Exposure to inequality affects support for redistribution

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The distribution of wealth in the United States and countries around the world is highly skewed. How does visible economic inequality affect well-off individuals’ support for redistribution? Using a placebo-controlled field experiment, I randomize the presence of poverty-stricken people in public spaces frequented by the affluent. Passersby were asked to sign a petition calling for greater redistribution through a “millionaire’s tax.” Results from 2,591 solicitations show that in a real-world-setting exposure to inequality decreases affluent individuals’ willingness to redistribute. The finding that exposure to inequality begets inequality has fundamental implications for policymakers and informs our understanding of the effects of poverty, inequality, and economic segregation. Confederate race and socioeconomic status, both of which were randomized, are shown to interact such that treatment effects vary according to the race, as well as gender, of the subject.

inequality | redistribution | field experiment | political science | taxation

The distribution of wealth in many countries across the globe is highly skewed. In the United States, the gap between the top 1% of earners and everyone else was wider in 2012 than any time since before the Great Depression (1) and is a pervasive social and political phenomenon (2). With this phenomenon comes visible manifestations of inequality, which affect social interactions from cooperation (3) to conflict (4). However, very little is known about how direct exposure to inequality in everyday settings—such as poverty and homelessness in relatively wealthy neighborhoods—shapes human behavior. Isolating this causal effect is challenging because of selective sorting. To overcome this difficulty, I experimentally manipulate exposure to inequality that occurs on sidewalks and street corners. Using a randomized placebo-controlled field experiment, I show momentary passive “contact” with a poverty stricken person in an affluent public place can change people’s willingness to actively support redistributive policies.

Economic inequality is an abstract concept that is difficult to concretely portray without the help of numbers, graphs, or words. Understanding the implications of exposure to inequality as a personal experience, rather than as an impersonal abstraction, requires the manipulation of microlevel contextual features. I evoke everyday inequality by placing poor individuals in a place of affluence. (Using a separate, online experiment, detailed in SI Appendix, I show that subjects describe images of the poor in affluent settings as depicting inequality. Thus, I use the terms “exposure to inequality” and “poverty in an affluent setting” interchangeably.)

Those with the means to live and shop in such neighborhoods are more likely than the average citizen to participate in politics and donate to political causes and thus wield a disproportionate influence over politics and policy (2).

The experimental intervention created a microenvironment of inequality that was both highly realistic and carefully controlled by the researcher. In treatment conditions, passersby were subtly exposed to a professional actor (confederate) portraying an impoverished person through both their clothing and body language. In the control condition, the same confederate would portray an affluent individual, dressed business casual and showing appropriately different body language.

Since the 1960s, racial attitudes have dominated the American public’s thinking about poverty (5). Political scientists have shown that simply priming race in a survey can lower white respondents’ support for welfare policies (e.g., ref. 6). However, social psychology demonstrates that individuals define themselves in relation to similar others in their environment, such as those who share their race and gender (7). This phenomenon may be particularly relevant in an experiential setting. To assess whether predominantly white and well-off pedestrians respond differently to inequality that appears both socioeconomic and racial, confederate race was also randomized.

Passersby became subjects in the experiment as they were approached by a petitioner, stationed within 20 feet of the confederate. The policy on the petition was randomized between two texts, the first of which expressed support for a “millionaire’s tax” to increase taxation on incomes over $1 million, redistributing the money. To establish a baseline, the other half of subjects were asked to sign a placebo policy petition unrelated to inequality, referring instead to reducing disposable plastic bags.

Results from 2,591 solicitations show that individuals are less likely to support redistributive policies in the presence of a poor person in an affluent setting. The finding holds overall and when estimated as a difference-in-differences (net of the baseline response rate established by the placebo petition). The negative causal effect of direct exposure to inequality on support for redistribution appears to be driven largely by white men encountering a poor person of their own race.

Significance

As the world’s population grows more urban, encounters between members of different socioeconomic groups occur with greater frequency. I provide real-world experimental evidence that exposure to inequality shapes decision-making. By randomly assigning microenvironments of inequality, this study builds on observational research linking the salience of inequality to antisocial behavior, as well as survey experimental evidence connecting perceived inequality to diminished generosity. Specifically, I show that exposure to socioeconomic inequality in an everyday setting negatively affects willingness to publicly support a redistributive economic policy. This study advances our understanding of how environmental factors, such as exposure to racial and economic outgroups, affect human behavior in consequential ways.

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This study makes several contributions. First, I provide real-world field experimental evidence that direct exposure to inequality—something that occurs daily worldwide—infuences support for redistribution. Theoretically, this result implies that momentary contact between highly different socioeconomic groups may have the perverse effect of lowering wealthier people’s support for redistributive policies. Second, by randomizing the race of confederates as well as their socioeconomic status (SES), this study experimentally disentangles the confounded relationship between race, poverty, and support for redistribution. I find that white subjects respond negatively to poor white confederates but not to poor black confederates.

A handful of studies have examined the effect of context or subtle environmental cues on behavior (4, 8) and attitudes (9). Although none of these studies has randomized encounters with real-world inequality, several recent studies examine the effect of perceptions of inequality on survey responses and laboratory behaviors (3, 10, 11). A series of laboratory experiments (3) show that visible wealth encourages greater inequality, compared with when wealth is hidden. Survey experiments (10) show that higher-income individuals are less generous, relative to lower-income individuals, if they reside in a highly unequal state or when randomly assigned to view simulated data indicating inequality is relatively high in their state. Rather than presenting subjects with information about inequality, this study experimentally induces inequality in a person’s natural, ordinary environment. Furthermore, prior research on inequality effects has typically occurred in a relatively artificial context in which, among other concerns, outcomes are subject to experimenter effects (12, 13). I measure revealed preferences through a real-world behavior, in a context in which experimenter effects are highly implausible. In contrast to previous studies of redistributive preferences that rely on costless expressions of opinion on a survey or relatively unnatural distributive games, this study examines the effect of exposure on a real political action in an authentic setting. Although signing a petition is less costly than some forms of political engagement, it is a meaningful, public form of advocacy (14, 15) and a potential gateway to future political participation (16, 17).

Research Design

The experiment took place between October 3 and December 11, 2015. [The design was preregistered at Evidence in Governance and Politics (EGAP) (ID no. 20151012AA).] Study sites were affluent, predominantly white, pedestrian-trafficked commercial areas around Boston, MA. (Neighborhoods included Brookline, Back Bay, and Beacon Hill, and were chosen to limit the heterogeneity of the subject pool to ensure sufficient statistical power.) A fully crossed factorial design was used, depicted in Table 1. The “poverty” and “affluence” conditions refer to the appearance, confederate race, and petition generate eight total conditions.

| Petition | Actor | Poverty | Affluence |
|----------|-------|---------|-----------|
| Millionaire’s tax: increasing taxes on earnings over $1 million, redistributing the money | White | Treatment I | Control I |
| Plastic bags: reducing the use of plastic bags (unrelated to inequality or poverty) | White | Placebo I | Control III |

This fully crossed $2 \times 4$ factorial design describes eight conditions corresponding to two different petitions, two confederate race categories, and two confederate SES conditions.

The setup, depicted in Fig. 1, was highly realistic in several respects. First, both petitions pertained to relevant policy issues in the state. During this time, activists were circulating petitions to get the millionaire’s tax on the state-wide ballot in Massachusetts. The experiment was also realistic in that it is not uncommon to see poor-looking individuals standing around or sitting in these neighborhoods, although particular spots on sidewalks were avoided if occupied by a panhandler. Importantly, in approximately 30 h of petitioning, nobody expressed suspicion regarding the confederates nor the petitioner. The confederates changed their clothing for the different roles in a car with tinted windows that was parked on a side street, away from commercial strips where the petitioning took place. Confederates walked to and from the car along back streets to avoid attention when not in character.) To buttress the claim that the intervention approximates a salient way nonpoor individuals experience inequality, I conducted an online survey experiment, detailed in SI Appendix, in which an independent sample responded to photographs of scenes like those staged in the field. Subjects described those images in words and phrases related to inequality in open-ended questions and ranked “inequality” as the best word to describe them. (Online subjects used terms of disparity and inequality to describe the images. When asked to rank words that describe the image, a majority ranked

*The campaign to place the millionaire's tax constitutional amendment on the ballot collected over 157,000 signatures, more than twice the 64,750 signatures needed to advance the policy to the legislative approval stage before it can be placed on the ballot in November 2018. According to Raise Up Massachusetts, the advocacy coalition that sponsored the campaign, "The constitutional amendment would create an additional tax of four percentage points on annual income above $1 million. The new revenue generated by the tax...could only be spent on quality public education, affordable public colleges and universities, and the repair and maintenance of roads, bridges, and public transportation" (www.raiseupma.org).
inequality as most aptly capturing photos of poor people in wealthy environments.)

Although the primary research question is about exposure to inequality, operationalized through the comparison between the poor and affluent treatments, the factorial design of this experiment allows for comparisons across both dimensions of the treatment—SES and race—and the interaction between the two. Because of the high salience of race in the US, subjects’ reactions to the poverty and affluence conditions may be moderated by the race of the confederate. Thus, in addition to the comparisons between row cells described in Table 1 (treatment I vs. control I; treatment II vs. control II), I also describe the relationships between column cells (treatment I vs. treatment II; control I vs. control II).

The design was approved by Harvard University Committee on the Use of Human Subjects (Protocol IRB15-0930). A waiver of the consent process was obtained.

Randomization. Passersby were exposed to one of the eight conditions depending on when they happened to walk past the confederate in the direction of the petitioner. The experiment was complete block-randomized by day such that all eight conditions in Table 1 occurred once each day, rotating every 30 min. [On some days, only one confederate was available. On such occasions, all four conditions for that race were used. As a consequence, the treatment effect of race estimated in a model that includes day fixed effects is identified only by days on which both confederates were present (SI Appendix, Tables S3 and S4).]

The starting race and SES and starting petition were randomized each day, and the confederates rotated based on these starting conditions. In total, there are 74 date–time clusters across 15 d. Average treatment effects are estimated at the cluster level as well as at the individual level with date–time-clustered SEs.

Petitioning. Measurement was conducted via response rates to a petition. The petitioner, a young, white, well-dressed male or female student with clipboard and pen, counted pedestrians as they passed the confederate. [Members of the study team were introduced ahead of time. Petitioners were informed of the confederates’ presence to minimize the possibility that they would behave differently in the varying conditions. None of the members was given any information about the researcher’s hypotheses or proposed analysis strategy, which was gatted at EGAP.)

The petitioner approached every third adult, asking “Would you sign this petition in support of [the millionaire’s tax/reducing the use of wasteful plastic bags]?” If questioned further about the nature of the policy, the petitioner responded with a brief, scripted reply, paraphrasing the language on the petition. [Petitioners were given a short script (SI Appendix) from which they were told not to deviate (i.e., no attempts to persuade or engagement in political discussions of any sort), which ensured their behavior remained consistent across experimental conditions.] If the subject asked to see the petition or agreed to sign it, he or she was handed or shown the clipboard. The exposed sheet displayed the text of the petition and a set of columns for printed name, signature, and address.

Covariates. Petitioners unobtrusively recorded their “best guess” at the gender, age, and race/ethnicity of each person approached, including those who did and did not sign. These covariates include the gender (man or woman), age (18–35, 35–65, >65 y), and race/ethnicity (white, black, Asian, Hispanic) of each individual approached. SI Appendix, Table S1 shows balance in the covariates across the affluence and poverty conditions, and SI Appendix, Table S2 shows that the eight treatment conditions predict covariates at a little worse than chance. Petitioners also kept track of unsolicited signatures (SI Appendix, Fig. S6).

Based on the petitioners’ recordings, subjects were 82.8% white, 9.3% Asian, 3.9% black, 2.5% Latino, and 1.5% unknown race. The sample comprised 57% women and 43% men, with 89% estimated to be between the ages of 18 and 65. (Petitioners estimated 45% of the sample to be age 18–35 y, 44% age 35–65 y, and 11% over 65 y. Because guessing someone’s age by sight alone is difficult, subjects are not analyzed separately by age group.)

To estimate the SES of those who signed a petition, addresses provided when signing were linked to ZIP code-level characteristics from the American Community Survey. Massachusetts residents, who comprise almost all of the signers, hail from high-income ZIP codes, even by Massachusetts standards; the median ZIP code has a median household income of $79,290. [Two hundred seventy-six Massachusetts ZIP codes were identified from the address provided by the signer and matched to American Community Survey 5-y estimates of median annual household income (2014). Although self-selected, petition-signers tend to come from wealthy neighborhoods by US ($53,657) and Massachusetts ($69,160) standards.]

Results and Discussion

Cluster-level treatment effects are presented in Table 2. Each cluster represents a 30-min period in which passersby were exposed to one of the eight conditions described in the cells in Table 1. To account for dependence between observations within each 30-min period, average treatment effects are calculated by regressing the response rate in each cluster on a set of binary indicators for the treatment conditions. Based on column 1, subjects are, on average, 4.4 percentage points (pp) less likely to support the redistributive policy in the presence of a poor person ($P < 0.10$), pooling across confederate race conditions. The specification estimated in column 2 allows the treatment effect to vary by confederate race. Here, the estimated coefficient on poor actor nearly doubles in magnitude when accounting for the interaction between the poverty and race treatments. Exposure

Figure 1. Experiment in Progress. The petitioner (A) approaches a subject (C) after the subject passes the confederate (B).
Table 2. Cluster-level treatment effects

| Variable               | Millionaire’s tax | Plastic bags (placebo) |
|------------------------|-------------------|------------------------|
|                        | (1)               | (2)                    | (3) | (4) |
| Poor actor             | 0.044*            | 0.082**                | 0.036 | 0.027 |
| (0.024)                | (0.035)           | (0.030)                | (0.047) |
| Black actor            | −0.051            | 0.040                 | 0.032 | (0.044) |
| (0.032)                |                   |                       |       |       |
| Poor actor × Black     | 0.070             | 0.013                 | 0.047 | (0.061) |
| actor                  |                   |                       |       |       |
| Constant               | 0.114***          | 0.142***              | 0.180*** | 0.205*** |
| (0.016)                | (0.024)           | (0.021)               | (0.034) |
| Clusters               | 38                | 38                    | 36   | 36  |
| Residual SE            | 0.073             | 0.072                 | 0.089 | 0.090 |

Cluster-level treatment effects from ordinary least squares (OLS) regression. Columns 1 and 2 show results for the millionaire’s tax and the second two for the placebo petition. Columns 1 and 3 show the main effect of the poor actor treatment, pooling across black and white actors. Columns 2 and 4 include the interaction between race and poverty treatments. *P < 0.1; **P < 0.05; ***P < 0.01.

Fig. 2 plots the difference in means, along with 95 and 80% confidence intervals, for several comparisons of interest in support for the millionaire’s tax. Instead of estimating treatment effects at the cluster level, as in Table 2, point estimates come from individual-level data, to facilitate comparison with Fig. 3. Because each of the clusters is roughly the same size, individual-level estimates are nearly identical to those estimated at the cluster level. (Confidence intervals adjusted using a block bootstrap to account for dependence between observations within clusters are identical to unadjusted standard errors, suggesting there is no clustering in the individual errors.) As in column 2 of Table 2, the difference in the poor black versus affluent black conditions is indistinguishable from zero, whereas the poor white versus affluent white comparison reflects the largest gap in response rates. Support for the millionaire’s tax in the presence of an affluent black confederate, although the effect is not statistically significant at conventional levels. Because this effect similarly appears among subjects asked to sign the placebo petition, it may be evidence of a scare-off effect caused by the hesitancy of subjects to stop for any cause when a black person is nearby. The final comparison in Fig. 2 suggests that subjects are marginally less likely to support redistribution when the petitioner is adjacent to a poor white person rather than a poor black person, although the difference is not distinguishable from zero. (There are no systematic differences in the results between four petitioners, nor are there differences by petitioner gender.)

At the same time, the aggregate level results mask subgroup heterogeneity. Using the individual-level data recorded by petitioners, I examine non-Hispanic white subjects, who comprise over 80% of the sample, separately. Fig. 3 shows the difference in mean response rates for white subjects (n = 1092), then for white men (n = 452) and white women (n = 640), on the millionaire’s tax petition. ( Whereas the preanalysis plan stated my intent to examine heterogeneous treatment effects among different race, gender, and age groups, it did not explicitly state the intent to examine white males and white females separately.) Black subjects are not analyzed separately because there are so few of them (n = 62).

Fig. 3 shows the effect of exposure to inequality described above as primarily driven by white men, whose support for the millionaire’s tax falls in the presence of a poor white confederate. As above, inequality due to a poor black confederate barely registers for any subgroup. White men in particular are less likely to stop in the presence of an affluent black confederate compared with an affluent white confederate, an effect that persists for both petitions (SI Appendix, Figs. S2 and S3). Finally, although not statistically significant at conventional levels, white men are marginally more likely to support the tax in proximity to a poor black person, compared with a poor white person, which further reflects their distaste for redistribution when a poor white man stands nearby.

These results reveal that visible inequality can be a pertinent feature of an individual’s environment when asked to support redistributive policies. Why does the salience of everyday inequality decrease support for redistribution, particularly in some types of people?

One possible explanation is rooted in social psychology’s “belief in a just world” hypothesis, which posits that affluent individuals justify their privileged positions by viewing the current distribution of resources as fair (18). As passersby in an upscale pedestrian thoroughfare, subjects may have reacted to a visual...
Fig. 3. Treatment effect on white subjects for the millionaire’s tax petition. The difference in means for white subjects, separated by men and women, in response to the millionaire’s tax petition, is also shown. Thin bars are 95% confidence intervals for two-sided t tests on the difference in means; thicker bars are 80% confidence intervals.

The observation that momentary exposure influences behavior is suggestive of broader consequences of repeated encounters between the wealthy and the poor. This type of contact is commonplace in cities, where population growth is occurring more rapidly than in suburban or rural areas (34). The prevalence of both urban growth and inequality in the United States means that understanding the behavioral implications of exposure to racial and economic outgroups is increasingly important.

The findings also suggest that the presence of poverty, particularly in a place of affluence, decreases support for policies aimed at alleviating those conditions, a worrisome conclusion given that the general population increasingly resides in urban environments where contact with low-income individuals is likely. Homelessness, the most visible manifestation of rising urban poverty, may perversely discourage citizens from favoring social safety nets.

Finally, the results have practical implications for advocates engaged in political communication. Voters’ reactions are contingent on the setting in which canvassing takes place and perhaps even on the imagery used in campaign materials. Charitable organizations and policy advocates may wish to exercise caution...
in using visual depictions of poverty or inequality. Ultimately, changing minds may require cognizance of context.

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