Inequality in socially permissible consumption

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Lower-income individuals are frequently criticized for their consumption decisions; this research examines why. Eleven preregistered studies document systematic differences in permissible consumption—interpersonal judgments about what is acceptable (or not) for others to consume—such that lower-income individuals' decisions are subject to more negative and restrictive evaluations. Indeed, the same consumption decisions may be deemed less permissible for a lower-income individual than for an individual with higher or unknown income (studies 1A and 1B), even when purchased with windfall funds. This gap persists among participants from a large, nationally representative sample (study 2) and when testing a broad array of "everyday" consumption items (study 3). Additional studies investigate why: The same items are often perceived as less necessary for lower- (versus higher-) income individuals (studies 4 and 5). Combining both permissibility and perceived necessity, additional studies (studies 6 and 7) demonstrate a causal link between the two constructs: A purchase decision will be deemed permissible (or not) to the extent that it is perceived as necessary (or not). However, becausefor lower-income individuals—fewer items are perceived as necessary, fewer are therefore socially permissible to consume. This finding not only exposes a fraught double standard, but also portends consequential behavioral implications: People prefer to allocate strictly "necessary" items to lower-income recipients (study 8), even if such items are objectively and subjectively less valuable (studies 9A and 9B), which may result in an imbalanced and inefficient provision of resources to the poor.

 $interpersonal\ judgments\ |\ consumption\ |\ economic\ inequality\ |\ income$

ower-income individuals are frequently scrutinized and scorned for their consumption decisions. For example, a round of social media shaming commenced after Syrian refugees were photographed coming ashore with smartphones in hand (1), and a United States politician chastised lower-income Americans for buying iPhones instead of health insurance (2). American welfare recipients have been chided for buying "lavish" grocery items, such as seafood (3) or organic produce (4), a phenomenon so prevalent that it was parodied in a headline by satirical publication The Onion: "Woman a leading authority on what shouldn't be in poor people's grocery carts" (5). Even at more official levels, federal agencies have reprimanded lowerincome, natural-disaster victims for the ways in which relief funds were spent (6, 7), and the leader of an international nonprofit warned against giving lower-income individuals unconditional cash transfers because they may buy the "wrong" things (8).

In the present research, we examine and empirically document such judgments against lower-income individuals' consumption decisions, and contribute to a growing body of work on negative attitudes toward the poor (e.g., refs. 9–15) and their purchase behaviors (4, 16), and the broader social consequences of class hierarchies (17–21). Building on literature about the inferences people make about others' choices (22–24), we introduce the notion of "permissible consumption," a distinct construct measuring interpersonal judgments about what is acceptable (or not) for others to purchase. We provide robust evidence that permissibility does indeed vary systematically for lower- vs. higher-income individuals and explore why these discrepant judgments emerge.

Important related work has documented similar negative attitudes toward the purchase decisions of lower-income individuals receiving welfare assistance (4, 15, 16, 25). For example, Olson et al. (4) showed that welfare recipients were regarded as less moral for buying ethical goods (e.g., organic foods, ecofriendly cars) than nonwelfare recipients. However, we find that negative judgments persist even for lower-income individuals using their own money or windfall funds to buy a wide range of mainstream, nonpremium products, suggesting that the phenomenon may be more widespread than previously conceived, and attributable to something beyond the perceived misuse of taxpayer-funded government assistance.

Specifically, we suggest that judgments of permissibility are driven by perceived necessity: A purchase decision will be deemed permissible (or not) to the extent that it is perceived as necessary (or not). An extensive literature supports the link between these two constructs. As the sociologist Max Weber argued, spending one's money on necessities (rather than luxuries) is considered by many to be an ethical obligation (26). Individuals strive to justify their own purchases (27)—a behavior rooted in the desire to make reason-based decisions (28–30)—and often experience guilt when making purchases that are harder to justify (31–34). We suggest the same relationship extends to judgments of others' consumption decisions: The more justifiable an item is (i.e., the greater its perceived necessity), the more permissible it is to consume it.

However, this judgment rests upon on precarious footing when the perceived necessity of an item is not absolute and instead shifts, depending on who is using the item. Indeed, we posit that this fluid characterization of "necessity" gives rise to divergent

Significance

Contributing to the burgeoning discourse on economic inequality, we expose an inequality in what the poor are socially permitted to buy. Across 11 experiments (n=4,179), we demonstrate that lower-income individuals are held to more restrictive standards of permissible consumption, judged negatively for purchasing the same items as their higher-income peers. We rule out the explanation that higher-income people are socially permitted to consume more simply because they can afford more; instead, we find lower-income people are socially permitted to consume less because they are presumed to need less. These findings suggest that—in addition to economic disparities that restrict what lower-income individuals financially can consume—there is an inequality in what they are socially permitted to consume.

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judgments of permissibility: Across an array of domains, the same items are perceived as less necessary for lower- (vs. higher-) income individuals. In other words, to use the opening examples, it is not the case that smartphones are universally characterized as frivolous "nice-to-haves" for all individuals, such that their purchase is permissible for those with sufficient resources but impermissible for those without. Rather, an item's essential necessity (i.e., its characterization as or perception of being "necessary") shifts systematically when chosen by lower-income vs. higher-income individuals. The result is a grim double standard against which consumption decisions are evaluated: Items are perceived as less necessary for lower-income individuals, and therefore such individuals are subject to more restrictive judgments of permissibility.

In exploring the link between perceived necessity and permissible consumption, we contribute to a more functional view of basic needs: How lay judgments of "need" consequentially affect interpersonal impressions in everyday settings. Philosophers and policymakers have long striven to articulate and codify a cohesive and universal understanding of the nature of basic human needs (35–38), but ordinary people too adopt and apply their own notions of what others require. It is within this context that an impoverished view of needs emerges: A persistent belief that lower-income individuals have lesser—or more basic—basic needs, which consequentially alters the ways in which resources are allocated.

Studies 1A and 1B

To establish the phenomenon, studies 1A and 1B compared permissibility judgments of a single consumption decision—a \$200 flat-screen television purchased with windfall funds—made by either a lower-income individual, a higher-income individual (studies 1A and 1B), or an individual with unknown income (study 1B).

Study 1A. Method.

Participants. Participants (n = 200; 52% female; age: mean = 31.62 y, SD = 12.76) were recruited outside of a subway stop in a major northeastern United States city and were given a \$5 Amazon gift card for participating. For this and all subsequent studies, we preset the desired number of participants before data collection and did not analyze the data until the final number of participants was reached. No data were excluded and we report all measures and conditions. All materials were reviewed and approved by Harvard University's Institutional Review Board, and all participants provided informed consent. Datasets are available at https://osf.io/5xmtb/?view_only=1805b8303f204ccca413768000a06721 and all study materials are available in SI Appendix. This study, including its measures, hypotheses, and analyses, was preregistered at https://aspredicted.org/a5rq9.pdf.

Procedure. Study 1A used a two-condition, between-subjects design. All participants read about an individual named Joe, who was described as having either a "low paying job (putting him in the bottom 25% of US income distribution)" ("lower-income" condition) or a "high paying job (putting him in the top 25% of US income distribution)" ("higher-income" condition). (Note that we used these same descriptions to manipulate lower-vs. higher-income for this and subsequent studies; full stimuli are reported in SI Appendix, Stimuli for All Studies). Participants then read, "Joe recently won a \$200 gift card to Target in a community raffle. Joe goes to Target and spends the gift card on a \$200 flat-screen television."

The dependent measure was consumption permissibility, the extent to which participants expressed positive, approving attitudes toward the purchase decision. To measure this, participants rated the extent to which they agreed (1 = strongly disagree, 7 = strongly agree) with five randomized statements about the choice: "He made a responsible purchasing decision";

"He deserves to buy what he did"; "He made a thoughtful decision"; "He made an impulsive decision" (reverse-coded); and "He would have been better off buying something else" (reverse-coded). A separate factor analysis confirmed that these five measures loaded onto a single underlying dimension; therefore, we averaged them to create a composite measure of consumption permissibility ($\alpha=0.71$). (See SI Appendix, Supplemental Analyses for details on item generation and validation.) This and all subsequent experiments concluded with basic demographic questions.

Results. We compared the dependent measure—consumption permissibility—for the same purchase (\$200 television) made under the same circumstances (a windfall \$200 gift card from a community lottery); the only difference was Joe's income. Despite the identical purchases, participants rated the consumption decision significantly less permissible for lower-income Joe (mean = 3.56, SD = 1.08, 95% CI [3.35, 3.78]) than for higher-income Joe (mean = 4.07, SD = 0.89, 95% CI [3.89, 4.24]), t(198) = -3.61, P < 0.001, d = 0.51. (Table 1 provides individual means for each item in the composite measure.) For context, this difference represents a medium effect size, as suggested in threshold recommendations issued by Cohen (39) and adopted by psychologists (40), whereby an effect size of 0.20 is considered "small," an effect size of 0.50 is considered "medium," and an effect size of 0.80 is considered "large."

Study 1B.

Method.

Participants. Participants (n = 300; 48% female; age: mean = 36.28 y, SD = 11.57) were recruited from Amazon's Mechanical Turk and were paid a flat rate for their participation. The study was preregistered at https://aspredicted.org/y9hj8.pdf.

Procedure. Study 1B used a three-condition, between-subjects

design. The stimuli and measures were exactly the same as those used in study 1A; however, rather than having two conditions (lower- vs. higher-income Joe), study 1B added a third, a control condition in which Joe's income was not mentioned. All participants rated the permissibility of Joe's consumption decision—a \$200 television purchased with a \$200 lottery-won gift card using the same five-item permissibility measure ($\alpha = 0.82$). Results. A one-way ANOVA revealed significant differences in permissibility across the three conditions, F(2, 297) = 21.81, P <0.001, $\eta_p^2 = 0.13$. Replicating the results from study 1A, participants deemed the same purchase decision less permissible for lower-income Joe (mean = 3.62, SD = 1.24, 95% CI [3.37, 3.87]) than for higher-income Joe (mean = 4.49, SD = 0.89, 95% CI [4.31, 4.67]), t(197) = -5.65, P < 0.001, d = 0.80. The same pattern held when comparing lower-income Joe to the control, in which neither income nor job was specified (mean = 4.49, SD = 1.05, 95% CI [4.28, 4.70]), t(199) = -5.33, P < 0.001, d = 0.75. However, there was no difference in permissibility for higherincome Joe versus the control, t(198) = -0.01, P = 0.99, d = 0.990.00. (Table 1 provides individual means for each item in the composite measure.) These comparisons elucidate the direction of the effect: Relative to a baseline control, participants reported diminished permissibility for lower-income individuals rather

Study 2

Study 2 again compared permissibility judgments for a single consumption decision: A new parent's car seat purchase. To ensure that the phenomenon was robust across income levels, we recruited participants from a large, nationally representative panel.

than inflated permissibility for higher-income individuals.

Method.

Participants. Participants (n = 1,174; 52% female; age: mean = 40.89 y, SD = 15.49) were recruited from a nationally representative United States panel (stratified along income, gender,

Table 1. Individual means for all five items in the "consumption permissibility" composite for studies 1A and 1B

Study Condition		Responsible purchasing decision	Deserves to buy the item	Made a thoughtful decision	Made an impulsive decision	Better off buying something else	
1A	Lower	3.24**	4.97	3.55	4.95**	4.99**	3.56**
	Higher	4.02	5.23	3.79	4.41	4.30	4.07
1B	Lower	3.42**	5.10	3.53**	4.97**	4.96**	3.62**
	Higher	4.56	5.44	4.42	4.01	3.96	4.49
	Control	4.49	5.59	4.48	4.47	3.69	4.49

For ease of interpretation, the raw means are displayed for the final two measures; however, the composite reflects the reverse-coded responses; **P < 0.01 for lower- vs. higher-income conditions.

age, and ethnicity) using the Qualtrics Panel platform and were paid a flat rate for their participation. The study was preregistered at https://aspredicted.org/cg83e.pdf. (Note that our preregistered sample size was 1,000, but the third-party panel administrator continued collecting responses beyond that point, resulting in the final sample size of 1,174; regardless, no analyses were conducted until the full dataset was collected.)

Procedure. Study 2 used a two-condition, between-subjects design. All participants read about an individual named Alex and her partner, who were described as being either lower- or higherincome. Participants then read that Alex is shopping for a car seat for her first child. Specifically, "She and her partner have set aside money to buy a car seat. They have never purchased a car seat before, so they are considering different options." All participants were shown two options: Option A with a safety score of 86 and price of \$180; and option B with a safety score of 86, price of \$250, and a "Unique Fit-Loc" system that provides easier installation and adjustable headrest and base (stimuli included in SI Appendix, Stimuli Used in All Studies). All participants read that Alex chose to buy the upgraded option B and then evaluated the choice using the five-item permissibility measure ($\alpha = 0.68$).

Results. Even for car seats, participants deemed the same purchase significantly less permissible for lower-income Alex (mean = 4.59, SD = 1.06, 95% CI [4.50, 4.67]) than for higher-income Alex (mean = 4.90, SD = 1.10, 95% CI [4.81, 4.99]), t(1171) = -5.02, \dot{P} < 0.001, d = 0.29. (For this and subsequent studies, item-by-item means for the permissibility composite are reported in SI Appendix, Supplemental Analyses.) Importantly, a follow-up ANCOVA revealed that the effect held when controlling for the participants' own income, F(1, 1,171) = 24.53, P < 0.001, $\eta_p^2 = 0.02$.

Study 3

To probe the robustness of the phenomenon across both participants and products, study 3 recruited individuals from another nationally representative panel and tested a broader array of purchases: 20 items from the US Bureau of Labor Statistics Consumer Price Index.

Method.

Participants. Participants (n = 500; 51% female; age: mean = 44.02 y, SD = 15.59) were recruited from a nationally representative United States panel (stratified along gender, age, and ethnicity) using the Prolific platform and were paid a flat rate for their participation. The study was preregistered at https://aspredicted. org/ai65d.pdf.

Procedure. Study 3 used a two-condition, between-subjects design. All participants read about an individual named Joe, who was described as being lower- or higher-income. Unlike earlier studies, participants read about several consumption choices (versus a single choice) to ensure that the effect was robust across an array of products.

The product list was created using the Consumer Price Index (CPI) bundle of goods, a measure maintained by the US Bureau of Labor Statistics that tracks changes in consumer prices. The CPI includes ~200 different categories of commonly purchased "goods and services that people buy for day-to-day living," and is "based on the expenditures of almost all residents of urban or metropolitan areas, including professionals, the self-employed, the poor, the unemployed, and retired people" (41). From the CPI, we chose 20 nonfood categories and, for the sake of brevity, presented participants with a randomized subset of 10. (The full 20-item list is reported in Table 2.) For each item, participants read, "Joe decides to spend money on [item]" and then evaluated the decision using the five-item permissibility measure ($\alpha = 0.88$).

Results. On average, participants believed the exact same consumption decisions were less permissible for lower-income Joe (mean = 4.28, SD = 0.67, 95% CI [4.19, 4.36]) than for higherincome Joe (mean = 4.96, SD = 0.67, 95% CI [4.87, 5.04]), t(498) = -11.34, P < 0.001, d = 1.01. The difference between lower- and higher-income Joe was significant for 19 of the 20 items (Table 2).

Together, the first four studies provide robust and convergent evidence of the phenomenon: That lower-income individuals are uniquely scrutinized and scorned for their purchase decisions. The same consumption choices—including those made with windfall funds (studies 1A and 1B)—were deemed less permissible for a lower-income individual, which was true even for purchases of safety devices (study 2) and items explicitly defined by the United States federal government as "common" and "everyday" (study 3).

Study 4

Studies 1 to 3 revealed systematic differences in consumption permissibility for lower- vs. higher-income individuals. Two possible explanations for this disparity exist: 1) Higher-income individuals have ample resources to buy "unnecessary" items (e.g., televisions), thereby making such purchases permissible, or 2) the characterization of "necessary" changes depending on who is consuming the item (e.g., television is construed as "necessary" for higher-income individuals but "unnecessary" for lower-income individuals).

To test these competing accounts, studies 4 and 5 again asked participants to consider the consumption decisions of lower- or higher-income individuals, but this time asked them to rate each item's perceived necessity. If higher-income individuals are simply permitted to consume "unnecessary" items by virtue of their resources, there should be no differences in perceived necessity by condition (even if gaps in permissibility exist); however, if an item's perceived necessity shifts as a function of the user, ratings-even for the exact same items-should vary for the lower- and higher-income individuals. To investigate, study 4 again used the conservative stimuli tested in study 2: A car seat purchase.

Table 2. For 19 of 20 CPI categories, consumption permissibility was significantly lower for the lower-vs. higher-income individual

Dependent	Variable:	Permissibility
Dependent	variable.	L CI IIII 331 DIII LV

CPI good or service	Lower-income	Higher-income	Effect size
Lodging away from home including hotels and motels**	3.52	4.78	d = 1.11
Jewelry and watches**	2.94	3.98	d = 1.05
A television**	3.88	4.76	d = 0.93
Sports equipment**	3.77	4.60	d = 0.88
Pet and pet products**	4.18	5.12	d = 0.83
Club dues and fees for sports/exercise**	4.01	4.88	d = 0.83
Photographic equipment and supplies**	3.77	4.59	d = 0.81
Floor coverings (e.g., rugs, carpeting)**	4.39	5.06	d = 0.77
Indoor plants and flowers**	4.04	4.84	d = 0.77
New vehicle**	4.10	4.90	d = 0.74
Newspapers and magazines**	3.82	4.62	d = 0.73
Living room, kitchen, and dining room furniture**	4.44	5.04	d = 0.59
Domestic services (e.g., housekeeping, childcare)**	4.62	5.22	d = 0.57
Personal computer and peripheral equipment**	4.60	5.09	d = 0.54
Window coverings (e.g., drapes, curtains)**	4.55	5.08	d = 0.54
Internet services and electronic information providers**	4.98	5.45	d = 0.45
Major household appliances**	4.94	5.32	d = 0.41
Laundry and dry-cleaning services**	4.62	5.11	d = 0.41
Wireless telephone services**	4.93	5.24	d = 0.34
Personal care products (e.g., hair, dental, cosmetic, bath)	5.39	5.42	d = 0.02

Presented in descending order of effect size; **P < 0.01.

Method.

Participants. Participants (n = 209; 53% female; age: mean = 36.24 y, SD = 10.49) were recruited from Amazon's Mechanical Turk and were paid a flat rate for their participation. The study was preregistered at https://aspredicted.org/3ea4s.pdf.

Procedure. Study 4 used a two-condition, between-subjects design. Participants read the same scenario used in study 2, this time using a new dependent measure: "Perceived necessity," or the extent to which the car seat was characterized as necessary. To capture this, participants rated the chosen car seat on five randomized dimensions: A must-have, necessary, something one could not do without, essential, a need (1 = strongly disagree, 7 = strongly agree). A separate factor analysis confirmed that these five measures loaded onto a single underlying dimension; therefore, we averaged them to create a composite measure of perceived necessity ($\alpha = 0.94$). (Methods for selecting and validating these five measures are provided in *SI Appendix, Supplemental Analyses*.)

Results. Participants rated the exact same car seat purchase as significantly less necessary for the lower-income Alex (mean = 4.77, SD = 1.58, 95% CI [4.46, 5.09]) than for the higher-income Alex (mean = 5.27, SD = 1.45, 95% CI [4.98, 5.55]), t(197) = -2.31, P = 0.02, d = 0.33.

Study 5

Study 5 also tested perceived necessity, this time across an array of items: 20 housing attributes taken from home-buying guides published by the US Department of Housing and Urban Development (HUD).

Method.

Participants. Participants (n = 402; 50% female; age: mean = 39.12 y, SD = 11.19) were recruited from Amazon's Mechanical Turk and were paid a flat rate for their participation. The study was preregistered at https://aspredicted.org/qv5ca.pdf.

Procedure. Study 5 used a two-condition, between-subjects design. Participants read about the Jacksons, a family of four, who were described as either a lower- or higher-income household. Participants

read that the Jacksons were moving to a new city and searching for a new home, and were then asked to rate the perceived necessity of several housing attributes that the Jacksons might consider.

The list of housing attributes was created using the HUD's "Home-shopping Checklist" and "Homebuying Wishlist" (42). These resources, publicly available via the HUD website, are intended to help homebuyers think through a number of different housing attributes and characterize them as "must-haves" or "would like to haves." From these checklists, we selected 20 attributes for our list (Table 3); for brevity, each participant was asked to rate a randomized subset of 10.

The dependent measure was the same five-item perceived necessity measure used in study 4 ($\alpha = 0.98$). Each attribute was thus rated along all five measures, embedded in statements such as "Having a home that has [attribute] is [a must-have/necessary/.../a need]."

Results. On average, participants rated the exact same housing attributes as significantly less necessary for the lower-income Jacksons (mean = 3.88, SD = 1.20, 95% CI [3.71, 4.05]) than for the higher-income Jacksons (mean = 4.94, SD = 0.96, 95%CI [4.81, 5.07]), t(400) = -9.86, P < 0.001, d = 0.98. The results reveal significant differences for 17 of 20 attributes (Table 3) and point to several unsettling implications. First, that the gap emerged for attributes like "a neighborhood that is safe/secure" and "close to hospitals or doctors/dentists" suggests that even basic health and safety requirements are seen as ambiguously necessary for lower-income people: That is, this is not a phenomenon confined to higher-order needs, like premium features or strict "nice-to-haves." Second, pairwise comparisons illuminate some problematic nuances. For example, it was perceived as less necessary for the lower-income family to have a home close to public transportation (mean = 4.74, SD = 1.72, 95% CI [4.39, 5.10]) than for the higher-income family to have a home with a good exterior appearance (mean = 5.38, SD = 1.42, 95\% CI [5.09, 5.67]), t(190) = 2.80, P < 0.001, d = 0.40, a striking example of the impoverished view of needs that emerges for the poor.

Together with study 4, these results provide evidence in support of the second explanation outlined above: That an item's

Table 3. For 17 of 20 HUD housing attributes, perceived necessity was significantly lower for the lowervs. higher-income family

Dependent Variable: Perceived necessity

Housing attribute	Lower-income	Higher-income	Effect size	
Garage or carport**	3.00	4.97	d = 1.13	
Exterior with a good appearance**	3.69	5.38	d = 1.12	
Outdoor space**	3.32	5.14	d = 1.09	
A separate laundry room**	2.88	4.68	d = 1.08	
A neighborhood where homes are attractive**	3.74	5.39	d = 1.06	
Air conditioning**	4.47	5.99	d = 0.99	
A neighborhood with little noise**	3.59	5.07	d = 0.99	
Cable TV**	2.57	4.29	d = 0.93	
Close to restaurants/entertainment**	2.60	4.10	d = 0.91	
Closet/storage space**	4.57	5.71	d = 0.82	
Lots of windows/natural light**	3.68	4.90	d = 0.78	
A neighborhood with little traffic**	3.33	4.42	d = 0.76	
A practical floorplan**	3.89	5.02	d = 0.72	
Interior walls in good condition**	5.25	6.07	d = 0.66	
A neighborhood that is safe/secure**	5.72	6.32	d = 0.60	
Close to hospitals or doctors/dentists**	4.12	4.68	d = 0.36	
Windows with screens and storm windows*	4.48	5.07	d = 0.34	
Close to recreation/parks	3.52	3.93	d = 0.23	
Close to a supermarket	4.69	4.53	d = 0.10	
Close to public transportation**	4.74	3.29	d = -0.81	

Presented in descending order of effect size; *P < 0.05, **P < 0.01.

perceived necessity shifts as a function of who is using it, such that lower-income individuals are perceived as needing the same items less than their higher-income peers. More concretely, it appears not to be the case that higher-income people are simply permitted to have cable TV or outdoor space because they have the resources to pay for them; cable TV and outdoor space are seen as fundamentally less necessary for lower-income individuals.

Study 6

Our account makes three central claims: 1) An item will be deemed permissible (or not) to the extent that it is perceived as necessary (or not); however 2), the exact same items are frequently perceived to be less necessary for lower- (versus higher-) income individuals, and therefore, 3) such items will be deemed less permissible for lower-income people to consume. Studies 1 to 3 provided evidence of the third claim by measuring permissibility, and studies 4 and 5 provided evidence of the second by measuring perceived necessity; to provide evidence of the first claim, studies 6 and 7 tested permissibility and perceived necessity simultaneously to investigate the relationship between them.

To do this, we manipulated perceived necessity in two ways via item framing (study 6) and item selection (study 7)—and then measured the effect on permissibility (43). Specifically, study 6 used a single product—a car's rearview camera—that was described as being an optional feature designed for safety (more necessary) or for convenience (less necessary). We predicted that the safety-framed camera would be deemed more permissible than the convenience-framed camera, and that this pattern would hold for both lower- and higher-income individuals. (In other words, the relationship between perceived necessity and permissibility should hold generally and across income levels.) However, again reflecting earlier findings (studies 4 and 5) and the second claim above, we anticipated that even the same safety-framed camera would be seen as less permissible for the lower- (versus higher-) income individual.

Method.

Participants. Participants (n = 404; 45% female; age: mean = 35.44 y, SD = 11.13) were recruited via Amazon's Mechanical Turk and were paid a flat rate for participation. The study was preregistered at https://aspredicted.org/9ax7z.pdf.

Procedure. Study 6 used a 2 (income: lower vs. higher) × 2 (framing: safety vs. convenience) between-subjects design. All participants read about an individual named Jamie, who was described as lower- or higher-income. Participants read that Jamie "has always lived in a city where he could walk to work. He has never needed a car. Jamie recently moved to a more rural area, where he will now live a couple of miles from work. He is looking to buy his very first car." (Specifying that, across both conditions, this was Jamie's first car helps rule out the possibility that he was already accustomed to a certain quality of vehicle.) Participants were further told that Jamie decided to buy a (used) 2015 sedan and while at the dealership, "Jamie is informed that for \$500 he can have a rearview camera installed in the car."

We then varied the framing of the rearview camera to be either a convenience feature or a safety feature, which reflects the actual use case of rearview cameras over time: They were first introduced as convenience features (44), but were eventually mandated as a safety feature for all new vehicles in the United States (45). (The convenience and safety stimuli reflect the actual descriptions provided by these two sources, respectively.) In the "convenience" condition, participants read, "Rearview cameras are a convenience feature—they are often built into luxury cars for ease of driving (though they are optional add-ons for older models). Rearview cameras help drivers see behind the vehicle and take all the tiresome judgment out of parking." In the "safety" condition, participants read, "Rearview cameras are a safety feature—as of 2018 all new cars are required by law to have rearview cameras for safety reasons (though they are optional add-ons for older models). Rearview cameras help drivers see behind the vehicle and are projected to prevent thousands of accident-related injuries a year."

In all conditions, participants were told that Jamie decided to buy the rearview camera and were then asked to evaluate Jamie's decision using the five-item permissibility measure ($\alpha = 0.82$). As a manipulation check, all participants then rated the extent to which the rearview camera was a necessity ($\alpha = 0.94$).

Results. The manipulation check verified that framing changed perceived necessity as intended. A 2 (income: lower vs. higher) × 2 (framing: safety vs. convenience) ANOVA revealed a main effect of framing, F(1, 400) = 17.14, P < 0.001, $\eta_p^2 = 0.04$, which confirmed that convenience-framed cameras were seen as less necessary. There was also a main effect of income, F(1, 400) = 7.18, P = 0.01, $\eta_p^2 = 0.02$, such that either rearview camera was seen as less necessary for lower- (versus higher-) income Jamie. Importantly, the interaction was not significant, F(1, 400) = 0.08, P = 0.78, $\eta_p^2 < 0.001$ (i.e., as intended, the framing affected both income levels in parallel ways). Notably, however, the framing manipulation was insufficient to overcome the gap between lower- and higher-income individuals: As expected (and aligning with studies 4 and 5), the same safety-framed camera was perceived to be less necessary for lower-income Alex (mean = 5.28, SD = 1.75, 95% CI [3.95, 4.61]) than higher-income Alex (mean =4.77, SD = 1.45, 95% CI [4.47, 5.06]), t(201) = -2.15, P = 0.03, d = -2.150.31. A similar gap emerged for the convenience-framed camera (lower-income: mean = 3.64, SD = 1.80, 95% CI [3.27, 4.01]; higher-income: mean = 4.04, SD = 1.62, 95% CI [3.72,4.35]), t(199) = -1.65, P = 0.10, d = 0.23.

More importantly, we examined the effect on permissibility. First, a 2 (income: lower vs. higher) \times 2 (framing: safety vs. convenience) ANOVA revealed a main effect of framing, F(1, 400) = 28.46, P < 0.001, $\eta_p^2 = 0.07$, such that safety-framed rearview cameras were deemed more permissible than convenience-framed rearview cameras. This held across income levels: For lower-income Alex, the safety-framed camera was more permissible (mean = 5.01, SD = 1.30, 95% CI [4.79, 5.23]) than the convenience-framed camera (mean = 4.22, SD = 1.24, 95% CI [3.99, 4.45]), t(201) = -4.39, P < 0.001, t=0.62, and the same was true for higher-income Alex (Safety: mean = 5.48, SD = 1.05, 95% CI [5.25, 5.71] vs. Convenience: mean = 5.05, SD = 0.95, 95% CI [4.83, 5.27]), t(199) = -3.05, t=0.003, t=0.43. These findings lend support to the first claim above: The more necessary an item is perceived to be, the more permissible it is to consume it.

Second, there was a main effect of income, F(1, 400) = 32.49, P < 0.001, $\eta_p^2 = 0.08$, such that either rearview camera purchase was significantly less permissible for lower-income Jamie than for higher-income Jamie. Follow-up tests confirmed that the same safety-framed camera was less permissible when purchased by lower-income Alex (mean = 5.01, SD = 1.30, 95% CI [4.79, 5.23]) than higher-income Alex (mean = 5.48, SD = 1.05, 95%CI [5.25, 5.71]), t(201) = -3.05, P = 0.01, d = 0.40. Similarly, the convenience-framed camera was less permissible for lowerincome Alex (mean = 4.22, SD = 1.24, 95% CI [3.99, 4.45]) than higher-income Alex (mean = 5.05, SD = 0.95, 95% CI [4.83, 5.27]), t(199) = -5.33, P < 0.001, d = 0.75. In fact, the safetyframed camera was as permissible for lower-income Alex as the convenience-framed camera was for higher-income Alex, t(212) =-0.27, P = 0.79, d = 0.04. This aligns with results from studies 1 to 3 and provides further support for the third claim above: The exact same item, framed in the identical way, was deemed less permissible for the lower-income individual.

Third, the results showed a nonsignificant interaction between income and framing, F(1, 400) = 2.42, P = 0.12, $\eta_p^2 = 0.01$ (Fig. 1); that is, the magnitude of the change in permissibility for safety- versus convenience-framed cameras was approximately the same for both lower- and higher-income Alex. This confirms that the relationship between perceived necessity and permissibility holds across income levels: That is, it is not the case that

Consumption Permissibility

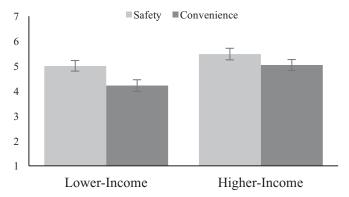


Fig. 1. Rearview cameras framed as a "more necessary" safety feature were more permissible than a "less necessary" convenience feature, but were still less permissible for lower- (vs. higher-) income Alex. (Error bars represent confidence intervals.)

perceived necessity changes permissibility for lower- (but not higher-) income individuals.

Finally, to provide further evidence of the process, a 10,000-sample bootstrap analysis using PROCESS Model 4 (46) revealed a significant indirect effect of perceived necessity on permissibility, b = 0.13, SE = 0.06, 95% CI (0.02, 0.25). (See SI Appendix, Supplemental Analyses for evidence confirming that the two constructs are distinct and for full mediation results, and an additional, two-condition mediation study.)

Study 7

Rather than manipulating perceived necessity via item framing, study 7 manipulated this factor via item selection, using two different models of the same product type—a phone—one of which was a low-end flip phone (more necessary) and the other of which was a state-of-the-art smartphone (less necessary). We again allowed participants to incorporate their own judgments of necessity, which—similar to studies 4 and 5—we expected would vary across product types and income levels. Specifically, for the lower-income user, we predicted flip phones would be perceived as more necessary and thus permissible, while the opposite would be true for smartphones; however, reflecting the real-life double standard that seems to exist [e.g., Badger (47)], we expected that both options would be perceived as equally necessary and permissible for the higher-income individual.

Method.

Participants. Participants (n = 399; 51% female; age: mean = 35.58 y, SD = 10.57) were recruited via Amazon's Mechanical Turk and were paid a flat rate for participation. The study was preregistered at https://aspredicted.org/2bm2b.pdf.

Procedure. Study 7 used a 2 (income: lower vs. higher) × 2 (phone choice: flip phone vs. iPhone) between-subjects design. All participants read about an individual named Alex, who was described as lower- or higher-income. Participants read that Alex is looking for a new phone and considering two options: a Kyocera flip phone (\$100) and an iPhone XS (\$1,000). (We displayed side-by-side images of both options; see **SI Appendix, Stimuli Used in All Studies** for exact stimuli.) Participants were then told Alex chose to buy either the flip phone ("flip phone" condition) or the iPhone ("iPhone" condition).

For the dependent measures, all participants were first asked to evaluate the permissibility ($\alpha = 0.85$) of Alex's purchase, and then the chosen item's perceived necessity ($\alpha = 0.93$).

Results. Examining perceived necessity, a 2 (income: lower vs. higher) × 2 (phone choice: flip phone vs. iPhone) ANOVA revealed a main effect and an interaction. First, there was no main effect of income, F(1, 395) = 1.72, P = 0.19, $\eta_p^2 = 0.00$, suggesting that phones are generally seen as necessary for both lower- and higher-income individuals. However, there was a main effect of phone choice, F(1, 395) = 88.76, P < 0.001, $\eta_p^2 =$ 0.18, such that iPhones were on average perceived to be less necessary than the flip phones, and this was qualified by a significant interaction, F(1, 395) = 42.98, P < 0.001, $\eta_p^2 = 0.10$ (Fig. 2). Specifically, for lower-income Alex, the iPhone was significantly less necessary (mean = 3.15, SD = 1.69, 95% CI [2.88, 3.43]) than a flip phone (mean = 5.33, SD = 0.94, 95% CI [5.07, 5.59]), t(198) = 11.38, P < 0.001, d = 1.59; however, for higher-income Alex, the difference in perceived necessity for an iPhone (mean = 4.22, SD = 1.45, 95% CI [3.96, 4.49]) versus the flip phone (mean = 4.61, SD = 1.26, 95% CI [4.34, 4.89]) was reduced, t(197) = 2.01, P = 0.05, d = 0.29.

Next examining permissibility, a second 2 (income: lower vs. higher) × 2 (phone choice: flip phone vs. iPhone) ANOVA revealed two main effects and an interaction. There was a main effect of income, F(1, 395) = 23.55, P < 0.001, $\eta_p^2 = 0.06$, such that the purchase of either phone was less permissible for lowerincome Alex than for higher-income Alex. There was also a main effect of phone choice, F(1, 395) = 143.44, P < 0.001, $\eta_p^2 = 0.27$, such that iPhones were less permissible than flip phones; however, this was again qualified by a significant interaction, $F(1, 395) = 125.15, P < 0.001, \eta_p^2 = 0.24$ (Fig. 2). Participants deemed lower-income Alex's iPhone choice less permissible (mean = 3.30, SD = 1.27, 95% CI [3.09, 3.52]) than his choice of a flip phone (mean = 5.80, SD = 0.95, 95% CI [5.59, 6.00]), t(198) = 15.83, P < 0.001, d = 2.23; however—replicating the pattern observed with perceived necessity—both choices were similarly permissible for higher-income Alex (iPhone: mean = 5.03, SD = 0.98, 95% CI [5.01, 5.45]; flip phone: mean = 5.12, SD = 1.09, 95% CI [5.0, 5.41]), t(198) = 0.58, P = 0.56, d = 0.07.

Finally, to provide further evidence of the process, we ran a 10,000-sample bootstrap analysis using PROCESS Model 8 (46) entering phone choice as the moderator, perceived necessity as the mediator, income as the independent variable, and consumption permissibility as the dependent variable. This revealed a significant indirect effect of perceived necessity for both phone choice conditions (flip phone: b = -0.30, SE = 0.07, 95% CI [-0.45, -0.16]; iPhone: b = 0.45, SE = 0.11, 95% CI [0.25, 0.68]), and provided evidence that phone choice moderated perceived necessity (index of moderated mediation = 0.74, SE = 0.14, 95% CI [0.49, 1.60]). (See SI Appendix, Supplemental Analyses for full mediation results.)

As in studies 4 and 5, the exact same item, an iPhone, was seen as less necessary for lower-income individuals. Thus, revisiting

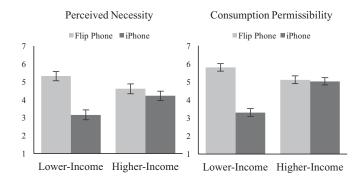


Fig. 2. For the lower- (versus higher-) income individual, iPhones were perceived to be significantly less necessary (*Left*) and less permissible (*Right*). (Error bars represent confidence intervals.)

the introduction, this suggests that smartphones are not universally characterized as nonessential "nice-to-haves" for all individuals; rather, the smartphone's perceived necessity shifts depending on who is using it. Interestingly, perhaps by virtue of being utterly basic (and comparatively undesirable), the flip phone was actually characterized as more necessary for lower-(vs. higher-) income Alex, t(198) = 4.60, P < 0.001, d = 0.64. This helps rule out an alternative account: That lower-income consumers are simply judged more harshly for any and all consumption decisions. Instead, the results confirm that observers do not indiscriminately penalize lower-income individuals for any type of purchase, but do so for items that seem unnecessary (of which there appear to be relatively plenty).

Together, studies 6 and 7 manipulated necessity—either by framing a single item as more or less necessary, or selecting two items that were more or less necessary—and then examined the effect on permissibility. Both studies confirmed that as perceived necessity increases, so too does permissibility, and that this relationship holds across income levels. However, the double standard again emerged, rooted in the narrowing characterization of necessity: The two phones were perceived to be similarly necessary for the higher-income Alex, and therefore similarly permissible, but the iPhone was perceived to be significantly less necessary for lower-income Alex, and therefore significantly less permissible.

Study 8

Having examined the phenomenon and its underlying causes, the final studies turned to downstream consequences: How do these beliefs affect the resources individuals allocate—and the ways in which they collectively allocate them—to lower- versus higher-income others? Study 8 examined resource allocation as a function of recipient income and item permissibility.

Method.

Participants. Participants (n = 200; 52% female; age: mean = 40.02 y, SD = 11.36) were recruited from Amazon Mechanical Turk and were paid a flat rate for their participation. The study was preregistered at https://aspredicted.org/jt7rs.pdf.

Procedure. Study 8 used a two-condition, between-subjects design. Participants were asked to take part in a hypothetical allocation of resources for the Smiths—a family of four, described as being either lower- or higher-income—who would ostensibly be receiving \$200. Participants were then told, "To decide how the Smiths should spend the \$200, we will collect 200 votes—every vote decides how \$1 is allocated. Based on these votes, all \$200 would then be 'earmarked' or designated for certain spend categories."

Participants were shown a list of 10 product categories and instructed to "specify which product category you think would be permissible for the Smiths to spend your dollar on." The product categories were taken from study 3's CPI items: We used the top five and bottom five items in Table 2, representing the categories with the largest and smallest differences, respectively, in permissibility for lower- and higher-income individuals. This resulted in five "low permissibility" items (lodging away from home including hotels and motels, sports equipment, jewelry and watches, a television, or pets and pet products) and five "higher permissibility" items (personal care items, wireless telephone services, major household appliances, laundry and dry-cleaning, or internet services and electronic information providers). The dependent measure was the single product category each participant selected, with the goal of measuring the final aggregate distribution of resources.

Results. Participants were significantly less likely to select a "low permissibility" product category for the lower-income Smiths (7%) compared to the higher-income Smiths (34%), χ^2 (1, n =

200) = 22.37, P < 0.001, Cramer's V = 0.33. (See *SI Appendix*, *Supplemental Analyses* for breakdown of allocations by item.) This resulted in two significantly different distributions (Kolmogorov–Smirnov z-score = 2.33, P < 0.001), suggesting that impermissibility beliefs, and a preference to allocate strictly "necessary" items to lower-income individuals, may fundamentally change aggregate resource allocations. Indeed, in the lower-income condition, the majority of participants (59%) earmarked their dollar for a single category: Personal care items, which was also rated most permissible in study 3 (Table 2). Extrapolating, it is easy to imagine how this could lead to imbalanced, inefficient outcomes: A surfeit of one type of good (i.e., the obvious necessities) and a deficit of others (i.e., less apparent necessities).

Studies 9A and 9B

Studies 9A and 9B examined how this phenomenon affects the trade-offs people make when allocating resources. Specifically, we investigated whether people would choose more permissible—but less objectively valuable (9A) or subjectively valuable (9B)—resources for lower- (versus higher-) income others.

Study 9A.

Method.

Participants. Participants (n = 201; 64.2% female; age: mean = 34.75 y, SD = 11.50) were recruited from Prolific and were paid a flat rate for their participation. The study was preregistered at https://aspredicted.org/jk9ju.pdf.

Procedure. Study 9A used a two-condition, between-subjects design. Participants were asked to imagine that the research team would be giving away a gift card to a member of the local community—who was either a lower- or higher-income individual—and were asked to "vote for which gift card you think would be the most permissible to give away." The two options were a "\$100 gift card to Trader Joe's for groceries" or a "\$200 gift card to Best Buy for electronics." These were intended to represent spending that was unambiguously or ambiguously necessary, respectively.

Results. Significantly fewer participants selected the objectively more valuable, but less necessary (and thus less permissible), Best Buy gift card for the lower-income recipient (25%) than for the higher-income recipient (53%), χ^2 (1, n=201) = 15.97, P < 0.001, Cramer's V=0.28. Paradoxically, the result was that participants effectively allocated more money to higher-income people than lower-income people: The average amount given (i.e., the weighted average for each condition) was \$152 for the higher-income condition

In a follow-up study (see study S2 in *SI Appendix, Supplmental Analyses*), we tested the "tipping point" for lower-income recipients, the point at which participants would switch to the objectively more valuable Best Buy gift card. Across four between-subjects conditions (all using a lower-income recipient), we paired a \$200 Best Buy gift card with a Trader Joe's gift card worth either \$100, \$75, \$50, or \$25. It was not until the "more necessary" Trader Joe's gift card was a meager \$25 (i.e., only 13% as valuable as the other available option) that a majority of participants (57%) chose the less permissible \$200 Best Buy gift card for lower-income recipients.

Study 9B.

Hagerty and Barasz

Method.

Participants. Participants (n = 200; 49% female; age: mean = 36.49 y, SD = 12.89) were recruited from Prolific and were paid a flat rate for their participation. The study was preregistered at https://aspredicted.org/jk9ju.pdf.

Procedure. Study 9B used a two-condition, between-subjects design with the same set-up as study 9A: Voting on a gift card for a lower- or higher-income recipient. However, this time we

held the gift cards' objective values constant—a "\$200 gift card to Trader Joe's for groceries" or a "\$200 gift card to Best Buy for a television"—and instead varied their subjective values. Specifically, participants were told that the gift card recipient "indicated that he would like to buy a new flat-screen TV."

Results. Even when the recipient explicitly preferred the (more ambiguously necessary) Best Buy gift card, fewer participants chose it for lower-income individuals (73%) than for higher-income individuals (87%), χ^2 (1, n=200) = 6.13, P=0.01, Cramer's V=0.18. In other words, despite knowing that it was subjectively less valuable, over a quarter of participants still selected the Trader Joe's gift card for the lower-income recipient.

Together with study 8, studies 9A and 9B elucidate the inefficient allocation of funds that may arise as a result of consumption impermissibility beliefs: an imbalanced concentration of strictly "necessary" goods, and the forgoing of objective and subjective value for the sake of permissibility.

General Discussion

It seems not to be the case that higher-income people are socially permitted to consume more because they can afford more; instead, lower-income people are socially permitted to consume less because they are presumed to need less. The latter point is of particular concern. If people judge lower-income individuals more harshly for buying things they do not "need," but the definition of "need" changes—narrowing and becoming more restrictive for precisely those individuals—a bleak predicament arises. Not only do lower-income individuals face harsher interpersonal judgment for deviating from "necessary" purchases, but there are fewer items that fit within the permissible categorization of "necessary" in the first place.

Eleven studies provide support for these claims. Studies 1 to 3 documented the phenomenon: That the decisions of lower-income individuals are deemed less permissible than identical decisions made by higher-income individuals. Studies 4 and 5 examined why, using perceived necessity as the dependent measure and showing that people consistently rated the same items as less necessary for lower- (versus higher-) income individuals and families. Combining these findings, studies 6 and 7 explored the causal relationship between the two factors that a purchase decision will be deemed permissible (or not) to the extent that it is perceived as necessary (or not). Finally, studies 8 and 9 exposed some downstream consequences: The inefficient allocation of resources to lower-income individuals.

These behavioral consequences hint at a larger, more problematic reality: People appear more comfortable directing (and limiting) the decisions of the poor. For example, despite the demonstrated benefits of unconditional cash transfers (48, 49) (i.e., giving money without accompanying restrictions), there remains a pervasive fear that funds will be used on the "wrong things" (8) and a tendency to instead choose more restrictive and conditional paternalistic aid (50). "Permissible consumption" provides another lens through which to understand this dynamic. Donors understandably want to ensure their money is well-spent, but this desire for control is likely exaggerated by the lopsided notion that lower-income people spend more impermissibly. Furthermore, influenced by an impoverished view of perceived necessities, donors may contribute an overly narrow set of goods or be overly restrictive in how they designate funds, all of which limits the ability of individuals and organizations to purchase what they actually need.

It is not difficult to conjure even more examples: For example, focusing relief dollars on clear necessities while overlooking more ambiguous needs; (under)designing low-income aid programs (e.g., food assistance, public housing) that fall below minimal acceptable standards for higher-income cohorts; voting against policies that afford seemingly nonessential provisions to the poor. Indeed, such questions of permissibility and necessity

permeate policy debates. Lifeline, a Federal Communications Commission (FCC) program that delivers discounted telecommunications services to low-income Americans, offers one such example. As its purview expanded from landlines to mobile phones and later internet service, the program drew heated debate around what was considered "necessary" to provide (51–53). One FCC commissioner argued that internet access is necessary in a world "where, in a growing number of states, those who are income-eligible can only apply for benefits or aid online" (54); another disagreed, declaring that "internet access is not a necessity or human right...[and] the term 'necessity' should be reserved to those items that humans cannot live without, such as food, shelter, and water" (55).

Our research does not attempt to settle this debate, but it does expose a relevant dilemma. It is simple to argue that food, shelter, and water are necessities, but to the extent that higher-order human needs exist [as many allow they do (56)], necessity must be assessed for a broader array of items, a significantly harder and less obvious task (36). This undertaking is further complicated by the fact that perceived necessity is fluid and varies by user. If two ostensibly similar questions—"Is internet access necessary?" and "Is internet access necessary for lower-income people?"—can elicit substantively different answers, a universally applicable definition of necessity appears elusive. At the very least, this warrants consideration of the ways in which such policy-relevant questions are framed and the implicit biases that may color their answers.

Beyond offering evidence and exploring implications, this research also invites important follow-up questions. First, on what basis do people form lay definitions of necessity? Philosophers and social scientists have discussed the role of changing cultural norms (36, 57), such that an item may become more "necessary" if one looks across time (e.g., internet is more "necessary" today than it was three decades ago); yet our results show that, even at a single moment in time, an item may become more necessary if one looks across income levels. In essence, people seem to

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conceptualize necessity differently for lower-income versus higher-income others, such that the "wants" of the poor evolve into the "needs" of the wealthier. This finding represents a core contribution of our research, but also raises the question of why this occurs. Several in the literature have documented entrenched prejudices against the poor (e.g., refs. 4, 9, 10, 14, and 15), but further research is required to fully understand why such fundamental differences in perceived need exist.

Second, what can the concept of "permissible consumption" reveal about larger societal beliefs and norms? Our research focused on consumption contexts, but its ramifications extend into domains far beyond. For example, impermissibility judgments may shape lay beliefs about the root causes of poverty (i.e., that people are poor because they buy things they do not need and should not have). Some experts have, in fact, explicitly attributed Americans' financial woes to seemingly frivolous, discretionary "splurges," like coffee (58), shoes and jeans (59), or gym memberships and cable television (60), claims that have drawn criticism for failing to acknowledge more systemic drivers, like wage stagnation and student debt (61). Furthermore, the mere idea of permissible consumption, and the readily passed judgment that it entails, provide a window into broader attitudes toward the poor. That people afford less trust in-and accordingly, less leeway for-the decisions of the financially disadvantaged seems to speak to more fundamental notions of merit and autonomy. Investigating these links will help situate consumption permissibility within the broader social context.

While opportunities for future research exist, the work nonetheless exposes an important and fraught double standard: For lower-income individuals, fewer items are perceived as necessary, and therefore fewer are permissible to consume. Thus, against the backdrop of the larger discourse on economic inequality (62–64), we call attention to another dark side of pervasive economic inequality: Lower-income individuals are restricted not only by what they can financially afford to purchase, but also what they are socially permitted to purchase.

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