulandie, Nicolas Brochier, Nicolas Thibault, Hugo Mercier, Amaury Lambert, Nicolas Baumard, Marc Jayat, Magali Rocher, Olivier David & Sophie Ducos. I am also indebted to many thinkers and artists: James C. Scott, Margo Wilson, Martin Daly, Marcel Proust, Jean Échenoz, Médine Zaouiche, Élie Yaffa, Youssoupha Mabiki, Hugo Jehl, Gaëllino M’Bani, Nabil Selhy, Jack White, Dan Auerbach and of course Julian Alaphilippe.

I have some space left to thank my family. They not only did a brilliant job of social reproduction with yours truly, but also been amazingly supportive. I have already mentioned how much I owe to my parents on the first page. I'd like to address a special thought to my godfather Nicolas. We rarely agree, but you should know what an important role you have played in my intellectual development. I guess you inspired me to become a stubborn maverick!

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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. o). 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](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/10.1016/j.liepp.2023.100015>
- 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.a dg1469>
- 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](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. *Economia. 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), 435–452. <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*, azafo27.
- 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), 1109–1150. <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), 862-867. <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), 182-202. <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 Mortality Results 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), 412–418. <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](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](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](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., Antonopolis, 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), 387–401. <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](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](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-sensitive 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.