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Understanding Scarcity: From Marketing to Policy, Management, and Beyond

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Understanding Scarcity: From Marketing to Policy, Management, and Beyond

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ABSTRACT

In a world where resources are increasingly perceived as scarce, understanding the nature of scarcity and its profound effects on human behavior has never been more critical. This monograph delves into the multifaceted dimensions of scarcity—its antecedents, manifestations, and consequences —inviting readers to explore how scarcity shapes our decisions. relationships, and societal structures. From the psychological implications of time and money scarcity to the interpersonal dynamics that arise when individuals navigate differing levels of resource availability, this work unravels the complex ways in which scarcity can influence thinking and behavior. Scarcity can drive innovation, spur creativity, and even foster resilience; yet, it also carries the weight of negative consequences like impatience and selfishness. This monograph examines the delicate balance between abundance and scarcity, challenges conventional notions, and illuminates

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pathways for future research. Through illuminating the rich landscape of scarcity, the authors offer not only theoretical insights but also practical implications for marketers, policymakers, and everyday individuals seeking to thrive amidst resource constraints.

Introduction to Scarcity

Academic research on scarcity has long had a home within the marketing literature, owing to the fact that, for decades, scarcity marketing tactics have been a mainstay of the marketer's toolkit. Promotional claims such as "limited time to buy" and "limited number available" are often used to activate a sense of scarcity (of time or products respectively) and, through this process, drive arousal and build interest in the promoted product (Goldsmith *et al.*, 2024a; Hmurovic *et al.*, 2023). The principle that "scarcity increases value" was popularized by Robert Cialdini in his 1984 book, *Influence* (Cialdini, 1984). However, the connection between scarcity and value stretches back further in the academic literature, having early roots in economics (Robbins, 1932), ecology (Hirshleifer, 1977), and commodity theory (Brock, 1968). Thus, it has been widely established and accepted that consumers are willing to expend more effort and/or pay more to acquire products to the extent those products are harder to get (i.e., scarcer).

Until recently, research in marketing examining how scarcity affected consumer behavior was largely centered around establishing the boundaries of that principle. Moderators were examined on how attributions of quantity scarcity affected consumer interest (e.g., what if the product

Introduction to Scarcity

was scarce because of demand side vs. supply side factors? Gierl and Huettl, 2010; Hamilton and Hosany, 2023). Similarly, researchers sought to establish the boundaries of when time scarcity tactics could be most effective (e.g., how much time left is too much for it to create a sense of scarcity? For review see Hmurovic *et al.*, 2023). Some researchers delved into examining how personal experiences of objective financial deprivation affected consumers (e.g., Andreasen, 1993). However, little was done to advance a common understanding of the role of scarcity beyond these narrow areas.

This changed when, following the Great Recession of 2007–2009, research into topics related to how reminders of resource scarcity affect consumer decision making saw a flourish of interest (for review see Goldsmith *et al.*, 2020a). In academic research, scarcity was no longer primarily studied as a promotional tactic to be manipulated. It was a chronic individual difference to be measured (Auger *et al.*, 2024; Hamilton *et al.*, 2019a; Van Dijk *et al.*, 2022). It was a mindset that could be activated (Mullainathan and Shafir, 2013). It was contextually driven by macro-economic factors (Griskevicius *et al.*, 2013; Roux *et al.*, 2024). And, it could be triggered by factors as endemic as social comparisons (Sharma *et al.*, 2014; Sharma and Alter, 2012) or as innocuous as emptying a vase (Levontin *et al.*, 2015). Broadly construed, scarcity included sensing or observing any "discrepancy between one's current level of resources and a higher, more desirable reference point" (Cannon *et al.*, 2019, p. 105).

With the ground swell of interest in understanding the implications of scarcity for all stages of the consumer experience (Hamilton *et al.*, 2019b), a host of important insights have been cataloged over the past fifteen years that better illuminate the role of scarcity, in its different forms, in people's lives. See Figure 1.1 for a brief timeline that captures some of the key points that demarcated a significant change in thinking about scarcity over time. It is by no means an exhaustive representation of all prior research on scarcity, but it is meant to give the reader a broad glimpse into the rich history of academic research in this area. In the following sections, we reflect on what academics in marketing and related disciplines have established about the psychology of scarcity. We then draw from these extant findings to suggest novel implications



Figure 1.1: A brief timeline of research on scarcity.

for public policy (Section 2) and management (Section 3). We conclude with a forward-thinking agenda for the next wave of research on scarcity in marketing and beyond in Section 4.

- Aarøe, L. and M. B. Petersen (2013). "Hunger games fluctuations in blood glucose levels influence support for social welfare". *Psychological Science*. 24(12): 2550–2556.
- Abele, A. E. and B. Wojciszke (2007). "Agency and communion from the perspective of self versus others". Journal of Personality and Social Psychology. 93(5): 751–763.
- Ahl, R. E., D. Amir, and K. McAuliffe (2024). "Recalling experiences of scarcity reduces children's generosity relative to recalling abundance". Journal of Experimental Child Psychology. 243: 105914.
- Allard, T. and K. White (2015). "Cross-domain effects of guilt on desire for self-improvement products". Journal of Consumer Research. 42(3): 401–419.
- AMA (n.d). "Marketing management". American Marketing Association. URL: https://www.ama.org/topics/marketing-management/.
- Amabile, T. M., C. N. Hadley, and S. J. Kramer (2002). "Creativity under the gun". *Harvard Business Review*. 80: 52–63.
- Anderson, C. and A. D. Galinsky (2006). "Power, optimism, and risktaking". European Journal of Social Psychology. 36(4): 511–536.
- Anderson, C., O. P. John, D. Keltner, and A. M. Kring (2001). "Who attains social status? Effects of personality and physical attractiveness in social groups". *Journal of Personality and Social Psychology*. 81(1): 116–132.

André, Q., Z. Carmon, K. Wetenbroch, A. Crum, D. Frank, W. Goldstein, J. Huber, L. van Boven, B. Weber, and H. Yang (2018).
"Consumer choice and autonomy in the age of artificial intelligence and big data". *Customer Needs and Solutions*. 5: 28–37.

Andreasen, A. R. (1975). The Disadvantaged Consumer. The Free Press.

- Andreasen, A. R. (1993). "Revisiting the disadvantaged: Old lessons and new problems". Journal of Public Policy & Marketing. 12(2): 270–275.
- Andreoni, J. (1990). "Impure altruism and donations to public goods: A theory of warm-glow giving". The Economic Journal. 100(401): 464–477.
- Ansburg, P. I. and K. Hill (2003). "Creative and analytic thinkers differ in their use of attentional resources". *Personality and Individual Differences.* 34(7): 1141–1152.
- Atasoy, O. and C. K. Morewedge (2018). "Digital goods are valued less than physical goods". Journal of Consumer Research. 44(6): 1343–1357.
- Auger, V., N. Sommet, and A. Normand (2024). "The perceived economic scarcity scale: A valid tool with greater predictive utility than income". British Journal of Social Psychology. bjso.12719.
- Baer, M. and G. R. Oldham (2006). "The curvilinear relation between experienced creative time pressure and creativity: Moderating effects of openness to experience and support for creativity". Journal of Applied Psychology. 91(4): 963–970.
- Bakan, D. (1966). The Duality of Human Existence: An Essay on Psychology and Religion. Chicago: Rand McNally.
- Barr, K. (2023). "These brands are still going down with NFT's sinking ship". *Gizmodo*. URL: https://gizmodo.com/these-brands-are-still-g oing-down-with-nft-s-sinking-sh-1850908321.
- Barton, B., N. Zlatevska, and H. Oppewal (2022). "Scarcity tactics in marketing: A meta-analysis of product scarcity effects on consumer purchase intentions". *Journal of Retailing*. 98(4): 741–758.
- Bechler, C. J., S. Lutfeali, S. Huang, and J. I. Morris (2024). "Working hard for money decreases risk tolerance". *Journal of Consumer Psychology*. 34(1): 110–118.

- Becker, G. M., M. H. DeGroot, and J. Marschak (1964). "Measuring utility by a single-response sequential method". *Behavioral Sceince*. 9(3): 226–232.
- Belk, R. W., G. Das, and S. P. Jain (2023). "The ubiquity of scarcity". Journal of the Academy of Marketing Science. 51(6): 1191–1196.
- Bellezza, S., N. Paharia, and A. Keinan (2017). "Conspicuous consumption of time: When busyness and lack of leisure time become a status symbol". *Journal of Consumer Research*. 44(1): 118–138.
- Benton, B., J.-A. Choi, Y. Luo, and K. Green (2022). "Hate speech spikes on Twitter after Elon Musk acquires the platform". School of Communication and Media Scholarship and Creative Works. 33.
- Berkebile-Weinberg, M. M., A. R. Krosch, and D. M. Amodio (2022). "Economic scarcity increases racial stereotyping in beliefs and face representation". *Journal of Experimental Social Psychology*. 102: 104354.
- Blader, S. L. and Y.-R. Chen (2012). "Differentiating the effects of status and power: A justice perspective". *Journal of Personality* and Social Psychology. 102(5): 994–1014.
- Blader, S. L., A. Shirako, and Y.-R. Chen (2016). "Looking out from the top: Differential effects of status and power on perspective taking". *Personality and Social Psychology Bulletin.* 42(6): 723–737.
- Blair, S., D. D. Rucker, and M. Lisjak (2020). "Conspicuously insecure: When conspicuous consumption backfires". NA-Advances in Consumer Research. 48: 1000–1005.
- Blocker, C., J. Z. Zhang, R. P. Hill, C. Roux, C. Corus, M. Hutton, J. Dorsey, and E. Minton (2023). "Rethinking scarcity and poverty: Building bridges for shared insight and impact". *Journal of Con*sumer Psychology. 33(3): 489–509.
- Bogliacino, F., R. Charris, C. Gómez, and F. Montealegre (2024). "Negative economic shocks and the compliance to social norms". Judgment and Decision Making. 19: e9.
- Briers, B., M. Pandalaere, S. Dewitte, and L. Warlop (2006). "Hungry for money: The desire for caloric resources increases the desire for financial resources and vice versa". *Psychological Science*. 17(11): 939–943.

- Brock, T. C. (1968). "Implications of commodity theory for value change". In: *Psychological Foundations of Attitudes*. Ed. by A. G. Greenwald, T. C. Brock, and T. M. Ostrom. New York: Academic Press. 243–276.
- Brown, K. W., R. M. Ryan, and J. D. Creswell (2007). "Addressing fundamental questions about mindfulness". *Psychological Inquiry*. 18(4): 272–281.
- Brown, Z. C., E. M. Anicich, and A. D. Galinsky (2020). "Compensatory conspicuous communication: Low status increases Jargon use". Organizational Behavior and Human Decision Processes. 161: 274–290.
- Cannon, C., K. Goldsmith, and C. Roux (2019). "A self-regulatory model of resource scarcity". Journal of Consumer Psychology. 29(1): 104–127.
- Cannon, C., K. Goldsmith, and C. Roux (2024). "An integrative theory of resource discrepancies". *Journal of Consumer Psychology*. Forthcoming. DOI: 10.1002/jcpy.1406.
- Cannon, C. and D. D. Rucker (2019). "The dark side of luxury: Social costs of luxury consumption". *Personality and Social Psychology Bulletin.* 45(5): 767–779.
- Case, C. R., K. K. Bae, and J. K. Maner (2018). "To lead or to be liked: When prestige-oriented leaders prioritize popularity over performance". *Journal of Personality and Social Psychology*. 115(4): 657–676.
- Chen, S., A. Y. Lee-Chai, and J. A. Bargh (2001). "Relationship orientation as a moderator of the effects of social power". *Journal of Personality & Social Psychology*. 80(2): 173–187.
- Cheng, J. T., J. L. Tracy, T. Foulsham, A. Kingstone, and J. Henrich (2013). "Two ways to the top: Evidence that dominance and prestige are distinct yet viable avenues to social rank and influence". *Journal* of Personality and Social Psychology. 104(1): 103–125.
- Cheng, J. T., J. L. Tracy, and J. Henrich (2010). "Pride, personality, and the evolutionary foundations of human social status". *Evolution* and Human Behavior. 31(5): 334–347.
- Choi, J. and A. Fishbach (2011). "Choice as an end versus a means". Journal of Marketing Research. 48(3): 544–554.

- Cialdini, R. B. (1984). Influence: How and Why People Agree to Things. William Morrow.
- Cialdini, R. B. (2009). *Influence: Science and Practice*. Boston, MA: Allyn & Bacon.
- Dahlquist, L. M. and D. R. Ottinger (1983). "Locus of control and peer status: A scale for children's perceptions of social interactions". *Journal of Personality Assessment.* 47(3): 278–287.
- Darley, J. M. and C. D. Batson (1973). "From Jerusalem to Jericho: A study of situational and dispositional variables in helping behavior". *Journal of Personality and Social Psychology*. 27(1): 100–108.
- Das, G., S. P. Jain, D. Maheswaran, R. J. Slotegraaf, and R. Srinivasan (2021). "Pandemics and marketing: Insights, impacts, and research opportunities". *Journal of the Academy of Marketing Science*. 49(5): 835–854.
- Donnelly, G. E., A. V. Wilson, A. V. Whillans, and M. I. Norton (2021). "Communicating resource scarcity and interpersonal connection". *Journal of Consumer Psychology*, 31(4): 726–745.
- Dubois, D., D. D. Rucker, and A. D. Galinsky (2015). "Social class, power, and selfishness: When and why upper and lower class individuals behave unethically". *Journal of Personality and Social Psychology.* 108(3): 436–449.
- Duffy, C. (2023). "How Elon Musk upended Twitter and his own reputation in 6 months as CEO". CNN. Com. URL: https://www.cnn.com/ 2023/04/27/tech/elon-musk-twitter-six-months/index.html.
- Elbæk, C. T., P. Mitkidis, L. Aarøe, and T. Otterbring (2022). "Honestly hungry: Acute hunger does not increase unethical economic behaviour". *Journal of Experimental Social Psychology*. 101: 104312.
- Elbæk, C. T., P. Mitkidis, L. Aarøe, and T. Otterbring (2023). "Subjective socioeconomic status and income inequality are associated with self-reported morality across 67 countries". *Nature Communications*. 14(1): 5453.
- Elsbach, K. D. and A. B. Hargadon (2006). "Enhancing creativity through mindless work: A framework of workday design". Organization Science. 17(4): 470–483.

- Fast, N. J., D. H. Gruenfeld, N. Sivanathan, and A. D. Galinsky (2009)."Illusory control: A generative force behind power's far-reaching effects". *Psychological Science*. 20(4): 502–508.
- Fast, N. J., N. Halevy, and A. D. Galinsky (2012a). "The destructive nature of power without status". Journal of Experimental Social Psychology. 48(1): 391–394.
- Fast, N. J., N. Sivanathan, N. D. Mayer, and A. D. Galinsky (2012b). "Power and overconfident decision-making". Organizational Behavior and Human Decision Processes. 117(2): 249–260.
- Fernbach, P. M., C. Kan, and Lynch, Jr. J. G. (2015). "Squeezed: Coping with constraint through efficiency and prioritization". *Journal of Consumer Research*. 41(5): 1204–1227.
- Fragale, A. R., J. R. Overbeck, and M. A. Neale (2011). "Resources versus respect: Social judgments based on targets' power and status positions". *Journal of Experimental Social Psychology*. 47(4): 767– 775.
- French Jr., J. R. P. and B. Raven (1959). "The bases of social power". In: Studies in Social Power. Ed. by D. P. Cartwright. Ann Arbor, MI: Institute for Social Research, University of Michigan. 150–167.
- Frimer, J. A., L. J. Walker, W. L. Dunlop, B. H. Lee, and A. Riches (2011). "The integration of agency and communion in moral personality: Evidence of enlightened self-interest". *Journal of Personality* and Social Psychology. 101(1): 149–163.
- Galinsky, A. D., D. H. Gruenfeld, and J. C. Magee (2003). "From power to action". Journal of Personality and Social Psychology. 85(3): 453–466.
- Galinsky, A. D., J. C. Magee, D. H. Gruenfeld, J. A. Whitson, and K. A. Liljenquist (2008). "Power reduces the press of the situation: Implications for creativity, conformity, and dissonance". *Journal of Personality and Social Psychology*. 95(6): 1450–1466.
- Galinsky, A. D. and T. Mussweiler (2001). "First offers as anchors: The role of perspective-taking and negotiator focus". Journal of Personality and Social Psychology. 81(4): 657–669.

- Galinsky, A. D., D. D. Rucker, and J. C. Magee (2015). "Power: Past findings, present considerations, and future directions". In: APA Handbook of Personality and Social Psychology. Ed. by M. Mikulincer and P. R. Shaver. Vol. 3. Washington, DC: American Psychological Association, Interpersonal Relations. 421–460.
- Garcia, S. M., K. Weaver, and P. Chen (2019). "The status signals paradox". Social Psychological and Personality Science. 10(5): 690– 696.
- Giacomantonio, M., C. K. W. De Dreu, S. Shalvi, D. Sligte, and S. Leder (2010). "Psychological distance boosts value-behavior correspondence in ultimatum bargaining and integrative negotiation". Journal of Experimental Social Psychology. 46(5): 824–829.
- Gierl, H. and V. Huettl (2010). "Are scarce products always more attractive? The interaction of different types of scarcity signals with products' suitability for conspicuous consumption". International Journal of Research in Marketing. 27(3): 225–235.
- Giurge, L. M., A. V. Whillans, and C. West (2020). "Why time poverty matters for individuals, organisations and nations". *Nature Human Behaviour.* 4(10): 993–1003.
- Goldsmith, K., V. Griskevicius, and R. Hamilton (2020a). "Scarcity and consumer decision making: Is scarcity a mindset, a threat, a reference point, or a journey?" Journal of the Association for Consumer Research. 5(4): 358–364.
- Goldsmith, K., J. Hmurovic, and C. Lamberton (2024a). "Introducing the ARTS framework: A tool for constructive re-inquiry". *Journal* of the Academy of Marketing Science. 52(3): 605–609.
- Goldsmith, K., G. E. Newman, and R. Dhar (2016). "Mental representation changes the evaluation of green product benefits". *Nature Climate Change*. 6: 847–851.
- Goldsmith, K., C. Roux, and C. Cannon (2021). "Understanding the relationship between resource scarcity and object attachment". Current Opinion in Psychology. 39: 26–30.
- Goldsmith, K., C. Roux, C. Cannon, and A. Tezer (2024b). "The yin and yang of hard times: When can states of vulnerability motivate self-improvement". *Review of Marketing Research*.

- Goldsmith, K., C. Roux, and J. Ma (2018). "When seeking the best brings out the worst in consumers: Understanding the relationship between a maximizing mindset and immoral behavior". *Journal of Consumer Psychology*. 28(2): 293–309.
- Goldsmith, K., C. Roux, and A. V. Wilson (2020b). "Can thoughts of having less ever promote prosocial preferences? The relationship between scarcity, construal level, and sustainable product adoption". *Journal of the Association for Consumer Research*. 5(1): 70–82.
- Greve, F. (2009). America's Poor are its Most Generous Givers. Mc-Clatchy Washington Bureau. URL: https://www.mcclatchydc.com/ news/politics-government/article24538864.html.
- Griskevicius, V., J. M. Ackerman, S. M. Cantú, A. W. Delton, T. E. Robertson, J. A. Simpson, M. E. Thompson, and J. M. Tybur (2013).
 "When the economy falters, do people spend or save? Responses to resource scarcity depend on childhood environments". *Psychological Science*. 24(2): 197–205.
- Gu, D., J. Jiang, Y. Zhang, Y. Sun, W. Jiang, and X. Du (2020). "Concern for the future and saving the earth: When does ecological resource scarcity promote pro-environmental behavior?" *Journal of Environmental Psychology*. 72: 101501.
- Guinote, A. (2007a). "Power affects basic cognition: Increased attentional inhibition and flexibility". Journal of Experimental Social Psychology. 43(5): 685–697.
- Guinote, A. (2007b). "Power and goal pursuit". Personality and Social Psychology Bulletin. 33(8): 1076–1087.
- Guinote, A. (2010). "How long will it take? Power biases time predictions". Journal of Experimental Social Psychology. 46(4): 595– 604.
- Hagerty, S. F. and K. Barasz (2020). "Inequality in socially permissible consumption". Proceedings of the National Academy of Sciences. 117(25): 14084–14093.
- Hamilton, R. W. and A. R. S. Hosany (2023). "On the strategic use of product scarcity in marketing". Journal of the Academy of Marketing Science. 51(6): 1203–1213.

- Hamilton, R. W., C. Mittal, A. Shah, D. V. Thompson, and V. Griskevicius (2019a). "How financial constraints influence consumer behavior: An integrative framework". *Journal of Consumer Psychology*. 29(2): 285–305.
- Hamilton, R. W., D. Thompson, S. Bone, L. N. Chaplin, V. Griskevicius, K. Goldsmith, R. Hill, D. R. John, C. Mittal, T. O'Guinn, P. Piff, C. Roux, A. Shah, and M. Zhu (2019b). "The effects of scarcity on consumer decision journeys". *Journal of the Academy of Marketing Science*. 47: 532–550.
- Hays, N. A. and C. Bendersky (2015). "Not all inequality is created equal: Effects of status versus power hierarchies on competition for upward mobility". *Journal of Personality and Social Psychology*. 108(6): 867–882.
- Hays, N. A. and S. L. Blader (2017). "To give or not to give? Interactive effects of status and legitimacy on generosity". *Journal of Personality and Social Psychology*. 112(1): 17–38.
- Henrich, J. and F. J. Gil-White (2001). "The evolution of prestige: Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission". *Evolution and Human Behavior*. 22(3): 165– 196.
- Hirshleifer, J. (1977). "Economics from a biological viewpoint". The Journal of Law & Economics. 20(1): 1–52.
- Hmurovic, J., C. Lamberton, and K. Goldsmith (2023). "Examining the efficacy of time scarcity marketing promotions in online retail". *Journal of Marketing Research*. 60(2): 299–328.
- Hofstetter, R., M. P. Fritze, and C. Lamberton (2024). "Beyond scarcity: A social value-based lens for NFT pricing". Journal of Consumer Research. 51(1): 140–150.
- Holland, J., A. S. Silva, and R. Mace (2012). "Lost letter measure of variation in altruistic behaviour in 20 neighbourhoods". *PloS One.* 7(8): e43294.
- Hosany, A. R. S. and R. W. Hamilton (2023). "Family responses to resource scarcity". Journal of the Academy of Marketing Science. 51(6): 1351–1381.

- Jarvis, B. (2018). The Insect Apocalypse is Here. The New York Times. URL: https://www.nytimes.com/2018/11/27/magazine/insect-apoc alypse.html.
- Jiang, X., N. Zhang, X. Sun, Z. Liu, and Y. L. Wang (2024). "Being pressed for time leads to treating others as things: Exploring the relationships among time scarcity, agentic and communal orientation and objectification". British Journal of Social Psychology.
- Kappes, H. B., R. Campbell, and A. Ivchenko (2023). "Scarcity and predictability of income over time: Experimental games as a way to study consumption smoothing". *Journal of the Association for Consumer Research.* 8(4): 390–402.
- Kaya, A. (2007). "Sociometric status, depression, and locus of control among Turkish early adolescents". Social Behavior and Personality. 35(10): 1405–1414.
- Kifer, Y., D. Heller, W. Q. E. Perunovic, and A. D. Galinsky (2013). "The good life of the powerful: The experience of power and authenticity enhances subjective well-being". *Psychological Science*. 24(3): 280–288.
- Kraus, M. W., S. Chen, and D. Keltner (2011). "The power to be me: Power elevates self-concept consistency and authenticity". *Journal* of Experimental Social Psychology. 47(5): 974–980.
- Krekels, G. and M. Pandelaere (2015). "Dispositional greed". Personality and Individual Differences. 74: 225–230.
- Kristofferson, K., B. McFerran, A. C. Morales, and D. W. Dahl (2017). "The dark side of scarcity promotions: How exposure to limitedquantity promotions can induce aggression". *Journal of Consumer Research.* 43(5): 683–706.
- Krosch, A. R. and D. M. Amodio (2014). "Economic scarcity alters the perception of race". Proceedings of the National Academy of Sciences. 111(25): 9079–9084.
- Krosch, A. R. and D. M. Amodio (2019). "Scarcity disrupts the neural encoding of black faces: A socioperceptual pathway to discrimination". Journal of Personality and Social Psychology. 117(5): 859– 875.

- Kurtz, J. L. (2008). "Looking to the future to appreciate the present the benefits of perceived temporal scarcity". *Psychological Science*. 19(12): 1238–1241.
- Ladeira, W. J., W. M. Lim, F. De Oliveira Santini, T. Rasul, M. G. Perin, and L. Altinay (2023). "A meta-analysis on the effects of product scarcity". *Psychology & Marketing*. 40(7): 1267–1279.
- Lee, J., E. Ko, and C. M. Megehee (2015). "Social benefits of brand logos in presentation of self in cross and same gender influence contexts". *Journal of Business Research*. 68(6): 1341–1349.
- Lee-Yoon, A., G. E. Donnelly, and A. V. Whillans (2020). "Overcoming resource scarcity: Consumers' response to gifts intending to save time and money". *Journal of the Association for Consumer Research*. 5(4): 391–403.
- Levontin, L., D. Ein-Gar, and A. Y. Lee (2015). "Acts of emptying promote self-focus: A perceived resource deficiency perspective". *Journal of Consumer Psychology*. 2(25): 257–267.
- Lynch Jr., J. G., P. M. Fernbach, and C. Kan (2023). "Auditing the value of empirical audits". Proceedings of the National Academy of Sciences. 120(26): e2213200120.
- Ma, J. and N. J. Roese (2014). "The maximizing mind-set". Journal of Consumer Research. 41(1): 71–92.
- Magee, J. C. and A. D. Galinsky (2008). "Social hierarchy: The selfreinforcing nature of power and status". Academy of Management Annals. 2: 351–398.
- Magee, J. C., A. D. Galinsky, D. H. Gruenfeld, and R. F. Wagner (2007). "Power, propensity to negotiate, and moving first in competitive interactions". *Personality and Social Psychology Bulletin.* 33(2): 200–212.
- Mandel, N., D. D. Rucker, J. Levav, and A. D. Galinsky (2017). "The compensatory consumer behavior model: How self-discrepancies drive consumer behavior". *Journal of Consumer Psychology*. 27(2): 133–146.
- Maner, J. K. and N. L. Mead (2010). "The essential tension between leadership and power: When leaders sacrifice group goals for the sake of self-interest". *Journal of Personality and Social Psychology*. 99(3): 482–497.

- McClintock, C. (1977). "Social motivations in settings of outcome interdependence". In: Negotiations: Social Psychological Perspective. Beverly Hills, CA: Sage. 49–77.
- Mehta, R. and M. Zhu (2016). "Creating when you have less: The impact of resource scarcity on product use creativity". Journal of Consumer Research. 42(5): 767–782.
- Meyvis, T., K. Goldsmith, and R. Dhar (2012). "The importance of the context in brand extension: How pictures and comparisons shift consumers' focus from fit to quality". *Journal of Marketing Research*. 49(2): 206–217.
- Moorhouse, M., M. Goode, J. Cotte, and J. Widney (2023). "Helping those that hide: Anticipated stigmatization drives concealment and a destructive cycle of debt". *Journal of Marketing Research*. 60(6): 1135–1153.
- Moreau, C. P. and D. W. Dahl (2005). "Designing the solution: The impact of constraints on consumers' creativity". Journal of Consumer Research. 32(1): 13–22.
- Mullainathan, S. and E. Shafir (2013). Scarcity: Why Having too Little Means So Much. New York, NY: Times Books.
- Nelissen, R. M. A. and M. H. C. Meijers (2011). "Social benefits of luxury brands as costly signals of wealth and status". *Evolution and Human Behavior*. 32(5): 343–355.
- Nguyen, O. D. Y., T. Bucic, L. V. Ngo, and H. Oppewal (2023). "Disposal-based scarcity: How overstock reduction methods influence consumer brand perceptions and evaluations". *Journal of the Academy of Marketing Science*. 51(6): 1305–1326.
- O'Donnell, M., A. S. Dev, S. Antonoplis, S. M. Baum, A. H. Benedetti, N. Derek Brown, B. Carrillo, A. L. Choi, P. Connor, K. Donnelly, M. E. Ellwood-Lowe, R. Foushee, R. Jansen, S. N. Jarvis, R. Lundell-Creagh, J. M. Ocampo, G. N. Okafor, Z. Rahmani Azad, M. Rosenblum, and L. D. Nelson (2021). "Empirical audit and review and an assessment of evidentiary value in research on the psychological consequences of scarcity". *Proceedings in the National Academy of Sciences.* 118(44): e2103313118.

- O'Donnell, M., L. D. Nelson, and D. A. Moore (2023). "Reply to Shah et al. & Lynch et al.: In defense of replication". Proceedings of the National Academy of Sciences. 120(26): e2304251120.
- Oh, D. W., E. Shafir, and A. Todorov (2020). "Economic status cues from clothes affect perceived competence from faces". *Nature Human Behaviour.* 4(3): 287–293.
- Olson, J. G., B. McFerran, A. C. Morales, and D. W. Dahl (2016). "Wealth and welfare: Divergent moral reactions to ethical consumer choices". *Journal of Consumer Research*. 42(6): 879–896.
- Olson, J. G., B. McFerran, A. C. Morales, and D. W. Dahl (2021). "How income shapes moral judgments of prosocial behavior". *International Journal of Research in Marketing*. 38(1): 120–135.
- Parker, A. M., W. B. De Bruin, and B. Fischhoff (2007). "Maximizers versus satisficers: Decision-making styles, competence, and outcomes". *Judgment and Decision Making*. 2(6): 342–350.
- Petersen, M. B., L. Aarøe, N. H. Jensen, and O. Curry (2014). "Social welfare and the psychology of food sharing: Short-term hunger increases support for social welfare". *Political Psychology*. 35(6): 757–773.
- Rick, S. (2018). "Tightwads and spendthrifts: An interdisciplinary review". Financial Planning Review. 1(1–2): e1010.
- Robbins, L. (1932). An Essay on the Nature and Significance of Economic Science. London: MacMillan.
- Rodeheffer, C. D., S. E. Hill, and C. G. Lord (2012). "Does this recession make me look black? The effect of resource scarcity on the categorization of biracial faces". *Psychological Science*. 23(12): 1476– 1478.
- Roux, C., C. Cannon, and K. Goldsmith (2024). "How resource scarcity shapes consumer behaviour: Implications from the COVID-19 pandemic". In: *Precision Retailing: Driving Results with Behavioral Insights and Data Analytics.* Ed. by L. Dubé, M. C. Cohen, N. Yang, and B. Monla. Toronto: University of Toronto Press.
- Roux, C., K. Goldsmith, and A. Bonezzi (2015). "On the psychology of scarcity: When reminders of resource scarcity promote selfish (and generous) behavior". *Journal of Consumer Research*. 42(4): 615–631.

- Roux, C., K. Goldsmith, and C. Cannon (2023). "On the role of scarcity in marketing: Identifying research opportunities across the 5Ps". *Journal of the Academy of Marketing Science*. 51(6): 1197–1202.
- Rucker, D. D., D. Dubois, and A. D. Galinsky (2011). "Generous paupers and stingy princes: Power drives consumer spending on self versus others". *Journal of Consumer Research*. 37(6): 1015–1029.
- Rucker, D. D. and A. D. Galinsky (2008). "Desire to acquire: Powerlessness and compensatory consumption". Journal of Consumer Research. 35(2): 257–267.
- Rucker, D. D. and A. D. Galinsky (2009). "Conspicuous consumption versus utilitarian ideals: How different levels of power shape consumer behavior". Journal of Experimental Social Psychology. 45(3): 549– 555.
- Rucker, D. D., A. D. Galinsky, and D. Dubois (2012). "Power and consumer behavior: How power shapes who and what consumers value". *Journal of Consumer Psychology*. 22(3): 352–368.
- Sachdeva, S. and J. Zhao (2021). "Distinct impacts of financial scarcity and natural resource scarcity on sustainable choices and motivations". *Journal of Consumer Behaviour.* 20(2): 203–217.
- Salisbury, L. C., G. Y. Nenkov, S. J. Blanchard, R. P. Hill, A. L. Brown, and K. D. Martin (2023). "Beyond income: Dynamic consumer financial vulnerability". *Journal of Marketing*. 87(5): 657–678.
- Sasson, C., D. J. Magid, P. Chan, E. D. Root, B. F. McNally, A. L. Kellermann, and J. S. Haukoos (2012). "Association of neighborhood characteristics with bystander-initiated CPR". New England Journal of Medicine. 367(17): 1607–1615.
- Savary, J. and K. Goldsmith (2020). "Unobserved altruism: How selfsignaling motivations and social benefits shape willingness to donate". *Journal of Experimental Psychology: Applied.* 26(3): 538–550.
- Schweinsberg, M., G. Ku, C. S. Wang, and M. M. Pillutla (2012). "Starting high and ending with nothing: The role of anchors and power in negotiations". *Journal of Experimental Social Psychology*. 48(1): 226–231.

- See, K. E., E. W. Morrison, N. B. Rothman, and J. B. Soll (2011). "The detrimental effects of power on confidence, advice taking, and accuracy". Organizational Behavior and Human Decision Processes. 116(2): 272–285.
- Shah, A. K., S. Mullainathan, and E. Shafir (2012). "Some consequences of having too little". *Science*. 338: 682–685.
- Shah, A. K., E. Shafir, and S. Mullainathan (2015). "Scarcity frames value". *Psychological Science*. 26(4): 402–412.
- Shah, A. K., J. Zhao, S. Mullainathan, and E. Shafir (2023). "A scarcity literature mischaracterized with an empirical audit". *Proceedings of* the National Academy of Sciences. 120(26): e2206054120.
- Shampanier, K., N. Mazar, and D. Ariely (2007). "Zero as a special price: The true value of free products". *Marketing Science*. 26(6): 742–757.
- Sharkey, A. J. (2018). "The dark side of status". Journal of Management Inquiry. 27(4): 368–370.
- Sharma, E. and A. L. Alter (2012). "Financial deprivation prompts consumers to seek scarce goods". *Journal of Consumer Research*. 39(3): 545–560.
- Sharma, E., N. Mazar, A. L. Alter, and D. Ariely (2014). "Financial deprivation selectively shifts moral standards and compromises moral decisions". Organizational Behavior and Human Decision Processes. 123(2): 90–100.
- Shepherd, S. and T. Campbell (2020). "The effect of egocentric taste judgments on stereotyping of welfare recipients and attitudes toward welfare policy". *Journal of Public Policy and Marketing.* 39(1): 1–14.
- Sherman, R. (2017). "What the rich won't tell you". The New York Times. URL: https://www.nytimes.com/2017/09/08/opinion/ sunday/what-the-rich-wont-tell-you.html.
- Shi, X., F. Li, and P. Chumnumpan (2020). "The use of product scarcity in marketing". *European Journal of Marketing*. 54(2): 380–418.
- Shrum, L. J., E. Fumagalli, and T. M. Lowrey (2023). "Coping with loneliness through consumption". *Journal of Consumer Psychology*. 33(2): 441–465.

- Smith, M. (2023). "The 11 most expensive in-game video game items ever sold". *Game Rant*. URL: https://gamerant.com/most-expensiv e-video-game-in-game-items-ever-sold/.
- Smith, P. K. and W. Hofmann (2016). "Power in everyday life". Proceedings of the National Academy of Sciences. 113(36): 10043–10048.
- Srna, S., A. Barasch, and D. Small (2022). "On the value of modesty: How signals of status undermine cooperation". Journal of Personality and Social Psychology. 123(4): 676–692.
- Stern, K. (2013). With Charity for All: Why Charities are Failing and a Better Way to Give. New York: Anchor Books.
- Sujan, M., H. Sujan, J. R. Bettman, and T. M. M. Verhallen (1999). "Sources of consumers' stress and their coping strategies". *European Advances in Consumer Research*. 4: 182–187.
- Toh, M. and J. Liu (2023). "Elon Musk says he's cut about 80% of Twitter's staff". CNN.Com. URL: https://edition.cnn.com/2023/04/ 12/tech/elon-musk-bbc-interview-twitter-intl-hnk/index.html#:~: text=Elon%20Musk%20has%20laid%20off,a%20rare%20interview %20late%20Tuesday.
- Tomm, B. M. (2024). "Psychological consequences of financial scarcity". [Unpublished doctoral dissertation]. University of British Columbia.
- Torelli, C. J. and A. M. Kaikati (2009). "Values as predictors of judgments and behaviors: The role of abstract and concrete mindsets". *Journal of Personality and Social Psychology*. 96(1): 231–247.
- Tost, L. P., F. Gino, and R. P. Larrick (2012). "Power, competitiveness, and advice taking: Why the powerful don't listen". *Organizational Behavior and Human Decision Processes.* 117(1): 53–65.
- Van der Heijden, K., A. Festjens, C. Goukens, and T. Meyvis (2022). "A guaranteed immediate payout reduces impatience of financially constrained individuals". *Proceedings of the National Academy of Sciences.* 119(3): e2108832119.
- Van Dijk, W. W., M. M. B. Van Der Werf, and L. F. Van Dillen (2022). "The Psychological Inventory of Financial Scarcity (PIFS): A psychometric evaluation". *Journal of Behavioral and Experimental Economics.* 101: 101939.

- Van Lange, P. A. M. (2000). "Beyond self-interest: A set of propositions relevant to interpersonal orientations". *European Review of Social Psychology*. 11(1): 297–331.
- Verhallen, T. M. M. (1982). "Scarcity and consumer choice behavior". Journal of Economic Psychology. 2(4): 299–322.
- Vieites, Y., R. Goldszmidt, and E. B. Andrade (2022). "Social class shapes donation allocation preferences". Journal of Consumer Research. 48(5): 775–795.
- Wicklund, R. A. and P. M. Gollwitzer (1981). "Symbolic self-completion, attempted influence, and self-deprecation". *Basic and Applied Social Psychology*. 2(2): 89–114.
- Wicklund, R. A. and P. M. Gollwitzer (1982). Symbolic Self-Completion. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Wilkie, W. L. and E. S. Moore (2007). "What does the definition of marketing tell us about ourselves?" Journal of Public Policy & Marketing. 26(2): 269–276.
- Wojciszke, B. and A. Struzynska-Kujalowicz (2007). "Power influences self-esteem". *Social Cognition*. 25(4): 472–494.
- Wyer, R. S. and A. J. Xu (2010). "The role of behavioral mind-sets in goal-directed activity: Conceptual underpinnings and empirical evidence". *Journal of Consumer Psychology*. 20(2): 107–125.
- Xiao, H., J. Guo, J. Fang, T. Xiao, and G. Li (2023). "Impact of resource scarcity on general categorization tendency: The moderating role of perceived mutability". *PLoS One.* 18(8): e0286619.
- Yam, K. C., S. J. Reynolds, and J. B. Hirsh (2014). "The hungry thief: Physiological deprivation and its effects on unethical behavior". Organizational Behavior and Human Decision Processes. 125(2): 123–133.
- Yang, H. and K. Zhang (2022). "How resource scarcity influences the preference for counterhedonic consumption". Journal of Consumer Research. 48(5): 904–919.