

Does Political Diversity Inhibit Blood Donations?

Sung Eun Kim and Krzysztof Pelc

Does political diversity affect the prevalence of selfless behavior across a society? According to a recurrent finding from the study of social capital, ethnic diversity reduces prosocial behavior. We ask whether the same applies to partisan identity, by turning to a frequently used proxy for social capital: blood donations. The question is especially timely: the United States is currently experiencing its worst blood shortage in over a decade. Using survey results covering over 275,000 individuals in the US from 2010 to 2020, and a preregistered survey of an additional 3,500 respondents, we show that not all measures of social diversity have analogous effects on prosocial behavior. We find mixed evidence for a region's share of immigrants being linked to lower blood donation by US citizens, and no negative effect for racial diversity. By contrast, political diversity appears to be highly significant. Specifically, individuals are less likely to donate blood when their partisan position is farther from the mean political identity in their state or commuting zone, and when they perceive themselves to be political outliers in their community. Affective polarization is known to be a tax on social interaction with out-partisans; as we show, depending on an area's partisan makeup, it can also be a tax on prosocial behavior writ large.

1. Introduction


The effects of political polarization in the United States have been garnering growing attention. Beyond contributing to strictly political outcomes like legislative gridlock, observers have raised concerns that increased political divisiveness may have far-reaching social effects. These range from the prosaic to the profound. Recent findings have highlighted political homophily in the choice of romantic partners, consumer goods, and county of residence (Endres and Panagopoulos 2017; Huber and Malhotra 2017; Liu, Andris, and Desmarais 2019). Taken together, these studies speak to how members of one party feel distrust and animosity toward members of the other party, and act accordingly (Iyengar et al. 2019).

Combining recent findings from the study of polarization with the large literature on the determinants of social trust and social capital (Alesina and La Ferrara 2002; Hero 2003; Putnam 2007), we examine whether greater local diversity in political identity might negatively affect prosocial behavior. We conceive of prosocial behavior as voluntary actions intended to benefit others, such as cooperating, sharing, donating, and volunteering. Beyond specific encounters between political foes, we are interested in whether individuals become less likely to contribute to public goods in their community when they perceive that community to contain more out-partisans. To test for this possibility, we look to a quintessentially noninstrumental act, and a frequently used proxy for social capital: blood donations.¹ The question of what drives individuals to donate blood is especially timely: in the wake of the COVID-19 pandemic, the US is experiencing its worst blood shortage in over a decade (American Red Cross Blood Services 2024a). Does local political diversity play a role in accounting for variation in the odds of donating blood?

Blood donation is a rare instance of an “unambiguously nonselfish” behavior: it is given voluntarily from unknown to unknown (Elster 1990), placing strangers in a “gift relationship” (Titmuss 1971).² The premise of our argument is that individuals nonetheless form a mental picture of the likely “unknown” recipient of their donation on the basis of what they know about their community. This impression is likely to be driven by their local environment:

*Data replication sets are available in Harvard Dataverse at: <https://doi.org/10.7910/DVN/CYHYJW>

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doi:10.1017/S1537592724000021

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the people they see and hear about through local media, those they interact with in public settings, and what they infer about them from observable cues.³ As a community becomes more diverse on dimensions of nationality, ethnicity, or political identity, the people living in it should update their priors about who a random community member—and potential recipient of a contribution to the public good—might be. The question is whether these perceptions have an observable effect on behavior.

We examine this question through two sets of analyses. The first relies on the Cooperative Election Study (CES),⁴ covering over 275,000 Americans from 2010 to 2020. Different types of diversity have quite distinct effects on prosocial behavior. We find measured support for the expectation that the proportion of immigrants in an area reduces the rate of donation. Yet we find that regional political diversity exerts a far stronger effect on reducing blood donation than social diversity: individuals whose political identity is farther from the prevalent identity of their region are less likely to donate, regardless of their own ideology. Specifically, we find that individuals' ideological distance from the average ideology in the state or commuting zone appears to be negatively related to the probability of donating blood, controlling for their ideology and the region's ideology. The substantive impact is significant: the effect of political diversity is greater than that of social diversity, as proxied by a region's immigration share, and it is comparable to that of the most significant known demographic factors for blood donation, like gender.

Meanwhile, political ideology, by itself, has no consistent relation to the propensity to donate blood. Self-described liberals are no more or less likely to donate than self-described conservatives. Rather, what matters is how an individual's political ideology places them in relation to those around them. These effects are present across the spectrum of partisanship, and when controlling for individuals' own ideology.

In a second analysis, we field an original survey of individuals' perceptions of their region's political makeup, and relate it to their willingness to donate blood. This survey of over 3,500 Americans conducted in December 2021 offers consistent evidence: political diversity is negatively associated with individual willingness to donate blood, while the effect of social diversity is muted. Those individuals who perceive themselves as belonging to a political minority in their region are far less willing to donate blood. By contrast, the perception of belonging to a racial minority in one's region does not appear to be significantly related to respondents' willingness to give blood.

We also consider the interaction of diversity and age, which has been a point of interest in prior work. As Stolle and Harell (2013) show, despite a negative relationship among adults, younger Canadians with racial and ethnic diversity in their social networks display higher levels of

generalized trust. In our analysis of the American CES survey, we do not find comparably strong heterogeneous effects of social and political diversity across age groups. Looking at ethnic diversity, the share of immigrants in an area is weakly negatively associated with the rate of blood donation for both the upper three age quartiles (corresponding to those above 40 years of age) and the lowest age quartile (corresponding to those younger than 40). The magnitude of the effect does not significantly differ across the two groups. We also find that age does not modulate the effect of political diversity, which is present at equal levels across the interquartile range of age. Meanwhile, in our own survey, which directly measures subjective feelings of belonging to a political minority, the effect of political diversity is substantially larger for younger individuals, using the same age threshold, compared to the older population, suggesting that this effect may only grow over time. Yet here too, subjective feelings of belonging to a racial minority have no observable effect on one's willingness to give blood, across any age group.

Beyond contributing to the discussion about affective polarization by pointing to potential conditions for its behavioral effects, our results contribute to an ongoing debate in the study of social capital about the relation between trust and diversity. According to the original claim in that debate, individuals are more likely to trust and collaborate with those around them in settings that feature low diversity (Alesina and La Ferrara 2002; Putnam 2007). A rival belief from a related literature, often referred to as the contact hypothesis, posits that diversity may actually foster higher levels of social trust and solidarity through exposure to other groups (Tajfel and Turner 1979). The usual tests of these claims have looked to ethnic diversity and rates of immigration. Yet this leaves out other social cleavages of potential significance, such as political identity, which we focus on here. As we suggest in our concluding discussion, further work could look at other instances where political diversity affects prosocial behavior, such as charitable donations, and other prosocial behavior in public health, like vaccination.⁵

The findings also speak to the public goods literature. The provision of blood in the health system is a prototypical public good: everyone is liable to require a blood transfusion one day, yet everyone also has an incentive to free ride on the blood donations of others. Experiments in workplace settings have shown how rendering group identities salient using randomized shared traits leads to greater intragroup contributions (Eckel and Grossman 2005). Repeated findings have similarly shown that public good contributions and intragroup cooperation decline with group heterogeneity (Chakravarty and Fonseca 2014). What our findings show is that political heterogeneity is an especially significant driver of the choice individuals make to contribute or not to contribute to the public good.

The growing body of work on affective polarization usually looks for the effects of animosity toward out-partisans in direct encounters between out-partisans. This is sensible enough, yet it may understate the full impact of affective polarization. By focusing on political diversity, our findings show that when people perceive the average person in their area to be unlike themselves, they modify their behavior in ways that can have a negative impact on friends and foes alike.

2. Theoretical Background and Hypotheses

2.1. Blood Donation as Prosocial Behavior

A commonly reported statistic holds that someone in the United States needs blood every two seconds.⁶ The demand for blood is driven by specific medical conditions like sickle cell disease, where patients require transfusions throughout their lives, and by common trauma: a single car accident victim can require up to one hundred units of blood. Since blood is perishable, the resulting need is considerable and continuous: blood shortages thus frequently occur during summer and winter holidays.⁷ Yet the maintenance of a sufficient supply of blood relies on volunteer blood donations. These volunteer donations have been declining in recent years, and then fell precipitously with the global COVID-19 pandemic, as past donors sought to limit their interaction with the public health system. In 2022, the American Red Cross declared its first ever “national blood crisis” (Treisman 2022).

Given the public health importance of maintaining a steady blood supply, and given how the voluntary nature of blood donation stands as a challenge to the self-interested actor model, there are surprisingly few studies looking at the determinants of blood donation across individuals.⁸ Existing research that tries to account for variation in the propensity to donate blood has mostly looked to basic demographic factors like income, education, and gender. These studies show that, by and large, the median blood donor tends to be male, educated, and have a higher income.⁹ By contrast, there has been almost no consideration of political factors in the decision to donate—a striking fact, given how instances of collective action are a traditional focus of political science scholarship. To our knowledge, there has been no large-scale examination of the relationship between blood donation and political partisanship, let alone individual perceptions of their community’s partisan makeup.

One notable and oft-cited exception on the topic is Healy (2000), who argues that variation in blood donation rates across states is largely driven by institutional factors: in his account, blood donation is less a matter of individual altruists’ choices, and more a matter of the top-down policies of blood collecting organizations. Healy’s analysis, which considers European Union countries, also finds

support for the prevalent expectations in the public health literature: women tend to donate less than men, while education and income are positively correlated with the propensity to donate across all countries in the sample considered. And as with many prosocial norms, which feature significant network effects, if an individual’s peers are blood donors, that individual becomes significantly more likely to donate in turn (Piliavin and Callero 1991). Most of the factors that Healy highlights—whether blood collection is state run or handled by the Red Cross, whether there exist volunteer donor organizations—do not vary within-country. Since our analysis considers variation within the US, most of these factors are held constant (we do account for the number of proximate blood donation centers). To be clear, we do not deny the significance of institutional factors. Rather, we posit that beyond such institutional factors, individual beliefs—and in particular, the way individuals perceive their own political identity in relation to their area—matter.

While there is a dearth of research on the drivers of blood donation, the local blood donation rate is often used as a proxy in political science and economics. Blood donation is not only “an archetypal altruistic and prosocial act” (Ferguson and Masser 2018), it is thought to be “rooted in one’s social environment” (Bekkers and Veldhuizen 2011). As a result, blood donation rates are often used as proxies of social capital in the literature. In his foundational study, Putnam (2000) uses an area’s proportion of blood donors as a proxy for social capital, and shows it to be related to other prosocial behavior, like volunteering. Other studies show high correlations between local rates of blood donation and voter turnout (Buonanno, Montolio, and Vanin 2009), another common proxy of social capital. A landmark study in economics uses blood donation (alongside voter turnout) to argue that greater social trust is associated with the development of financial markets, which rely on “the ultimate trust-intensive contracts” (Guiso, Sapienza, and Zingales 2004). In sum, these studies look to blood donation as an indicator of the level of social trust and prosocial behavior at the individual or geographic level. We rely on this established association between social capital and blood donation in generating our main testable expectation, which draws on the social capital literature’s findings about the role of diversity.

There is no centralized blood collection agency in the US, although the American Red Cross collects 45% of the blood donated in the country. The remainder is collected through local blood banks and by hospitals themselves.¹⁰ As a result, most blood collected in the US is used in the community in which it is collected. Some areas collect a surplus, and may export blood to areas that need it most, and local emergencies may increase demand and require blood to be imported from across the country. Yet during normal times, individuals can expect that their blood donation is most likely to serve someone in their

community. The promise that donations will “benefit your community” is often used by healthcare professionals, and repeated by the media, in efforts to increase donation rates.¹¹ Blood donation centers often emphasize the altruistic aspect of donating blood to strangers in the community.¹² Even in settings that do have a centralized collection agency, like Canada, which relies on the Canadian Blood Services agency to manage the national blood supply, donors are said to be primarily driven by local considerations: “When [Canadian] donors donate, they don’t really donate nationally, they donate locally” (Smith, Matthews, and Fiddler 2011). Accordingly, one premise for our expectations is that a significant portion of potential donors envision that their blood will be used locally.

As a result, we argue, the form of altruism that spurs blood donation is of a specific type. As opposed to other prosocial activities like voting in national elections, giving blood is most often perceived by donors as a means of directly helping one’s own community. It is also nontargeted: whereas money donations are usually targeted to particular causes, sometimes with anticipated instrumental effects, the donation of blood cannot be directed to some people over others. Anyone in a community is equally likely to benefit. It follows that one’s identification with that community should intervene in the decision to donate. Given the current heated political climate, we suggest that one of the decisive factors affecting such identification should be an individual’s perceived relation to the prevalent political ideology among people in their area. But in the context of high affective polarization, individuals may be more likely to give blood to strangers when they expect them to share their political beliefs. This is the argument we lay out next.

2.2. Affective Polarization, Political Diversity, and Geography

A growing literature has been documenting the rise of affective polarization, whereby individuals feel animosity and distrust toward members of the opposing political party. This differs from the traditional treatment of polarization in political science scholarship, which examined polarization as the difference between the policy positions taken by political elites (Iyengar et al. 2019; Mason 2018). Similarly to scholars of affective polarization, we view partisanship as not limited to policy preferences, but as a trait that informs deep-seated individual identities (Green, Palmquist, and Schickler 2008). It is distinct from actual policy positions, and can thus affect a range of nonpolitical choices: what business partners to engage with, what employers to hire, what consumer goods to purchase, what friends to interact with, and even what romantic partners to pair with (Huber and Malhotra 2017; Iyengar, Sood, and Lelkes 2012).

Studies of affective polarization tend to illustrate its effects through real or hypothetical encounters between individuals of opposing partisanship. When told that they

will be working for an out-party employer in an online field experiment, for instance, US workers demand a higher reservation wage (McConnell et al. 2018). We apply the same reasoning to an individual’s interactions with the collective. Specifically, we expect that individuals who fall farther from the prevalent ideology in their community should, all else equal, feel less affinity toward the average stranger in that community. As a result, they should be less willing, at the margin, to donate blood that they expect may benefit a political foe. For instance, a Democrat residing in an ideologically homogenous Republican-majority area should be less likely to donate than if that same individual were living in a Democrat-majority setting. This effect need not be rooted in a desire to inflict harm on others, so much as a reduced propensity to assist those perceived as politically distant. While affective polarization serves as a background condition for the theory, our main variable of interest is thus a measure of ideological distance, which we describe below as the absolute difference between an individual’s ideology and the mean ideology in their area. In this way, partisan differences become a tax on social interaction with community-wide effects. In sum, we take the existence of high levels of affective polarization as a given, but we expect its observable effects to be more pronounced in some areas, and for some individuals, than others.

One assumption underlying our expectations is that individuals are sufficiently aware of the distribution of political ideology in their area for this perception to affect their behavior. This premise is rendered plausible by the rise in affective polarization itself: as politics has increasingly permeated people’s daily lives, the number of potential partisanship cues has increased. American survey respondents have no trouble assigning partisan leaning to ostensibly nonpolitical objects and activities, from cars and coffee to sports and music (Hiaeshutter-Rice, Neuner, and Soroka 2021). In other words, people’s notion of the distribution of political views in their area comes not only from local political news and yard signs during election periods, but also from less overtly political signals, like the ratio of “pickup trucks versus Priuses” around them (Hetherington and Weiler 2018). Awareness of subtle changes in this surrounding political ecology appears to be sufficient to affect behavior bearing on public health: for instance, Baxter-King and colleagues (2022) show how small differences in the partisan makeup of an area affect choices over mask-wearing during the COVID-19 pandemic. The question then becomes: are individuals’ perceptions of the partisan identity of their area associated with a similar behavioral response as that observed vis-à-vis out-partisans in experimental settings?

2.3. Intergroup Contact and Blood Donation

We argue that as individuals perceive themselves to be more ideologically distant from the average person in their

community, they should become less likely, at the margin, to contribute to the public good in ways that benefit that community. As a result, ideological distance should be inversely related to the individual propensity to donate blood.

For our expectations to hold, it must be that the level of affective polarization is not significantly reduced by inter-partisan contact itself. If this were the case, then highly politically diverse areas could actually reduce animosity toward out-partisans, in a way that might nullify the mechanism we describe. The intergroup contact hypothesis suggests that proximity to an out-group may in fact reduce animosity toward it. If this applies to ideological differences, areas with high political diversity should see more normalization of the imagined “other,” resulting in greater trust of out-partisans, and more willingness to interact with them. Rather than offering more opportunities for cross-party animosity to express itself in behavior, these politically diverse areas would thus feature lower affective polarization to begin with, potentially counterbalancing its effect on prosocial behavior.

The strongest evidence in support of the contact hypothesis comes from the study of interaction across ethnic groups.¹³ In the case of political differences, Levendusky and Stecula (2021) also show that “cross-party discussion” can reduce partisan animosity, but this requires getting participants holding different political beliefs to talk to one another about the state of national politics during discussion sessions organized by the experimenters. Other studies suggest that what positive effects there are from political intergroup conversation tend to decay rapidly over time (Santoro and Broockman 2022), and can also have the opposite effect: negative interactions can exacerbate existing animus by making political identities more salient (Paolini, Harwood, and Rubin 2010; Wojcieszak and Warner 2020). Meanwhile, studies of affective polarization themselves suggest that this kind of cross-partisan engagement is an increasingly unlikely occurrence due to people’s sorting into politically like-minded settings (Liu, Andris, and Desmarais 2019; Tornberg 2022).

While a full examination falls outside the scope of our study, as a first cut to assessing the effect of proximity to out-partisans on levels of affective polarization, we turn to descriptive data. Looking at the American National Election Studies (ANES) survey data from 1978 to 2020, political diversity and affective polarization appear to be, if anything, positively correlated.¹⁴ Figure A1 in the appendix shows the resulting scatter plot of affective polarization and regional political variance. Rather than a full test of the relationship between these variables, these descriptives offer suggestive evidence that proximity to out-party members does not reduce animosity toward out-partisans in a way that would nullify our expectations.

One major distinction between the potential effects of intergroup contact across ethnic versus political lines is

that partisan animosity is socially accepted, and often encouraged by elites, while racial animus has become increasingly socially unacceptable. One resulting corollary expectation is that political diversity should have a greater negative impact on prosocial behavior than social and racial diversity. Consistent with this expectation, the effects of partisanship have been found to be greater than the effects of racial bias in unconscious bias tests (Iyengar and Westwood 2015). As we go on to suggest, one means of getting at these competing effects is by examining the interaction between different types of diversity and respondents’ age in a way that draws on insights from the social capital literature, which we outline next.

2.4. *Social Capital and Political Diversity*

As Putnam (2007) concludes, “immigration and diversity foster social isolation.” After initiating a large body of work documenting the many alleged positive effects of social capital, from better functioning democratic institutions to better public health outcomes, Putnam goes on to concede an inconvenient aspect of social capital. The trust and shared identity associated with high levels of social capital are most present in highly homogeneous societies, and decline as those societies become more diverse. While the type of diversity examined in studies of social capital is usually ethnic or national diversity, most often proxied by immigration rates, we apply the same reasoning to political diversity.

Our measure of ideological distance is thus intended to capture how an individual relates to their community in ideological terms. Just as more ethnically heterogeneous societies appear to be associated with lower individual self-identification with the community, we posit that, given high rates of affective polarization, areas featuring greater ideological differences should be associated with lower rates of prosocial behavior. Regardless of where they lie on the ideological spectrum, individuals may be less willing to engage in prosocial behavior if they sense that the average beneficiary is more likely to be a political foe.

Social identity is an especially important driver of collective action. As individuals identify with a given group, they become more likely to contribute to public goods benefiting other members of that group. In fact, the importance of group identity as a driver of collective action tends to rise with the difficulty of the task demanded on behalf of the group’s interests (Brewer and Silver 2000; Kelly 1993). In comparison to analogous prosocial behavior like voting, blood donation is a costly gesture. It may thus be especially more sensitive to the level of individuals’ self-identification with the surrounding community. As people perceive themselves to be ideological outliers, they may become less likely to contribute to the collective public good in costly ways.

As mentioned above, rates of blood donation are often used as proxies of social capital levels, and are thought to be influenced by processes of social capital formation. Donors are often motivated by “a desire to reaffirm one’s affiliation to community” (Smith, Matthews, and Fiddler 2011).¹⁵ Existing work finds consistent evidence for a relationship between the rate of blood donation and feelings of “social inclusion,” claiming, for instance, that a lack of such social inclusion is largely to blame for the lower rates of blood donation in migrant communities in Australia (Polonsky, Brijnath, and Renzaho 2011). The same study also finds a correlation between blood donation and other prosocial behavior and attitudes, from greater community participation to higher feelings of trust.

At least one study in public health does find a negative link between the proportion of immigrants in an area and rates of blood donation (Saberton et al. 2009), consistent with “conflict theory” expectations. Given the regionally aggregated nature of their data, however, the authors are unable to say whether this relation is due to immigrants themselves being less likely to donate for a host of reasons (linguistic barriers, or unfamiliarity with, or wariness of, the health system), or whether it extends to nationals in areas with higher proportions of immigrants. The survey data we rely on allow us to parse out these potential channels.

While diversity has thus been associated with lower trust, lower self-identification, and lower rates of volunteerism, subsequent studies have suggested that these effects may be temporary, and depend on the age of different cohorts, in ways that may reconcile the clashing expectations of the conflict-versus-contact hypotheses by looking to the role of age. As Stolle and Harell (2013) show using data from the Canadian General Social Survey, despite a negative relationship among adults overall, younger Canadians with racial and ethnic diversity in their social networks exhibit higher levels of generalized trust. We build on this finding by testing whether the impact of ethnic diversity and political identity varies across the interquartile age range. There is reason to believe that young people, who are especially sensitive to rapidly evolving social desirability cues, may be less likely to be negatively affected by ethnic diversity in their prosocial behavior. On the other hand, because discrimination along political lines remains socially acceptable in ways that racial discrimination is not (Iyengar and Westwood 2015), the same moderating effect of age may not be present for political diversity. We thus compare the effect of both types of diversity on the propensity to donate blood, and how this effect varies across age.

3. Empirical Analysis

Our analysis relies on two sources of data. The first is the CES, covering over 275,000 Americans from 2010 to 2020.¹⁶ Then, we rely on an original survey fielded to

3,500 American respondents to further get at the mechanism tying ideological distance and prosocial behavior.

3.1. Cooperative Election Study: Data

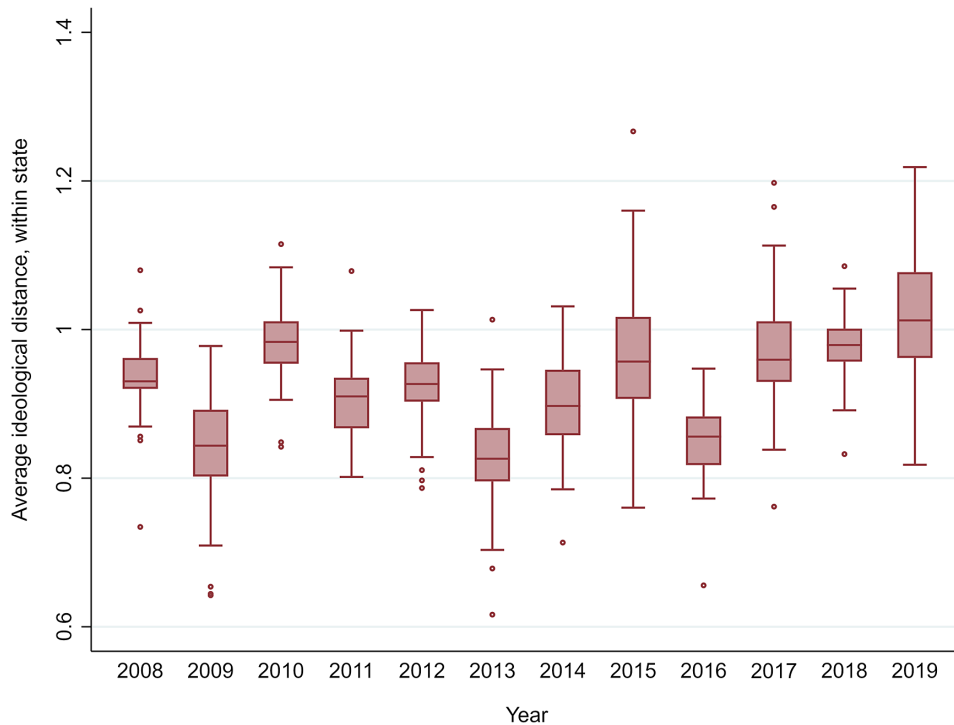
The CES is primarily interested in understanding public views toward elected officials, but it also includes questions about each individual’s political ideology and whether they donated blood in the past year, which is our main indicator of prosocial behavior. It is, to our knowledge, the largest available survey anywhere to collect both of these pieces of evidence about individuals.

Based on individual political ideology, we code our main variable of interest as the distance between each respondent’s own ideology and the average ideology in the respondent’s area. The CES survey is representative of all US adults, and distribution across states is considered in the sample construction. While our theoretical expectations would apply to smaller geographical units, we are constrained by the availability of the sample across geographical units. The number of respondents at the county-year level, in particular, does not allow for a reliable measure of ideological distance. We thus use the state and commuting zone (CZ) as our geographical unit of analysis. CZs are clusters of counties that feature strong within-cluster commuting ties, and weak between-cluster commuting ties. These suit our purpose since they encompass individuals who are especially likely to interact by virtue of common labor markets and related factors like transportation networks.¹⁷ The unavailability of smaller units in the first analysis is compensated for by the sheer size of the CES sample and its time coverage. In our second analysis, we try to make up for this shortcoming by using an original survey where we explicitly query individuals on their perception of how prevalent their political ideology is within their “area,” and then test how this relates to their willingness to donate blood.

3.1.1. Ideological Polarization across Time and Space. We begin by exploring variation in political diversity in a given area across time, which we conceive of as the ideological distance between random individuals living in a given area at a given time. The more heterogeneous an area’s ideological makeup, and the more distant an individual’s own beliefs from the ideological average in that area, the more likely an encounter between two random individuals would bring together self-perceived political foes. We rely on survey responses to this CES question: “In general, how would you describe your own political viewpoint?” Responses are coded on a five-point scale, from “very liberal” to “very conservative.”¹⁸

We illustrate the change in the state-level variation in ideological polarization across time in [figure 1](#). To do so, we calculate the average individual ideological distance in each state for each year. The increase over time is notable,

Figure 1
Variation in Regional Ideological Polarization over Time



since recent studies have highlighted how common self-sorting into ideologically aligned counties is: people prefer to move to areas populated by copartisans (Liu, Andris, and Desmarais 2019). While this trend may be real, it does not appear to have prevented a net increase over time in ideological polarization within states.

Going forward, our main explanatory variable is thus the distance between each individual’s political ideology and the average political ideology within their area. This corresponds to the absolute difference between each individual’s political ideology score, measured on a five-point scale, and the average ideology in their state, which yields the measure of *individual ideological distance (state)*. We calculate the same measure using the average ideology in the commuting zone, which we denote as *individual ideological distance (CZ)*.

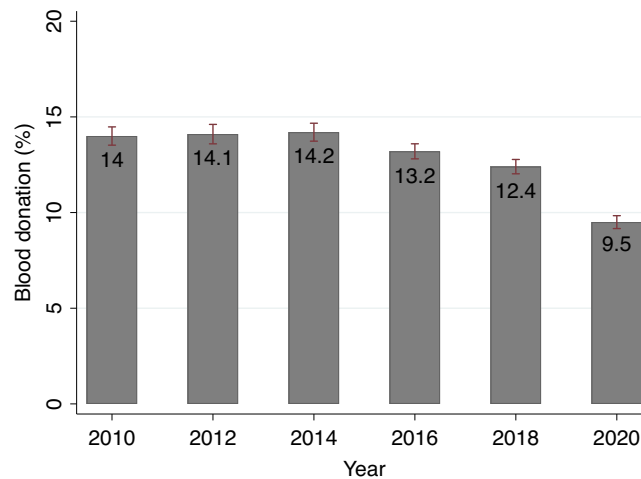
3.1.2. Blood Donation. Our key dependent variable is the choice of whether to donate blood. The CES survey included a set of questions about nonpolitical activity, including the following question on blood donation: “During the past year did you donate blood?” This question was posed every two years to over 275,000 Americans over the period from 2010 to 2020. This amounts to what is, to our knowledge, the largest US

sample brought to bear on the question of who donates blood.

Figure 2 describes the percentage of respondents over time who reported having donated blood in the last year. While 14% of respondents reported having donated blood in 2010, this number declined to 13.2%, 12.4%, and 9.5% in 2016, 2018, and 2020, respectively. This worrisome decline in recent years, even predating the COVID-19 pandemic, is consistent with the declining trend of blood donation reported in national estimates (Jones et al. 2021). Since we rely on self-reported behavior, our measure is subject to potential measurement error. Respondents may overreport their past blood donation history due to social desirability bias. Or, they may not correctly recall whether they donated blood within the given time-frame. Indeed, these estimates are higher than the national estimates of blood donors based on the survey of blood collection facilities. According to the National Blood Collection and Utilization Survey, the number of individuals presenting to donate was estimated to account for 5.4% of population aged 16 or above in 2017 and 4.9% in 2019 (Mowla et al. 2021).¹⁹

Given how blood donation records are not consistently kept across regions, the CES survey nonetheless remains the most consistent available measure to capture individual and regional variation in blood donation. No other

Figure 2
Trend in Blood Donation over Time



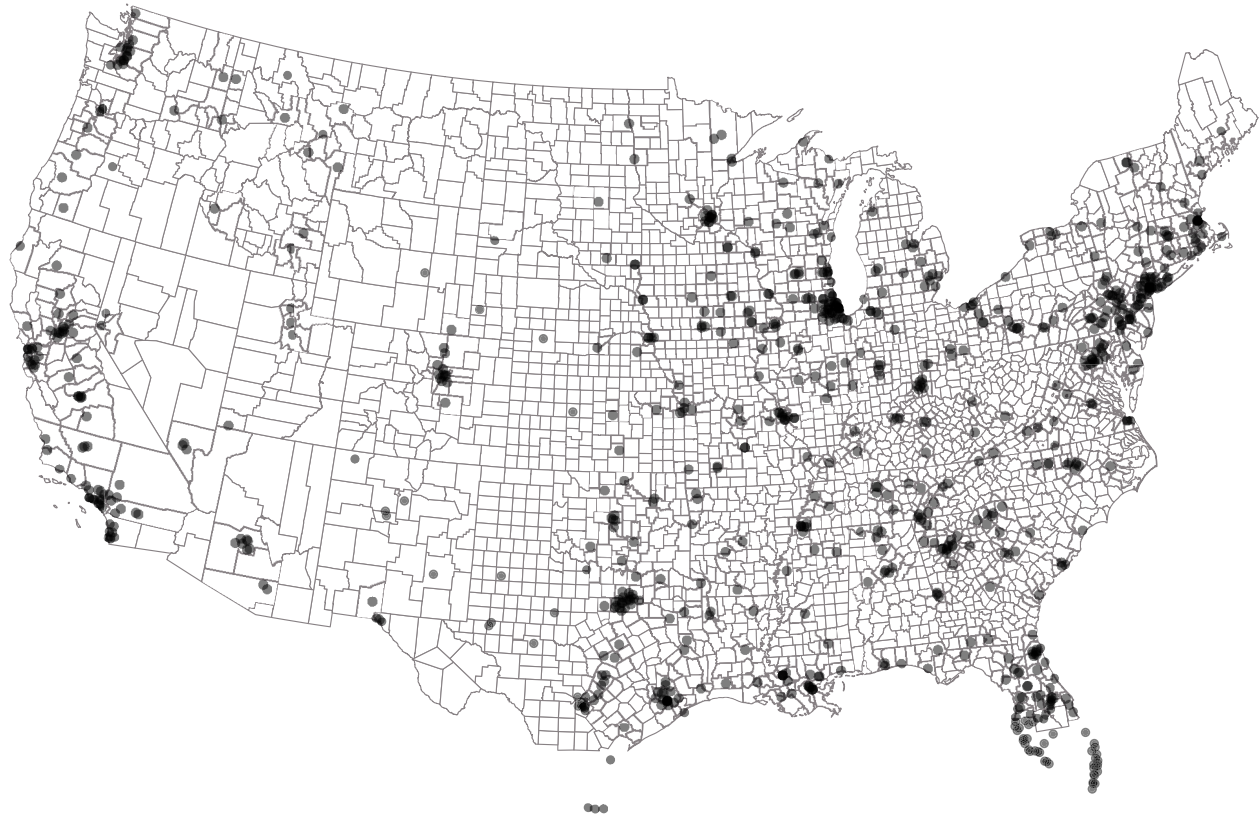
measure provides even comparable coverage of blood donors' political preferences. Moreover, the greater variation offered by self-reported behavior may itself be meaningful, in ways that are relevant to our theory. Self-reported outcomes may better reflect the intention to donate; they may be a good indicator of the willingness to contribute to social capital. In our own survey, in the second part of the analysis, we purposefully rely on a forward-looking question to try to capture the value that individuals see in contributing to the public good of their area. Insofar as greater diversity negatively affects the perceived duty to contribute to public goods, we are interested precisely in the level of social desirability of such contributions, and how it responds to changes in the regional political environment. Finally, blood donation rates are highly affected by structural factors beyond individuals' control, such as access to donor centers (Healy 2000; Poon, Lee, and Lee 2013). From a policy standpoint, average willingness to donate may thus be more meaningful, offering a better sense of untapped capacity, than actual donation figures, which are affected by these exogenous factors. As we are primarily interested in the individual attitudes toward prosocial behavior, a self-reported measure thus captures the intention to give blood in a way that is less affected by institutional factors that may vary across regions.

In our analysis, we nonetheless seek to account for how individuals' willingness to donate blood may be affected by their access to public health infrastructure. While our measure of political polarization captures individual-level variation in the ideological distance between each respondent and their area, we seek to ensure that our findings are not driven by regional access to the blood collection system. To do so, we collect data on the location of US

blood donation sites from the Association for the Advancement of Blood & Biotherapies (AABB), and match it with each respondent's zip code.²⁰ In the analysis, we then control for the logged number of blood centers within 20 miles of each respondent. Figure 3 presents the geographic location of 840 blood centers across the US. As might be expected, these appear to be concentrated in populous areas. As shown in tables A9 and A10 in the appendix, the incidence of blood centers is strongly correlated with an area's population (at both the county and state level), but importantly, it appears to be unrelated to political characteristics like Donald Trump's vote share in the 2020 presidential election, or average regional ideology. Nonetheless, we include a control for the logged number of blood centers within 20 miles of each respondent in our main analysis.²¹

Before moving on to our estimation strategy for the effects of political polarization on blood donation, it is worth pointing out that ideology, by itself, appears to exert no consistent impact on the rate of donation. Figure 4 shows point estimates of the probability of donation, based on the CES survey, across the ideological spectrum, overlaid on the distribution of ideology across our sample. The relationship is nonlinear. Respondents who describe themselves as "liberal" do not appear to be substantively different in their propensity to donate from those who describe themselves as "conservative." If anything, the more notable pattern is that those on either extreme of the ideological spectrum are least likely to donate. It follows that those who hold more extreme beliefs are on average more ideologically distant from the average political belief prevalent in their area. This speaks in part to our contention that what matters most in explaining prosocial behavior is not so much individuals'

Figure 3
Geographical Locations of Blood Donation Centers



own beliefs, but how these relate to the beliefs of others around them.

3.1.3. Estimation. We examine the effects of political polarization on individual blood donation by estimating the following model:

$$\begin{aligned}
 Y_{ijt} = & \beta_1 \text{Political Polarization}_{ijt} \\
 & + \beta_2 \text{Ideology}_{it} + \beta_3 \text{Average Ideology}_{jt} + \mathbf{X}_{it}'\gamma \\
 & + \mu_i + \epsilon_{ij},
 \end{aligned}$$

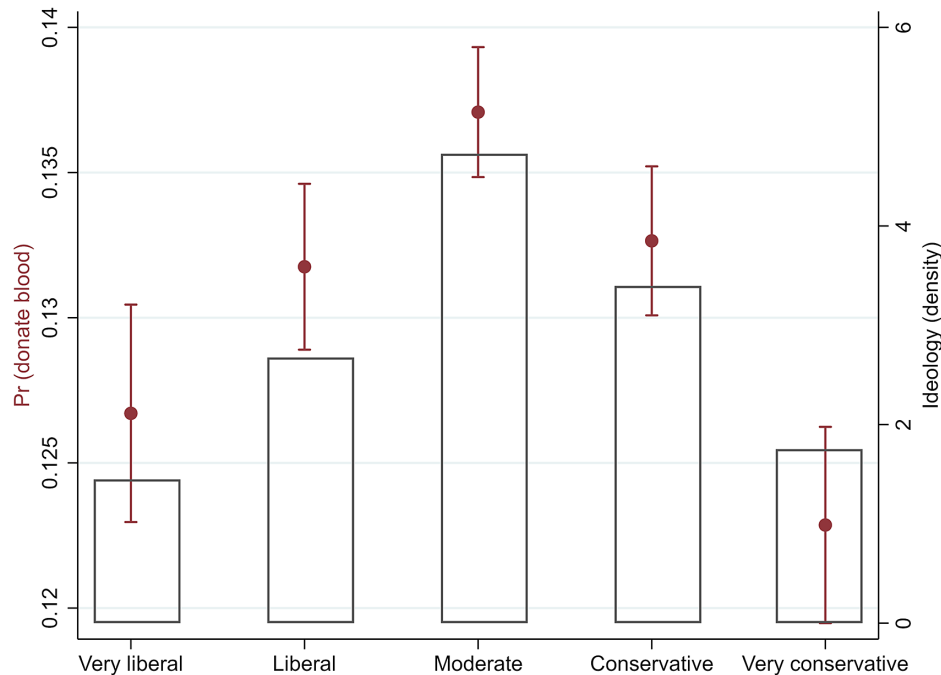
where Y_{ijt} is coded 1 for an individual i residing in area j surveyed in year t who reports donating blood in the last year, and 0 otherwise. We estimate least-squares models with the probability of blood donation as the dependent variable.²² Our primary coefficient of interest is β_1 on *individual ideological distance (state)*, which is calculated as the absolute distance between one's ideology and the average ideology of all individuals within the same state. We then change the geographical unit, and use *individual*

ideological distance (CZ), the respondent's ideological distance from the average ideology within their commuting zone.

We control for each respondent's political ideology (*ideology*), and the area's average ideology (*average ideology*). In addition, we account for a set of demographic factors, X_i , including gender, age, education (coded as binary indicators for high school degree and college degree), income (binary indicators for annual incomes above \$100,000, and annual incomes between \$50,000 and \$100,000), race and ethnicity (white, Black, Asian, and Hispanic), their citizenship status (citizen versus other statuses), an indicator for health insurance status (no insurance versus any insurance), as well as the logged number of blood centers within 20 miles of each respondent's location.²³

We also include community-specific factors that may be associated with blood donation. In particular, higher levels of gun-related violence may lead to heightened awareness of the need for donated blood. We account for this possibility by controlling for the county-level firearm-related death rate.²⁴ Conversely, individuals with lower government trust may be less inclined to donate blood if

Figure 4
Probability of Blood Donation, by Ideological Viewpoint



Notes: Point estimates (red) indicate the predicted probability of blood donation as calculated based on the probit model of blood donation on political ideologies. Bars represent the density of political ideology.

they perceive it as a civic responsibility associated with government functions. Davis (2020) shows that communities with high incarceration rates of relatives feature lower political participation. We thus control for county-level incarceration rates.²⁵

All models include μ , a vector of state-level fixed effects. We include year fixed effects to control for any temporal factors that affect blood donation, such as the COVID-19 pandemic.

3.2. Cooperative Election Study: Results

Our first set of results, in table 1, show estimates from least-squares models with standard errors clustered on states. All estimations include state-level fixed effects; fixed effects on race, as defined in the CES;²⁶ and a battery of control variables for age, gender, education, an indicator of citizenship, income levels, and an indicator of whether the respondent has health insurance. As we include fixed effects for states, these estimations consider within-state variation in the propensity to donate blood over time. We present the results using an individual’s distance to the average ideology in a state in models 1–4 and to the commuting zone’s average ideology in models 5–8.

The results show a consistent negative relationship between our measures of political polarization and the odds of blood donation. *Individual ideological distance*

(state) in panel A is associated with a consistent decrease in the probability of blood donation. As individuals perceive their own ideology to be farther from the average ideology of those around them, they become less likely to give blood.

We find similar results when we rely on indicators of within-area political polarization measured at the commuting-zone level (panel B). We control for individual ideology and the area’s average ideology: regardless of their own political beliefs, it is how those beliefs relate to the prevalent ideology in an area that appears to matter most.

Other variables appear to be consistent with prior studies of blood donation (Abásolo and Tsuchiya 2013; Godin et al. 2005; Steele et al. 2008). Women are less likely to donate, as are less educated individuals and non-US citizens. Young people are more likely to donate than older individuals. Higher income and health insurance are associated with higher odds of donation. While the number of blood collection centers is positively related to the odds of blood donation throughout our estimations, and significantly so in a bivariate regression, it loses significance when included alongside individual-level and regional characteristics. Similarly, we do not find any significant effects for firearm-related death rates or local incarceration rates. Most importantly for our purpose, the inclusion of these variables does not affect the

Table 1
Social Diversity and Blood Donation

	DV: pr (blood donation)							
	1	2	3	4	5	6	7	8
Ideological distance	-0.009** (0.001)	-0.009** (0.001)	-0.009** (0.001)	-0.009** (0.001)				
Average ideology (state)	0.101** (0.009)	0.099** (0.009)	0.007 (0.015)	0.005 (0.015)				
Ideological distance					-0.009** (0.001)	-0.009** (0.001)	-0.009** (0.001)	-0.009** (0.001)
Average ideology (CZ)					0.038** (0.004)	0.036** (0.004)	0.006 (0.005)	0.004 (0.005)
Ideology (five point)		0.003** (0.001)		0.003** (0.001)		0.003** (0.001)		0.003** (0.001)
Immigrant share (CZ)	-0.041** (0.015)	-0.041** (0.015)	-0.043** (0.015)	-0.042** (0.015)	-0.003 (0.015)	-0.005 (0.015)	-0.035* (0.015)	-0.037* (0.015)
Age	-0.002** (0.000)	-0.002** (0.000)	-0.002** (0.000)	-0.002** (0.000)	-0.002** (0.000)	-0.002** (0.000)	-0.002** (0.000)	-0.002** (0.000)
Female	-0.034** (0.002)	-0.034** (0.002)	-0.034** (0.002)	-0.034** (0.002)	-0.035** (0.002)	-0.034** (0.002)	-0.034** (0.002)	-0.034** (0.002)
College educated	0.072** (0.004)	0.073** (0.004)	0.073** (0.004)	0.074** (0.004)	0.074** (0.004)	0.075** (0.004)	0.073** (0.004)	0.074** (0.004)
High school completed	0.043** (0.004)	0.044** (0.004)	0.044** (0.004)	0.044** (0.004)	0.044** (0.004)	0.045** (0.004)	0.044** (0.004)	0.044** (0.004)
US citizen	0.036** (0.006)	0.036** (0.006)	0.037** (0.006)	0.037** (0.006)	0.037** (0.007)	0.037** (0.007)	0.037** (0.007)	0.037** (0.007)
Income 100k or higher	0.029** (0.002)	0.029** (0.002)	0.030** (0.002)	0.029** (0.002)	0.030** (0.002)	0.029** (0.002)	0.030** (0.002)	0.029** (0.002)
Income 50–100k	0.027** (0.002)	0.027** (0.002)	0.027** (0.002)	0.027** (0.002)	0.028** (0.002)	0.027** (0.002)	0.027** (0.002)	0.027** (0.002)
No health insurance	-0.025** (0.003)	-0.025** (0.003)	-0.024** (0.003)	-0.024** (0.003)	-0.023** (0.003)	-0.023** (0.003)	-0.024** (0.003)	-0.024** (0.003)
Donation centers (log #)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.004* (0.002)	0.004* (0.002)	0.002 (0.002)	0.002 (0.002)
Firearm deaths	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Incarceration rates	0.044 (0.055)	0.042 (0.055)	0.044 (0.055)	0.042 (0.055)	0.018 (0.059)	0.017 (0.059)	0.039 (0.059)	0.038 (0.059)
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	276,951	276,951	276,951	276,951	276,951	276,951	276,951	276,951

Notes: Standard errors clustered on states in models 1–4 and on commuting zones in models 5–8. + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$.

relationship between blood donation and ideological distance.

The magnitude of the relationship between polarization and blood donations is significant. As the public health literature attests, blood donation is based on ingrained individual habits. The blood collection system relies on repeat donors, and there is considerable within-individual path dependency across time. Institutional factors that facilitate donation matter a great deal; effecting individual change is difficult, and variation in the environment might thus be expected to have a small effect. Yet one can compare the effect of political polarization to the factors that the literature has determined as the most significant demographic determinants of the propensity to donate, such as gender and education.

A one standard-deviation increase in ideological distance (0.93 on the five-point scale) is thus associated with a decrease in the probability of an individual donating blood of nearly one percentage point, based on the estimates in all models presented in panel A. This translates into a 9% drop in the probability of blood donation from the baseline (the mean value of blood donation in the sample is 0.13). Varying political polarization across its range in the data, the odds of donating blood increase by 2.4 percentage points, corresponding to a 20% increase from the baseline, as ideological distance from the state's mean ideology decreases from its maximum level to its minimum. Looking at the effect of ideological distance within a commuting zone in panel B, the effects appear to be substantively similar. This magnitude is comparable to

that of the effect of gender: women are 3.4–3.5 percentage points less likely to donate than men across the estimated models. College education and high school education are associated with increased odds of donation of 7.3–7.6 percentage points and 4.4–4.5 percentage points, respectively. While demographic factors appear to be strongly associated with ingrained habits for blood donation, the findings suggest that political diversity can wield comparable effects.

By contrast, social diversity presents a weaker association. The prevalence of immigrants in an area does appear to reduce the rate of blood donation, but to a lesser extent than political diversity. A one standard-deviation increase in a region's share of immigrants (0.09) is associated with a reduced probability of blood donation of 0.2 percentage points based on the estimate in model 8. A change in a region's share of immigrants from its minimum to its maximum (0.003 to 0.47) is associated with reduced odds of blood donation of 1.3 percentage points. These results thus offer limited support for the view that social diversity reduces prosocial behavior.

3.2.1. The Role of Age. The literature on social capital continues to have conflicting expectations about the relationship between the level of diversity in a society and the level of trust and prosocial behavior it exhibits. One attempt to reconcile the opposite expectations of the conflict hypothesis and the contact hypothesis distinguishes between different age cohorts (Stolle and Harel 2013).

The data allow us to test for a similar relationship here. To do so, we divide our sample into two age groups, and rerun the estimations from Table 1. We use the divide between the first and second age quartiles as our threshold, which corresponds to an age of 40. Table 2 shows the results. Columns 1 through 4 show estimates for individuals under the age of 40, while columns 5 through 8 show estimates for those 40 years of age and older. We include the same battery of control variables as above. We see no sign in the CES data that age modulates the effects of regional political diversity on blood donation. The size of coefficients on political polarization are almost identical for respondents under and over the age of 40. When we interact political diversity with a continuous measure of age, as presented in table A7 in the appendix, we also find no effect.

We do find some weak support for age moderating the effect of social diversity: the negative effect of the rate of immigration is only significant for the older cohorts. Yet this effect falls just short of significance in an interaction model with a continuous measure of age. The other variables behave much as before, with the exception of proximity to blood donation centers: in a way that follows intuition, being closer to a donation center appears to slightly increase the odds of donation for older

respondents, who may have more limited mobility, while it has no effect for younger individuals. We go on to reexamine the role of age in our own survey, which we turn to next.

3.3. Study 2: Subjective Perceptions of Ideological Distance

To further pin down individual motivations underlying the decision to give blood, we ran an original preregistered quota-valid survey of 3,505 American adults, fielded by the survey firm Respondi, in December 2021.

Recall that the CES survey posed the question of blood donation retrospectively, asking individuals whether they had donated blood in the last year. Given how the occurrence of the pandemic dampened blood donation rates in 2020, and in an attempt to further get at the willingness to donate in which we are most interested, here we ask the question prospectively: “On a scale where 0 means very unlikely and 10 means very likely, how likely are you to donate blood this year?” As noted above, given how blood donation remains relatively rare, and given the smaller sample size of this survey, the intent behind this prospective formulation is to obtain more potential variation, which can be expressed as a probability, and to purposefully capture subjective social desirability around this prosocial behavior. In keeping with this approach, the average response was 3.12 on the 0 to 10 scale, which translates into substantively higher odds than the proportion of people who do eventually donate.

We then sought to capture individuals' subjective perceptions of how their racial and political identity fit into their community. Here, we purposefully steered clear of the term “minority,” which may be politically charged, and asked respondents to reflect on how “common” their identity is in their area. We asked each respondent: “Thinking of the region where you live, would you say your own identity traits are common, or not so common? Specifically, in the region where you live, how common are your political beliefs?” We then asked each respondent the analogous question regarding racial identity: “In the region where you live, how common is your racial group?” Responses to these questions were recorded on the 0 to 10 scale, with 10 denoting “highly uncommon” and 0 “highly common.”

Figure 5 shows the distribution of responses to both questions. As might be expected given the clustered character of the national partisan map, most respondents view their political ideology as common within their area: 63.7% of respondents believe that their political views are common in their own region (corresponding to responses between 0 and 4 on the 0 to 10 scale). Just under 25% view their ideology as uncommon in their region. To assess the face validity of this measure, we examined the distribution of responses separately for

Table 2
Social Diversity and Blood Donation, by Age

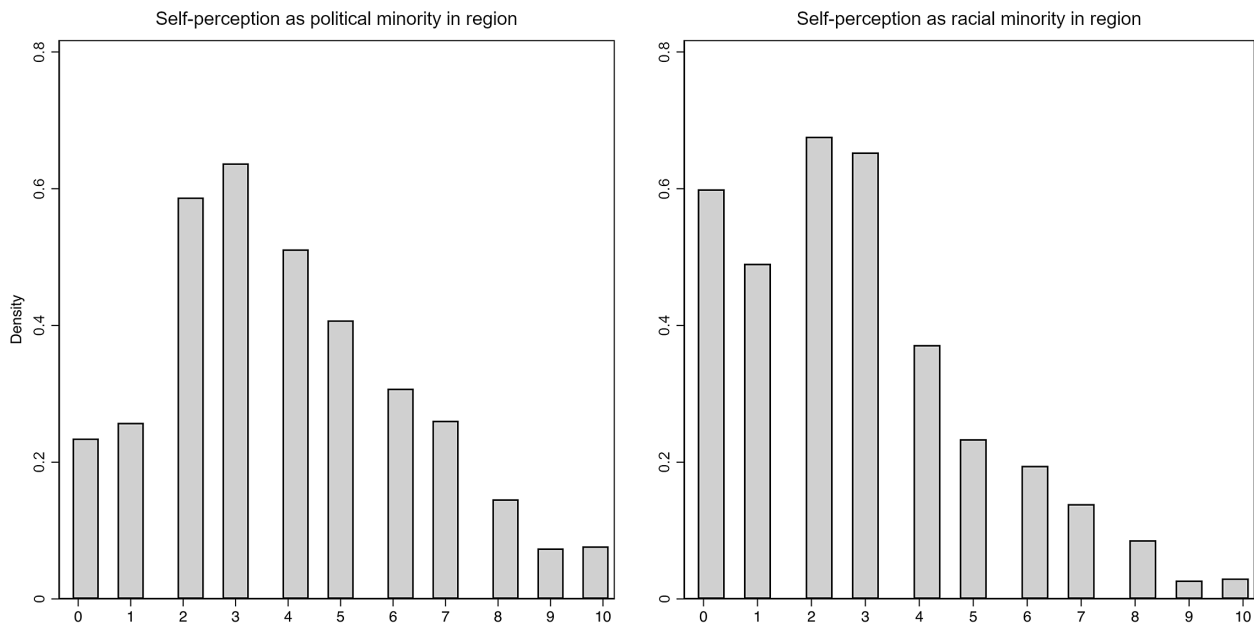
	DV: pr (blood donation)							
	Age < 40				Age ≥ 40			
	1	2	3	4	5	6	7	8
Ideological distance	-0.008** (0.002)	-0.010** (0.002)			-0.009** (0.001)	-0.009** (0.001)		
Average ideology (state)	-0.047 (0.030)	-0.042 (0.030)			0.021 (0.015)	0.017 (0.015)		
Ideological distance			-0.009** (0.002)	-0.011** (0.002)			-0.009** (0.001)	-0.009** (0.001)
Average ideology (CZ)			0.006 (0.010)	0.010 (0.010)			0.006 (0.005)	0.002 (0.005)
Ideology (five point)		-0.004** (0.001)		-0.004** (0.001)		0.005** (0.001)		0.005** (0.001)
Immigrant share (CZ)	-0.026 (0.037)	-0.026 (0.037)	-0.022 (0.031)	-0.017 (0.031)	-0.046** (0.014)	-0.044** (0.013)	-0.037* (0.016)	-0.040* (0.016)
Age	-0.003** (0.000)	-0.003** (0.000)	-0.003** (0.000)	-0.003** (0.000)	-0.003** (0.000)	-0.003** (0.000)	-0.003** (0.000)	-0.003** (0.000)
Female	-0.030" (0.003)	-0.030** (0.003)	-0.030** (0.003)	-0.030** (0.003)	-0.035** (0.002)	-0.034** (0.002)	-0.035** (0.002)	-0.034** (0.002)
College educated	0.077" (0.008)	0.075** (0.008)	0.076** (0.009)	0.075** (0.009)	0.072** (0.004)	0.074** (0.004)	0.072** (0.004)	0.074** (0.004)
High school completed	0.065" (0.007)	0.064** (0.007)	0.065** (0.008)	0.064** (0.008)	0.036** (0.003)	0.036** (0.004)	0.036** (0.004)	0.036** (0.004)
US citizen	0.041" (0.008)	0.041** (0.008)	0.041** (0.009)	0.041** (0.009)	0.031** (0.007)	0.030** (0.007)	0.032** (0.007)	0.030** (0.007)
Income 100k or higher	0.011* (0.004)	0.011* (0.004)	0.011** (0.004)	0.011** (0.004)	0.033** (0.002)	0.032** (0.002)	0.033** (0.002)	0.032** (0.002)
Income 50–100k	0.023** (0.005)	0.023** (0.005)	0.023** (0.003)	0.023** (0.003)	0.029** (0.002)	0.028** (0.002)	0.029** (0.002)	0.028** (0.002)
No health insurance	-0.045** (0.004)	-0.045** (0.004)	-0.045** (0.004)	-0.045** (0.004)	-0.017** (0.003)	-0.017** (0.003)	-0.017** (0.003)	-0.017** (0.003)
Donation centers (log #)	-0.001 (0.002)	-0.002 (0.002)	-0.001 (0.002)	-0.001 (0.002)	0.003 (0.002)	0.004+ (0.002)	0.004* (0.002)	0.004* (0.002)
Firearm deaths	-0.004 (0.002)	-0.004+ (0.002)	-0.004+ (0.002)	-0.004+ (0.002)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
Incarceration rates	0.046 (0.139)	0.051 (0.139)	0.041 (0.128)	0.044 (0.128)	0.050 (0.081)	0.047 (0.081)	0.045 (0.066)	0.044 (0.066)
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	68,367	68,367	68,367	68,367	208,584	208,584	208,584	208,584

Notes: Standard errors clustered on states in models 1, 2, 5, and 6, and on commuting zones in models 3, 4, 7, and 8. + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$.

Democrats and Republicans across different regions. Almost 82% of Republican voters in the South responded that their political identity is common in their area (responses between 0 and 4) and less than 9% find their political identity uncommon in their area. In contrast, 56% of Democratic voters in the South perceive that their political identity is common in their area, and 33% find their political identity to be uncommon in their area. This pattern suggests that respondents' perceptions tend, by and large, to track the actual relation between their own ideological position and the region's average ideology.

Turning to self-perceptions as a regional racial minority, here, too, we find that most individuals perceive their racial group as common in their area. Across different racial groups, less than 10% of white voters perceive that their racial group is uncommon in their area; 21.2% of African American voters and 41.5% of Asian voters, respectively, perceive themselves to be in a regional racial minority. Self-perception as a political minority is positively correlated with self-perception as a racial minority (p of 0.22 and statistically significant at 0.05 levels, as presented in table A4 in the appendix). While this suggests that racial minorities may be more likely to feel politically

Figure 5
Perceived Prevalence of Respondents' Political Beliefs and Racial Identity in Their Area



Note: 0 = highly common, 10 = highly uncommon.

alienated in their communities, we also find considerable variation in respondents' self-perception as political minorities across regions and racial groups, which we exploit to examine the effects of these two types of diversity on the propensity to donate blood.

3.4. Study 2: Results

Table 3 shows the results of a simple OLS regression of the self-reported likelihood of blood donation on individual-level characteristics. All estimations cluster robust standard errors on states, and column 6 includes state-level fixed effects. The results are highly consistent with those from the CES survey, above.

The first thing to note is that, as with the CES survey results, ideology by itself is not related in any consistent way to blood donation. Rather, it is respondents' subjective perception of how their political ideology relates to the ideology of people around them that shows a strong and statistically significant impact. Specifically, a one-unit increase in self-perception as a political minority on the 0 to 10 scale is associated with a decrease in the probability of donating blood of 0.12–0.14 on the 0 to 10 scale. What is equally notable is that subjective beliefs about being surrounded by people of a different race than one's own has strictly no statistically significant effect on reported odds of blood donation. While self-perception as a racial minority is correlated with self-perception as a political minority, the results presented in column 2 show that the former is only weakly associated with one's willingness to

donate blood. This underscores that it is the perception of ideological distance, rather than the perception of one's status as a racial minority, that shapes one's prosocial behavior. This null result holds when we limit the sample only to white respondents, or only to nonwhite respondents. Similarly, no racial group is associated with a significantly different willingness to donate, which may offer support for the contention that differences in donation rates across racial groups are mostly due to external factors, like access to donation centers.

The main demographic variables continue to behave as expected, as per existing findings in the public health literature: women are significantly less likely to donate, while wealthier and more educated respondents are significantly more likely to report an intention to give blood. The rate of donation declines with age. Notably, US citizens—a category that sees little variation in the CES study, which is aimed principally at potential voters—appear to be significantly more likely to donate.

3.4.1. Testing the Role of Age. Just as we did with the CES survey data, and drawing on Stolle and Harell (2013), we reran the estimation on a split sample of younger versus older respondents, once again using 40 years of age as our threshold. The premise is that the effect of social differences may become smaller over time through a process of normalization, as later generations are more exposed to such diversity. Table 4 presents the results. We also show coefficient plots to visually compare the effects of

Table 3
Subjective Social Diversity and Blood Donation

	DV: willingness to donate blood (0–10)					
	1	2	3	4	5	6
Self-perception as political minority (0–10)	–0.123** (0.031)		–0.129** (0.028)	–0.133** (0.025)	–0.136** (0.026)	–0.136** (0.026)
Self-perception as racial minority (0–10)		–0.006 (0.036)	0.025 (0.032)	0.029 (0.029)	0.032 (0.031)	0.029 (0.032)
Ideology (Left–Right, 0–10)				–0.013 (0.023)	–0.012 (0.024)	–0.022 (0.025)
College graduate				2.153** (0.301)	1.902** (0.343)	1.998** (0.350)
High school graduate				1.478** (0.284)	1.339** (0.322)	1.419** (0.329)
Female				–0.187* (0.083)	–0.196* (0.077)	–0.222** (0.081)
Age				–0.047** (0.004)	–0.048** (0.004)	–0.047** (0.004)
Income > 100k					0.506** (0.127)	0.534** (0.137)
Income > 50k					0.291* (0.120)	0.299* (0.121)
Citizenship				0.342** (0.122)	0.293* (0.135)	0.281* (0.138)
White				0.235 (0.239)	0.242 (0.246)	0.203 (0.246)
African American				–0.159 (0.275)	–0.115 (0.295)	–0.200 (0.292)
Asian				–0.223 (0.290)	–0.282 (0.302)	–0.230 (0.308)
Hispanic				0.083 (0.217)	0.094 (0.215)	0.068 (0.218)
Donation centers, # log				0.057 (0.088)	0.063 (0.085)	0.043 (0.083)
Firearm deaths				0.076 (0.066)	0.089 (0.066)	0.086 (0.061)
Incarceration rates				5.561 (3.821)	7.312+ (3.891)	5.263 (3.726)
State FE	No	No	No	No	No	Yes
Observations	3,505	3,505	3,505	3,489	3,369	3,369

Notes: Standard errors clustered on states. + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$.

self-perception as a political versus racial minority in figure 6, where we also include the effect of ideology.

As table 4 shows, the effect of subjective racial diversity remains statistically insignificant for both groups. Yet for younger people, we find that self-perception as a racial minority is negatively associated with willingness to donate blood, although the effects are short of statistical significance.²⁷ On the other hand, the effect of subjective ideological distance does vary significantly across the two groups: younger people seem to respond more negatively to a self-perception of belonging to a political minority. The same effect is statistically significant when we interact the subjective measure of being a political minority with age: younger people appear to be more affected by the perception of being surrounded by out-partisans. When it comes to donating blood, political differences loom larger

than ethnic differences—and this appears to be especially true for younger people.

4. Conclusion

The behavioral effects of polarization are most often studied by bringing about real or imagined encounters between nonpartisans: in laboratory settings and online field experiments, individuals appear to be less willing to work for, go into business with, purchase goods from, or date individuals whom they know to be of the opposing political party.

By contrast, our findings make plain that the effects of polarization represent more than just a tax on social interactions between political opponents; it can also amount to a tax on prosocial behavior writ large, by affecting individuals' attitudes toward the collective, in

Table 4
Subjective Social Diversity and Blood Donation, by Age

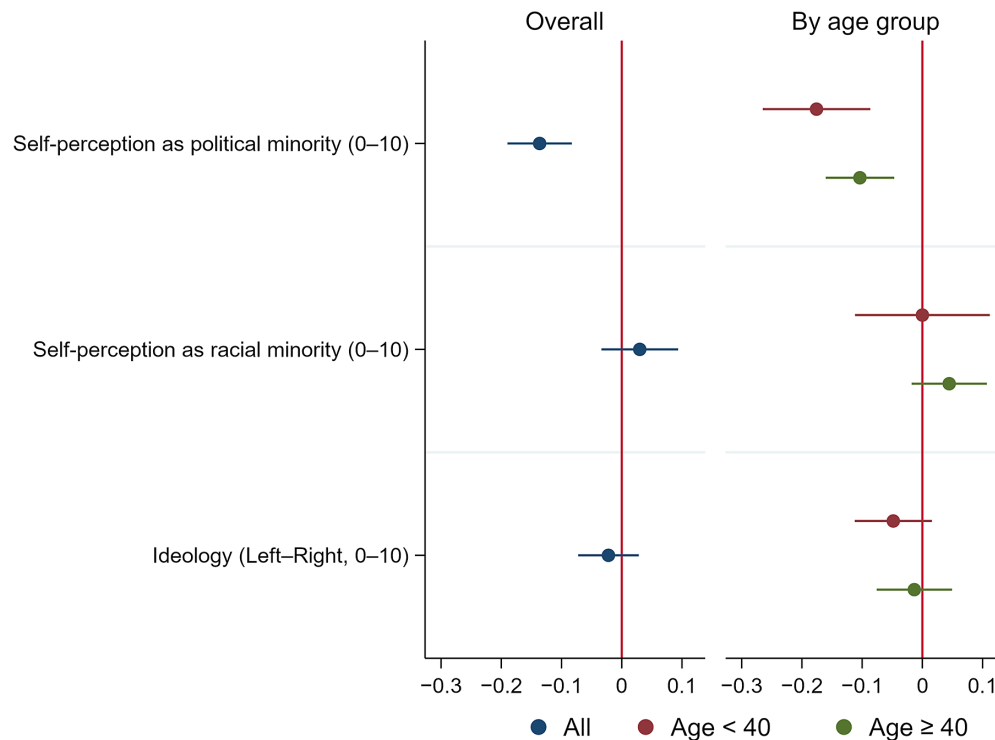
	DV: willingness to donate blood (0–10)							
	Age < 40				Age > 40			
	1	2	3	4	5	6	7	8
Self-perception as political minority	-0.184** (0.046)		-0.185** (0.043)	-0.176** (0.044)	-0.092** (0.029)		-0.103** (0.028)	-0.103** (0.028)
Self-perception as racial minority		-0.034 (0.052)	0.006 (0.049)	0.001 (0.056)		0.016 (0.033)	0.045 (0.031)	0.044 (0.031)
Ideology (Left–Right, 0–10)	-0.042 (0.029)	-0.020 (0.029)	-0.042 (0.030)	-0.051 (0.031)	0.003 (0.028)	0.017 (0.028)	-0.000 (0.029)	-0.013 (0.031)
College graduate	2.604** (0.384)	2.896** (0.381)	2.603** (0.385)	2.713** (0.416)	0.846 (0.540)	0.938 (0.560)	0.835 (0.539)	0.901 (0.609)
High school graduate	1.985** (0.394)	2.226** (0.384)	1.985** (0.393)	2.108** (0.426)	0.405 (0.557)	0.503 (0.574)	0.398 (0.556)	0.427 (0.622)
Female	-0.367* (0.179)	-0.307+ (0.183)	-0.365* (0.180)	-0.437* (0.185)	-0.041 (0.106)	-0.021 (0.108)	-0.032 (0.106)	-0.053 (0.106)
Age	-0.009 (0.014)	-0.007 (0.014)	-0.009 (0.014)	-0.012 (0.015)	-0.058** (0.006)	-0.058** (0.007)	-0.058** (0.006)	-0.057** (0.007)
Income > 100k	0.349 (0.241)	0.440+ (0.237)	0.349 (0.241)	0.481+ (0.278)	0.524** (0.162)	0.566** (0.159)	0.529** (0.163)	0.562** (0.171)
Income > 50k	0.085 (0.208)	0.141 (0.208)	0.084 (0.208)	0.134 (0.215)	0.339** (0.123)	0.354** (0.124)	0.338** (0.124)	0.341** (0.121)
Citizenship	0.284 (0.176)	0.408* (0.171)	0.284 (0.177)	0.285 (0.193)	0.235 (0.228)	0.297 (0.232)	0.235 (0.228)	0.217 (0.240)
White	0.536 (0.345)	0.556 (0.380)	0.544 (0.358)	0.649 (0.393)	-0.150 (0.426)	-0.118 (0.439)	-0.083 (0.437)	-0.200 (0.433)
African American	0.057 (0.352)	0.196 (0.373)	0.060 (0.362)	0.195 (0.374)	-0.388 (0.463)	-0.321 (0.469)	-0.360 (0.464)	-0.564 (0.458)
Asian	0.058 (0.390)	0.156 (0.413)	0.054 (0.389)	0.173 (0.418)	-0.610 (0.557)	-0.620 (0.552)	-0.651 (0.549)	-0.626 (0.555)
Hispanic	-0.051 (0.244)	-0.061 (0.262)	-0.055 (0.252)	-0.285 (0.287)	0.283 (0.376)	0.351 (0.372)	0.252 (0.369)	0.338 (0.378)
Donation centers, # log	0.171 (0.138)	0.201 (0.132)	0.171 (0.136)	0.100 (0.155)	0.004 (0.087)	0.015 (0.084)	-0.006 (0.086)	0.004 (0.089)
Firearm deaths	0.123 (0.101)	0.127 (0.110)	0.123 (0.101)	0.110 (0.105)	0.070 (0.080)	0.070 (0.079)	0.069 (0.079)	0.055 (0.088)
Incarceration rates	12.559 (9.277)	11.821 (9.125)	12.579 (9.193)	9.853 (9.140)	5.155 (4.063)	5.634 (4.240)	4.818 (4.169)	2.923 (4.101)
State FE	No	No	No	Yes	No	No	No	Yes
Observations	1,172	1,172	1,172	1,172	2,197	2,197	2,197	2,197

ways that leave both nonpartisans and copartisans worse off. A recurrent feature of public goods is that individuals have no way of knowing who will gain from their contribution. This is the case of blood donation, the behavior we examine in this article. In a companion article, we find consistent evidence for analogous behavior with regards to vaccination, another type of prosocial behavior (Kim and Pelc 2024a). Individuals rely on a range of heuristics to form an impression of their neighbors. Among other traits, they imagine how similar their neighbors' political views are to their own, and they adjust their behavior accordingly. This is part of the premise behind findings from the social capital literature that more homogeneous societies see higher rates of trust and volunteerism.

The good news is that, at least in the case we examine here, ethnic diversity appears to deter prosocial behavior only weakly: in the large CES survey we rely on, rates of immigration have a small, albeit statistically significant, effect on self-reported past blood donations; in the follow-up survey we fielded, perceptions of the racial makeup of their area do not affect respondents' prospective intentions to donate blood at all.

The bad news is that political diversity shows a far more significant negative association. In this respect, the difference between social and political diversity may be due to how racial animosity is less socially acceptable than animosity against out-partisans (Iyengar and Westwood 2015), which political elites often actively stoke. As a result, when individuals live in areas where the mean

Figure 6
The Effects of Subjective Social Diversity and Ideology: Coefficient Plots



Notes: DV is reported likelihood of donating blood in the coming year on a 0–10 scale. Estimates shown in the first column relate to the full sample, as per model 4 in table 3. Those in the second column are based on model 2, with the subset of younger individuals (under 40 years of age) in red, and model 4, with the subset of individuals aged 40 and above in green.

ideology is far from their own, and when they hold a subjective perception of being in the political minority in their community, they become less likely to give blood. The effect is large, amounting to a 20% drop from the baseline odds of donation, which is on par with other significant factors, like gender. These findings rely on a very large survey of blood donation choices, covering 275,000 Americans over a 10-year period, and a preregistered survey we fielded ourselves, covering an additional 3,505 Americans. Since this remains observational data, however, the findings are not strictly causal, and should thus be interpreted with care. We control for a range of factors in the analysis, including those that (1) facilitate donation, such as proximity to a blood donation center; (2) raise awareness of the need for blood donation, such as gun-related violence; and (3) inhibit donation, such as lack of health insurance. There may be other explanatory factors behind blood donation; for these to confound our results, however, they would have to not only drive donations, but also be significantly related to political diversity.

Evidence from the social capital literature suggests that the negative effect of ethnic diversity on prosocial behavior may disappear over time, as ethnic diversity becomes more

normalized among younger age cohorts. This optimistic trend does not seem to apply to political diversity. In fact, in some tests, the negative effect of political diversity appears to be especially pronounced among younger age cohorts, suggesting that the phenomenon we identify is unlikely to diminish over time. Insofar as it is activated by regional political diversity, affective polarization can end up harming political friends and foes alike.

Acknowledgments

We thank Aaron Erlich, Yotam Margalit, and Dietlind Stolle for valuable comments on earlier versions of this manuscript, and Olivier Bergeron-Boutin and Marie Fester for excellent research assistance. Sung Eun Kim was supported by a National Research Foundation of Korea (NRF) grant funded by the Korean government's Ministry of Science and ICT (NRF-2022M3J6A1063595).

Supplementary Material

To view supplementary material for this article, please visit <http://doi.org/10.1017/S1537592724000021>.

Notes

- 1 For uses of blood donation rates as an indicator for regional levels of social capital, see, among others, Akçomak and ter Weel (2012), Kuroki (2011), Veenstra (2000), Oto-Peralfas and Romero-Avila (2017), and Guiso, Sapienza, and Zingales (2004); see also the broader discussion of blood donation as a proxy for social capital in Lee and Kim (2013).
- 2 As Elster (1990, 71) puts it, “voluntary donation of blood is perhaps the purest example [of pure nonselfish behavior].”
- 3 Recent work has shown how survey respondents in the US assign consistent partisan values to a wide range of nonpolitical activities and objects, from cars to foods and sports (Hiaeshutter-Rice, Neuner, and Soroka 2021).
- 4 Formerly called the Cooperative Congressional Election Study (CCES).
- 5 In the wake of the COVID-19 pandemic, a number of studies have looked to vaccination as another example of prosocial behavior, and one that gives rise to a “social contract” (Korn et al. 2020). Vaccination would thus give rise to similar expectations, and Kim and Pelc (2024a) find consistent evidence for these expectations.
- 6 See, e.g., American Red Cross Blood Services (2024a).
- 7 See, e.g., American Red Cross Blood Services (n.d.). Red blood cells must be used within 42 days; platelets must be used within five days.
- 8 Healy (2000) points to “[t]he surprisingly small amount of research on blood donation,” which has not changed since his writing.
- 9 The relation to gender may come down to medical and physical factors: women weigh less on average and are more prone to anemia, which are both factors that disqualify from donation. See, among others, Abásolo and Tsuchiya (2013), Bekkers and Veldhuizen (2008), Healy (2000), Godin et al. (2005), Jones et al. (2021), and Mowla et al. (2021).
- 10 Community blood banks collect about 42 percent, while hospitals collect about 11 percent (Leveton, Sox, and Stoto 1995).
- 11 A representative news item from NBC quotes a pathologist as saying, “Your donation will most likely be transported to the local hospital to ‘benefit your community’” (Spector 2019).
- 12 In a representative testimonial, a donor is quoted by the Red Cross as saying: “I imagined the faces of many different strangers, taking time out of their day, their jobs, their families, their lives ... to sit in a chair and give part of themselves away, simply because it is a good thing to do for another human being. A stranger” (American Red Cross Blood Services 2024b).
- 13 See the large literature on intergroup ethnic contact, e.g., Allport (1954) and Tajfel and Turner (1979). For a recent survey, see Nathan and Sands (2023).
- 14 We calculate state-level affective polarization as the annual average value of the difference between in-party- and out-party-feeling thermometer ratings. State-level political diversity is calculated as the state-level variance of seven-point political ideology for each state in each survey year. The correlation between the two measures is 0.22. See figure A1 in the appendix.
- 15 Repeat donors “spoke of donating blood as a way to reciprocate for the benefits they enjoyed by belonging to a community that they greatly valued” (Smith, Matthews, and Fiddler 2011).
- 16 For data and replication files, see Kim and Pelc (2024b).
- 17 See Carpenter, Lotspeich-Yadao, and Tolbert (2022) on the choice between counties and CZs, and on how CZs may help to reduce spatial autocorrelation.
- 18 Given the large size of the sample, and to maximize the precision of the results, we set aside the 7.2% of respondents who answered “not sure” when asked about their political viewpoint. The findings are not qualitatively affected by recoding these as “moderate.”
- 19 The National Blood Collection and Utilization Survey reports the estimated number of individuals presenting to donate based on the survey of blood collection facilities as well as the number of successful donors. In 2019, deferred donations for eligibility-related reasons accounted for 19.0% of presenting donors. We calculated the percentage based on the number of individuals presenting to donate and the estimated number of national populations aged 16 or above.
- 20 The AABB allows users to search for blood donation sites based on a zip code (<https://www.aabb.org/for-donors-patients/give-blood>). We scrape the location of all blood centers within a 20-mile radius of each CES respondent’s zip code, which varies from 0 to 25. These include American Red Cross donation centers, hospitals that accept donations, and dedicated blood donation centers. They do not include community blood drives, which are temporary in nature.
- 21 The data on blood donation centers we rely on is from 2022, while the CES survey covers the period from 2010 to 2020. While it is unlikely that the pattern of new blood donation centers built since 2010 would change the underlying relationship, we also reran the analyses on a subsample of 2020 responses as presented in tables A11 and A12. The predictive power of the 2022 number of proximate blood donation centers is significantly higher for the full sample than for 2020 alone, suggesting that it remains a good, if imperfect, proxy for the earlier period.
- 22 We present the results from probit models in tables A5 and A6 in the appendix.

- 23 In the appendix, we also present results controlling for individuals' experience with emergency room (ER) visits in tables A15 and A16. There, we test whether individuals with experience of illness, or surgery that might require blood transfusions, grow more likely to donate blood. Since the question on ER visits was included in the CES in 2016 and onward, we estimate the models on a subset of survey data from 2016, 2018, and 2020. Experience with the ER is indeed positively associated with blood donation. Inclusion of the variable does not change our main findings.
- 24 We use the data collected from the Centers for Disease Control and Prevention covering years 2009 to 2020. We identified firearm-related deaths using ICD-10 underlying cause-of-death code U01.4 and X93–X95.
- 25 We use the data from the Marshall Projects, which tracks the number of adults in correctional facilities per county. As the data are available for every decennial census, we use the 2010 data.
- 26 The CES survey asks: "What racial or ethnic group best describes you?" It offers the following response items: white, Black, Hispanic, Asian, Native American, Middle Eastern, mixed, other. We include binary indicators for white, Black, Hispanic, and Asian, with other ethnic identities as the baseline of comparison.
- 27 We also estimate the same models while including an interaction term between age and our two self-perception variables. As presented in table A8 in the appendix, self-perception as a political minority is associated with a stronger effect than self-perception as a racial minority. We also find that while those who perceive themselves as racial minorities report lesser likelihoods of blood donation, age moderates the negative effect.

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