Submitted Manuscript: Confidential
Template revised November 2022

Title: Highlighting Health Consequences of Racial Disparities Sparks Support for Action

Riana M. Brown[1]*†, Pia Dietze[2]*†, Maureen A. Craig[3,1]

Affiliations:

[1] Department of Psychology, New York University; New York, USA.

[2] Department of Psychological Science, University of California Irvine; California, USA.

[3] Department of Psychology and Neuroscience, Duke University; Durham, NC, USA

*Corresponding authors. riana.brown@nyu.edu and pdietze@uci.edu

†These authors contributed equally to this work.

Abstract:

Racial disparities arise across many vital areas of American life, including employment, health, and interpersonal treatment. For example, 1 in 3 Black children live in poverty (vs. 1 in 9 White children) and on average, Black Americans live 4 fewer years than White Americans. Which disparity is more likely to spark reduction efforts? We find that highlighting disparities in health-related (vs. economic) outcomes spurs greater social media engagement and support for disparity-mitigating policy. Further, reading about racial health disparities elicits greater support for action (e.g., protesting) than economic or belonging-based disparities. This occurs, in part, because people view health disparities as violating morally-sacred values which enhances perceived injustice. This work elucidates which manifestations of racial inequality are most likely to prompt Americans to action.

One-Sentence Summary: Racial health disparities violate concerns of moral sacredness and spark injustice beliefs, calling Americans to action.

Main Text:

Movements pursuing social change are often sparked and sustained by specific events reaching mainstream consciousness. But which types of events are most likely to garner attention and support for social change? In 2014, for example, the majority-Black city of Flint, Michigan came into the national spotlight when citizens confronted officials over lead leaching in the city's water supply (*1*). As another example, the Black Lives Matter (BLM) movement was sparked by the killing of Trayvon Martin, and BLM protests often rekindle following subsequent lives lost. While brain damage from lead-exposure, disproportionate use of force, and deaths understandably draw attention, the systemic nature of racial inequality in the United States means that discrimination and disparities facing Black Americans are not siloed to threats to life and limb or, more generally, the domain of physical health (*2*). For example, Flint could have instead captured America's attention based on its high poverty rates that eventually made it the most impoverished U.S. city (*3*), yet it was notably a health-related event that sparked outrage. In the current research, we empirically investigate how and why racial disparities in specific domains—economics (e.g., employment), health (e.g., access to hospitals), and feelings of belonging (e.g., interpersonal treatment)—differentially influence support for mitigating action.

People support action against situations they perceive as unjust or unfair (see *4-6*). This has been found across a variety of social issues including inequality based on race (*7-9*), gender (*10*), and social class (*11, 12*). While past work documents that a wide array of issues can elicit injustice perceptions and support for action, no empirical work (to our knowledge) has tested the relative mobilizing potency of different domains within the same group-based inequality. Our research provides this vital test to assess how and why exposure to different manifestations of racial inequality may uniquely spark engagement to mitigate this pressing social issue.

Disparities between social groups occur in a variety of important life domains. Our work focuses on racial inequalities in domains that social scientists regard as vital to wellbeing and life fulfillment: health, economics, and belonging (*13-15*). Health-related disparities occur when social groups differ in their exposure to violence or other forms of physical dangers, disease or injury, or when physiological needs are insufficiently met (*16*). For example, Black American communities have less access to nutritious and healthy foods (*17*), have fewer hospitals and pharmacies (*18-20*), and experience more physical violence by police (indeed racial disparities in police violence are now considered and addressed as a public health issue; *21*). Economic disparities, in contrast, reflect group differences in access to wealth, income, jobs, and resources (*22*). As examples of economic-based racial inequality, Black Americans, on average, attend lower funded schools leading to lower future salaries (*23*), experience greater difficulty acquiring jobs and promotions (*24, 25*), and have less accrued family wealth and lower homeownership rates (e.g., *18, 26*). Finally, belonging-based disparities involve group differences in experiencing positive or negative interpersonal treatment (*27*). For instance, Black Americans, on average, face more discipline and suspensions in schools; *28, 29*), experience alienation with the police (e.g., *30*), and feel unwelcome and treated with suspicion in shops and public areas (*31, 32*). The current research investigates the extent to which Americans support efforts to reduce racial disparities in these three life domains.

We posit that health disparities may be viewed as particularly pernicious because issues related to health and medical care—broadly, the protection of human life—are considered "sacred" moral values (*33-38*). Sacred moral values have "infinite or transcendental significance

that precludes comparisons [and] trade-offs" (*38*), p. 853). In addition, they are often considered fundamental, or core values (*39*). In support of this notion, in Maslow's classic hierarchy and past empirical work, health-relevant physiological needs are considered to be more fundamental than belonging-based or economic needs (*13, 14, 40, 41*).

When something is sacred, it is treated as morally imperative to protect relative to non-sacred, secular concerns such as economic issues (e.g., access to money, *37-39, 42, 43*). When a sacred moral value is violated, people report feeling outraged at the moral violation, seek to punish the violator, and act against the violation (*38*). Thus, the more fundamental need for health should be perceived as more morally sacred than less fundamental needs of economics and belonging, and as such, more unjust if violated. In turn, we predict that, on average, people will seek to alleviate health disparities over economic or belonging disparities.

We test this hypothesis in four studies, using diverse methodologies and including three mostly White samples (S1a, S4a, S4b), a targeted sample with equal numbers of White and Black Americans (S1b), a sample of social media users (S2), and a nationally-representative sample (S3). We operationalize support for action against inequality in several different ways: support for individually-enacted collective action (e.g., attending protests; S1), institutional change (i.e., policy support; S3, S4), and actual social media engagement (S2). All study materials are provided in the Supplement and all data and syntax are provided here. All studies followed ethical guidelines and were IRB approved.

Study 1

In a within-subjects experimental design, two samples (S1a: N=191, 73% White; S1b, preregistered: N=337, 50% White, 50% Black)[1] of U.S. citizens read nine examples of racial disparities, three each from the domains of health (e.g., "Black American communities have less access to hospitals, pharmacies, and medical care compared to White American communities"), economics (e.g., "Black American communities experience lower home-ownership rates leading to less wealth compared to White Americans"), and belonging (e.g., "Black Americans feel less welcome in shops and public spaces compared to White Americans"; see Supplement for all items). After each example, participants reported whether the disparity was unjust and fair (reverse-coded; 2-items; *rs* within each domain ranged from .62-.64 [S1a] and .83-.85 [S1b]). Participants also indicated their agreement (1=*strongly disagree*, 7=*strongly agree*) that they "personally want to take action to reduce the given disparity" (general action). In S1b, participants additionally indicated how likely (1=*extremely unlikely*, 7=*extremely likely*) they were to engage in specific actions: donating, engaging in a protest, and sharing information on social media to reduce the disparity (concrete actions, 3-items; αs within each domain ranged from .82-.87).

Results of Study 1

To assess the effects of domain (S1a and S1b) and participant race (S1b), we conducted multilevel models with disparity domain (S1a and S1b) and participant race (S1b) as fixed effects and example type and participant as random effects. As predicted and preregistered (S1b), both samples (**Fig. 1**) revealed significant effects of disparity domain on support for action, S1a: $F(2, 1524)=8.10$, $p<.001$; S1b: general action: $F(2, 2690)=40.52$, $p<.001$; concrete actions: $F(2, 2690)=55.85$, $p<.001$. Participants reported greater support for addressing disparities in health than either economics, [S1a: $\beta=.08$, $t(1524.02)=3.18$, $p=.001$; S1b: general action: $\beta=.17$, $t(2692.00)=7.64$, $p<.001$; concrete actions: $\beta=.12$, $t(2692.00)=7.08$, $p<.001$], or belonging, [S1a: $\beta=.10$, $t(1524.02)=3.77$, $p<.001$; S1b: general action: $\beta=.17$, $t(2692.00)=7.98$, $p<.001$; concrete

actions: β=.18, *t*(2692.00)=10.32, *p*<.001]. There were no differences in support for general action between the economic and belonging disparities (βs<.02, *p*>.510); however, participants reported greater support for concrete actions (e.g., protesting) to reduce economic than belonging-based disparities, S1b: β=.06, *t*(2692.00)=3.24, *p*=.001.

In S1b, we tested for moderation by participant group membership (White vs. Black Americans), but only the disparity domain main effect and a main effect of participant race consistently emerged: Black Americans overall supported addressing all disparities more than White Americans, both in general (*F*(1, 335)=12.39, *p*<.001) and for concrete actions (e.g., protests; *F*(1, 335.01)=15.73, *p*<.001). Overall, these results reveal that both White and Black Americans expressed more support for reducing health disparities than other disparities (see Supplement for descriptive statistics and additional analyses).

--

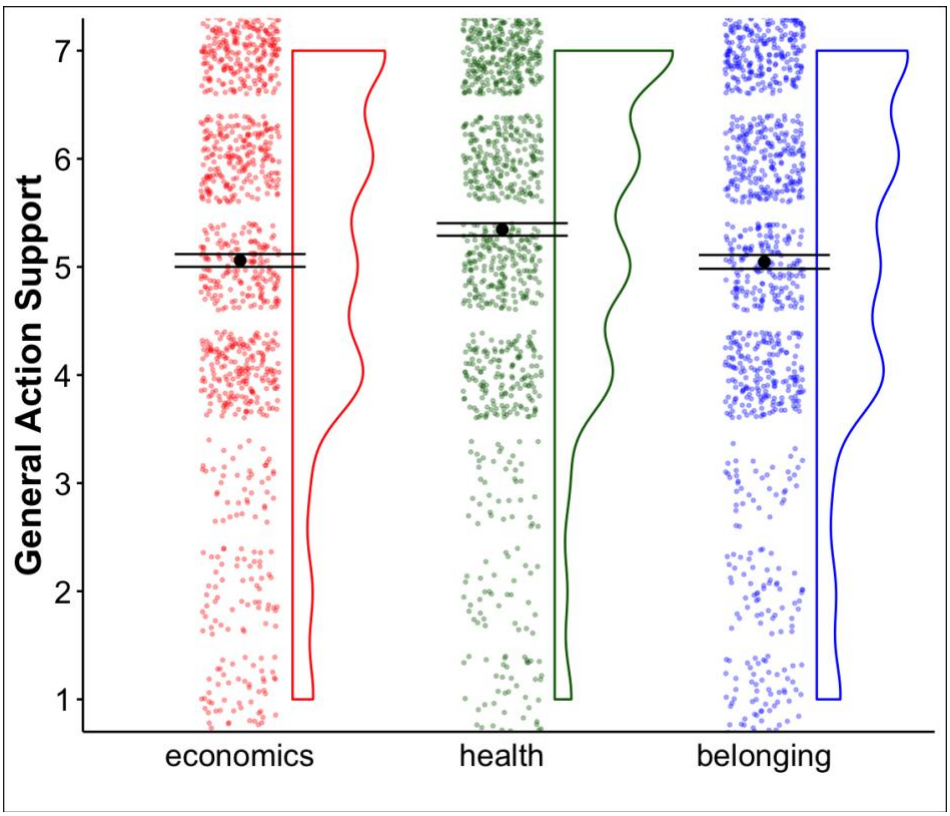


Fig. 1. Raincloud plot with jittered data for participants' general action support for different disparity domains (economic condition, health condition, belonging condition) in Study 1b. Error bars represent 95% confidence intervals around the mean (the large black dots). Smaller dots indicate individual participant scores. The "cloud" areas reflect the data distributions.

--

As preregistered (S1b), greater support for action to reduce health (compared to either economic or belonging) disparities was mediated by perceptions of injustice (S1b: Indirect effects >.02, 95% CIs [.010, .048], see Supplement for comprehensive results). Thus, across two ways of operationalizing support for action and among participants belonging to both socially-advantaged and disadvantaged racial groups, S1 provides consistent evidence that White and

Black Americans support reducing health-based racial disparities more than economics and belonging-based disparities. This heightened support for action is, in part, due to perceptions that health disparities are more unjust.

Study 2

To generalize the findings of S1 to an ecologically-valid context, S2 (preregistered) experimentally tested which disparity domain garners more engagement on social media. Given that the health and economic disparities elicited the most and second-most support for mitigation in S1, we directly compare these domains for a conservative test. We created two versions of a sponsored advertisement on Facebook (see (*12*) for similar methodology). Each ad presented a headline about racial inequality—one about health, the other about economic disparities—followed by a brief description of the issue (see **Fig. 2**). We preregistered our hypothesis that the health disparities ad would garner more social media engagement than the economic disparities ad.

Results of Study 2

We ran a 'split test' (randomized experiment) to assess which ad was more engaging over 24 hours (see (12) for details on this metric). As preregistered, the health ad "won": it was more engaged with, reached more users, and was more cost-effective. The health ad reached 1,156 (9.7%) more people than the economic ad and had a 95% chance of outperforming the economic ad in a replication. This finding reveals that even abstract information about racial health disparities—vs. the specific examples used in S1—elicits greater engagement with the issue in an ecologically valid setting.

--

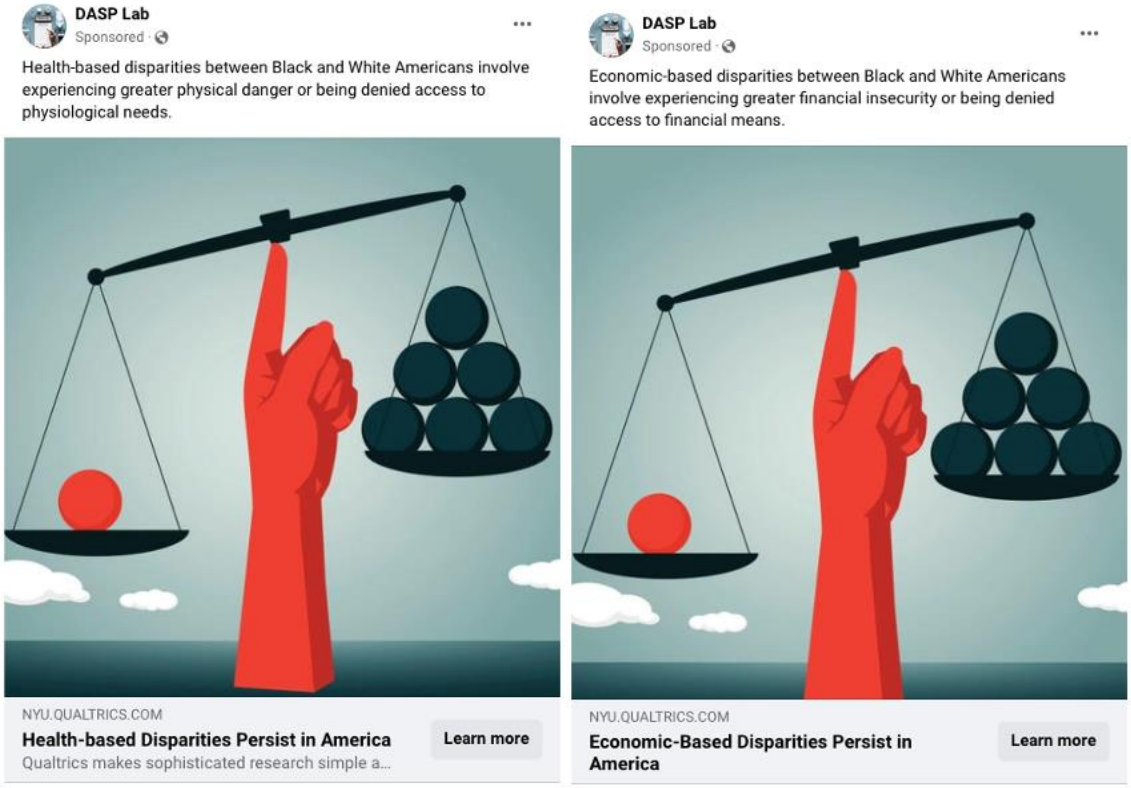


Fig. 2. The health-based and economic-based ads used in Study 2.

--

Study 3

For S3 (preregistered), we conceptually replicate S1-S2 using a new outcome (policy support) and we measure a possible precursory mechanism—perceived violations of moral sacredness—which is hypothesized to spur injustice perceptions. A nationally-representative sample of 1,550 U.S. residents[2] viewed a short infographic highlighting either health-, economic-, or belonging-based racial disparities. Then all participants reported on their agreement (1=*strongly disagree*, 7=*strongly agree*) of how unjust ("These disparities are unjust") and morally sacred (2-items, r=.48, e.g., "These racial disparities involve issues or values which should never be violated") the issue was, as well as their support for general policies to reduce it (2-items, r=.77, e.g., "Politicians need to prioritize creating policies that reduce these racial disparities"; see Supplement for all items).

Results of Study 3

An ANOVA (see Supplement for descriptive statistics) revealed a marginal main effect of disparity domain on policy support, $F(2, 1547)=2.75$, p=.064, η_p^2=.01. As predicted, and preregistered, planned contrasts revealed that participants exposed to health disparities supported mitigating policies more than those exposed to economic disparities (β=.14, $t(1547)=2.32$, p=.020). There were no differences in policy support between the economic and belonging conditions (β=-.09, p=.150), nor unexpectedly, between the belonging and health conditions (β=.05, p=.378). Additionally, we found support for the preregistered serial mediation model: highlighting health (vs. economic) disparities elicited support for mitigating policies due to perceptions that the issue is morally sacred which in turn, induced perceived injustice (95% CI: [.05-.13]; see **Fig. 3**). As such, with a nationally representative sample, S3 finds support that health-based disparities (vs. economic disparities) are seen as a violation of moral sacredness and are thus unjust, which evokes more policy support.

--

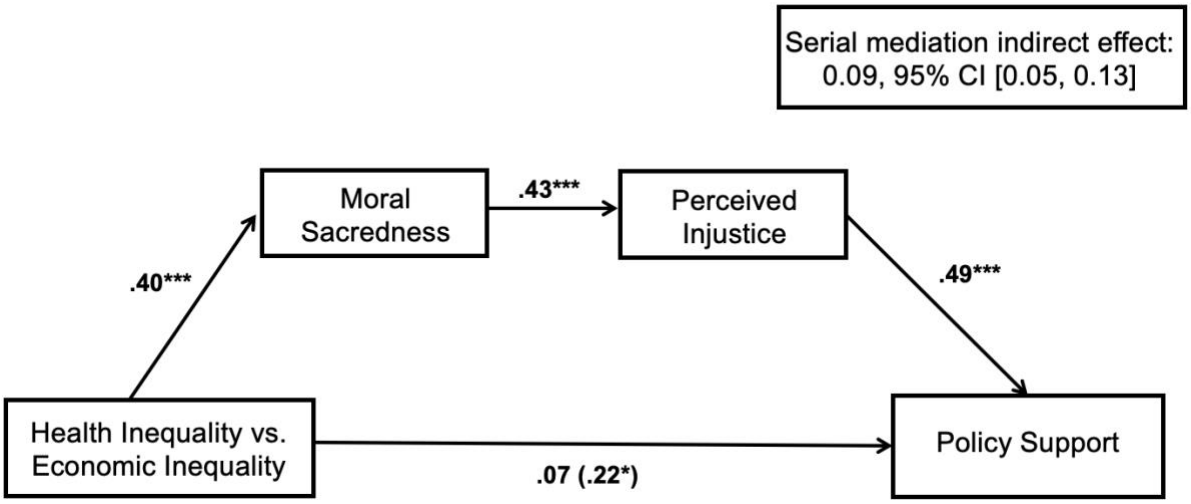


Fig. 3. Study 3 serial process model of the indirect effect of disparity condition (health vs. economic) on policy support via moral sacredness affecting perceived injustice (with 10,000

bootstrap samples). The value in parentheses represents the total effect prior to the inclusion of the mediators. *Notes.* *p<.05, **p<.01, ***p<.001.

--

Study 4

While we find greater support for the mitigation of health-based racial disparities compared to economic disparities (S1-S3), it is possible that people reveal this preference because they view the solutions to address health-based disparities as less costly than the solutions to address economic disparities. Because we assessed general policy support in S3, participants considering health disparities (vs. economic disparities) might have conceived of different policies to address each issue. For example, solutions to combat racial health disparities, such as increasing access to healthcare in specific communities, might be perceived as less costly for the advantaged group and therefore less zero-sum; in contrast, frequently-discussed solutions to address racial economic disparities, such as redistributing financial resources, may seem costly. We aim to address this alternative explanation in S4. Specifically, we test if our result regarding policy support—that people show greater support for policy solutions aimed to address racial health (vs. economic) inequality—replicates when assessing support for a concrete policy that is consistent across conditions and is costly for everyone.

Additionally, we aim to extend the potential applicability of our findings in S4. The 'social determinants of health approach' endorsed by the Centers for Disease Control and Prevention, the World Health Organization (*44*), and other public health agencies (*44*) contends that fiscal economic policy is key to the mitigation of health inequality (*45*). As such, we assess support for a specific fiscal policy in S4.

In two samples, S4a (N=490, 76% White) and S4b (preregistered, N=1,088, 74% White), U.S. citizens indicated their support (1=*strongly oppose*, 7=*strongly support*) for the same fiscal federal policy—increasing taxes by 0.5% for all Americans. Crucially, participants were randomly assigned to one of two conditions in which they either read that this policy would help to reduce health-based or economic-based racial disparities.

Results of Study 4

Across samples, as predicted and preregistered (S4b), participants who read that a 0.5% tax increase for all Americans would go to reducing health-based disparities supported the increase more than those informed that the same tax increase would go to reducing economic-based disparities (S4a: $t(488)=2.35$, $p=.019$, $d=.21$; S4b: $t(1086)=4.02$, $p<.001$, $d=.24$).[3] This finding reveals that Americans express relatively more support for increasing taxes, if the tax increase is aimed at mitigating health (vs. economic) inequality, even if the proposed policy is held constant across conditions, is very concrete (vs. general policy support in S3), and affects all Americans.

Discussion

Across four studies (with six experiments), exposure to health disparities spurred greater support for taking action than economic (S1-S4) or belonging-based disparities (S1a-S1b). Health disparities also garnered more social media engagement (S2), support for general policies (S3), and support for a specific fiscal policy (S4) than economic disparities. These effects appear driven, at least in part, by perceptions that racial disparities in health outcomes violate a sacred moral value (S3) and are more unjust (S1, S3).

Importantly, domains of social inequality are clearly highly interrelated; disparities in one domain may coincide or even generate disparities in other domains. Consider the issue of underfunded public schools in majority-Black U.S. neighborhoods. An economic issue—lack of public funding—contributes to schools providing nutrient-deficient lunches disproportionately to Black children. Despite their interconnected nature, our experiments demonstrate that highlighting the health consequences, in particular, will likely garner more support to address the issue than if the economic precursor is made salient. Indeed, even when the solution is economic or fiscal in nature (i.e., tax increases) people report more support for a policy that addresses health compared to economic issues.

The current work provides evidence of the relative potency of health-related disparity information; however, this information is not a panacea. Research reveals that White Americans are less likely to support action to mitigate a health issue (e.g., COVID-19) if they are informed that the health issue exacerbates racial disparities compared to if racial disparities are not mentioned (*46*; also see *47*). Consistent with this work, participants' average levels of support in our studies suggest hesitance in taking concrete actions or enacting specific policies to reduce racial inequality (participants, on average, were neutral or in opposition to concrete action and policy). Nevertheless, the present research reveals that racial health disparities are among the most likely to garner support and that other race-based disparities are even less likely to mobilize Americans.

We also found a different pattern of results regarding comparisons between health and belonging disparities. In S1, participants supported addressing health disparities more than belonging disparities, while S3 did not find this. Although speculative, it could be that the change in operationalizations of support (individual action vs. policy support) or experimental materials (mentioning "basic interpersonal needs") may account for this discrepancy.

The present research also has limitations that should be addressed in future inquiries. First, the current experiments focus exclusively on disparities between Black and White Americans. While we would expect that our results would replicate for different dimensions of inequality (e.g., gender or class), different disparity domains (e.g., misapplications of the law, disparities in political representation), as well as disparities between other racial groups (e.g., White and Hispanic Americans), future research is needed to test this. Additionally, we did not target other racial minority groups (e.g., Asian Americans, Hispanic Americans) in recruitment. Thus, we cannot conclude how other racial minorities react to Black-White disparities. Future work can examine how different disparities may help or hinder intra-minority coalitions.

Secondly, although we focus on sacred moral values as a mediator, we do not consider this the only mechanism. It is likely that additional mechanisms contribute to responses to health (vs. economic or belonging) disparities. For example, people may place more blame on victims of economic outcomes compared to health outcomes due to meritocratic worldviews (*48)*. Or, people may perceive health outcomes as more severe or urgent than outcomes in other inequality domains. Future studies should delve into additional possible mechanisms.

Overall, the present research represents a large-scale investigation of which forms of racial disparities spur support for action to reduce racial inequality (and one explanation as to why). Research across social science considers how activists and leaders of social movements galvanize involvement by tactically choosing how to present or frame an issue (*49*). Thus, the results of the present research could be informative for policymakers, leaders of social movements, and citizens seeking to reduce racial inequality. Given that the United Nations

pledged to reduce inequality within and among countries by 2030 and called for individuals to join the fight (*50*), this timely work can help us understand why violations of physical needs and safety can be powerful determinants of civilian movements for change.

References and Notes

1. Smith, M., Bosman, J., Davery, M. (2019). *Flint's water crisis started 5 years ago. It's not over.* Retrieved from: https://www.nytimes.com/2019/04/25/us/flint-water-crisis.html

2. Bleich, S. N., Findling, M. G., Casey, L. S., Blendon, R. J., Benson, J. M., SteelFisher, G. K., ... & Miller, C. Discrimination in the United States: experiences of black Americans. *Health Services Research*, **54**, 1399-1408 (2019).

3. Mack, J. (2019). *Flint and Detroit among nation's top 5 poorest cities, new census data shows.* Retrieved from: https://www.mlive.com/news/2019/09/flint-and-detroit-among-nations-top-5-poorest-cities-new-census-data-shows.html

4. Jetten, J., Iyer, A., Branscombe, N. R., & Zhang, A. How the disadvantaged appraise group-based exclusion: The path from legitimacy to illegitimacy. *European Review of Social Psychology*, **24**, 194-224 (2013).

5. Van Zomeren, M. Four core social-psychological motivations to undertake collective action. *Social and Personality Psychology Compass,* **7**, 378-388 (2013).

6. Van Zomeren, M., Postmes, T., & Spears, R. Toward an integrative social identity model of collective action: a quantitative research synthesis of three socio-psychological perspectives. *Psychological Bulletin,* **134**, 504-535 (2008).

7. Selvanathan, H. P., Techakesari, P., Tropp, L. R., & Barlow, F. K. Whites for racial justice: How contact with Black Americans predicts support for collective action among White Americans. *Group Processes & Intergroup Relations*, **21**, 893–912 (2018).

8. Stewart, T. L., Latu, I. M., Branscombe, N. R., Phillips, N. L., & Ted Denney, H. White privilege awareness and efficacy to reduce racial inequality improve White Americans' attitudes toward African Americans. *Journal of Social Issues,* **68**, 11-27 (2012).

9. Dover, T. L. Not all inequalities are created equal: Inequality framing and privilege threat for advantaged groups. *Group Processes & Intergroup Relations*, **25**, 746-767 (2022).

10. Doosje, B., Branscombe, N. R., Spears, R., & Manstead, A. S. Guilty by association: When one's group has a negative history. *Journal of Personality and Social Psychology*, **75**, 872 (1998).

11. Chow, R. M., & Galak, J. The effect of inequality frames on support for redistributive tax policies. *Psychological Science*, **23**, 1467-1469 (2012).

12. Dietze, P., & Craig, M. A. Framing economic inequality and policy as group disadvantages (versus group advantages) spurs support for action. *Nature Human Behaviour*, **5**, 349-360 (2021).

13. Maslow, A. H. A theory of human motivation. *Psychological Review,* **50**, 370–396 (1943).

14. Diener, E., & Suh, E. Measuring quality of life: Economic, social, and subjective indicators. *Social Indicators Research*, 189-216 (1997).

15. Ruger, J. P. Health and social justice. *The Lancet*, **364**, 1075-1080. (2004).

16. CDC. *Community Health and Program Services (CHAPS): Health Disparities Among Racial/Ethnic Populations.* Atlanta: U.S. Department of Health and Human Services; 2008

17. Gearan, E. C., Monzella, K., Jennings, L., & Fox, M. K. Differences in Diet Quality between School Lunch Participants and Nonparticipants in the United States by Income and Race. *Nutrients*, **12**, 3891 (2020).

18. Badger, E. (2015). *Redlining: Still a thing.* Retrieved from: https://www.washingtonpost.com/news/wonk/wp/2015/05/28/evidence-that-banks-still-deny-black-borrowers-just-as-they-did-50-years-ago/

19. Johnson (2021). *Lack of health services and transportation impede access to vaccine in communities of color.* Retrieved from: https://www.washingtonpost.com/health/2021/02/13/covid-racial-ethnic-disparities/

20. Ray (2020). *Why are Blacks dying at higher rates from COVID-19?.* Retrieved from: https://www.brookings.edu/articles/why-are-blacks-dying-at-higher-rates-from-covid-19/

21. DeVylder, J. E., Anglin, D. M., Bowleg, L., Fedina, L., & Link, B. G. Police violence and public health. *Annual Review of Clinical Psychology*, **18**, 527-552 (2022).

22. (2022). *Economic inequality.* Retrieved from: https://www.apa.org/topics/economic-inequality

23. García, M. (2017). *Poor black children are much more likely to attend high-poverty schools than poor white children.* Retrieved from: https://www.epi.org/publication/poor-black-children-are-much-more-likely-to-attend-high-poverty-schools-than-poor-white-children/

24. Patten, E. (2016). *Racial, gender wage gaps persist in U.S. despite some progress.* Retrieved from: https://www.pewresearch.org/short-reads/2016/07/01/racial-gender-wage-gaps-persist-in-u-s-despite-some-progress/

25. Wilson, V., Darity, W. (2022). *Understanding black-white disparities in labor market outcomes requires models that account for persistent discrimination and unequal bargaining power.* Retrieved from: https://www.epi.org/unequalpower/publications/understanding-black-white-disparities-in-labor-market-outcomes/

26. Manduca, R. Income inequality and the persistence of racial economic disparities. *Sociological Science*, **5**, 182-205 (2018).

27. Baumeister, R. F.; Leary, M. R. "The need to belong: Desire for interpersonal attachments as a fundamental human motivation". *Psychological Bulletin.* **117** , 497–529 (1995).

28. Kinsler, J. Understanding the black–white school discipline gap. *Econ Educ Rev,* **30**, 1370–1383 (2011).

29. Okonofua, J. A., Walton, G. M, Eberhardt, J. L. A vicious cycle: A social–psychological account of extreme racial disparities in school discipline. *Perspectives in Psychological Science,* **11**, 381–398 (2016).

30. Masterson, M. (2016). *Black teens report alienation, fear, in dealings with the police.* Retrieved from: https://news.wttw.com/2016/11/25/black-teens-report-alienation-fear-dealings-police

31. Anderson, E. The white space. *Sociology of race and ethnicity*, **1**, 10-21 (2015).

32. Lee, J. The salience of race in everyday life: Black customers' shopping experiences in Black and White neighborhoods. *Work and Occupations,* **27**, 353-376 (2000).

33. Baron, K. Spranca, M. Protected values. *Organizational Behavior and Human Decision Processes*, **70**, 1-16 (1997).

34. Berns, G. S., Bell, E., Capra, C. M., Prietula, M. J., Moore, S., Anderson, B.,. . . Atran, S. The price of your soul: Neural evidence for the non-utilitarian representation of sacred values. *Philosophical Transactions of the Royal Society of London Series B, Biological Sciences,* **367**, 754–762 (2012).

35. Graham, J., & Haidt, J., "Sacred values and evil adversaries: A moral foundations approach" n *The Social Psychology of Morality: Exploring the Causes of Good and Evil,* P. Shaver & M. Mikulincer, Eds. (APA Books, 2012), (pp. 11–31)

36. Rozin, P., & Wolf, S. Attachment to land: The case of the land of Israel for American and Israeli Jews and the role of contagion. *Judgment and Decision Making*, **3**, 325–334 (2008).

37. Ruttan, R. L., & Nordgren, L. F. Instrumental use erodes sacred values. *Journal of Personality and Social Psychology*, **121**, 1223 (2021).

38. Tetlock, P. E., Kristel, O. V., Elson, S. B., Green, M. C., & Lerner, J. S. The psychology of the unthinkable: taboo trade-offs, forbidden base rates, and heretical counterfactuals. *Journal of Personality and Social Psychology*, **78**, 853 (2000).

39. Tetlock, P. E. Thinking the unthinkable: Sacred values and taboo cognitions. *Trends in Cognitive Sciences*, **7**, 320-324 (2003).

40. Maslow, A. H. *Motivation and Personality*. (Harper & Row Publishers, ed. 3, 1987).

41. Mathes, E. W. Maslow's hierarchy of needs as a guide for living. *Journal of Humanistic Psychology*, **21**, 69-72 (1981).

42. Baron, K. Spranca, M. Protected values. *Organizational Behavior and Human Decision Processes*, **70**, 1-16 (1997).

43. Ritov, I., & Baron, J. Protected values and omission bias. *Organizational Behavior and Human Decision Processes*, **79**, 79-94 (1999).

44. Centers for Disease Control and Prevention. (2022). *Social determinates of health at the CDC.* Retrieved from: https://www.cdc.gov/about/sdoh/index.html#:~:text=They%20are%20the%20conditions%20in,climate%20change%2C%20and%20political%20systems.

45. Adler, N. E., Glymour, M. M., & Fielding, J. Addressing social determinants of health and health inequalities. *Jama*, **316**, 1641-1642 (2016).

46. Skinner-Dorkenoo, A. L., Sarmal, A., Rogbeer, K. G., André, C. J., Patel, B., & Cha, L. Highlighting COVID-19 racial disparities can reduce support for safety precautions among White US residents. *Social Science & Medicine*, **301**, 114951 (2022).

47. Miller, C. A., Wilkins, C. L., de Paula Couto, C., Farias, J., & Lisnek, J. A. Anti-Black attitudes predict decreased concern about COVID-19 among Whites in the US and Brazil. *Social Science & Medicine*, **320**, 115712. (2023).

48. Kluegel, J. R., & Smith, E. R. *Beliefs about Inequality: Americans' Views of What is and What Ought to Be* (Routledge, 2017).

49. Benford, R. D., & Snow, D. A. Framing processes and social movements: An overview and assessment. *Annual Review of Sociology*, **26**, 611-639 (2000).

50. World Social Report. (2020). *World Social Report 2020. Inequality in a rapidly changing world.* Retrieved from: https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/02/World-Social-Report2020-FullReport.pdf

51. Brown, Riana M.; Dietze, Pia; Craig, Maureen A. (Forthcoming 2023). Highlighting Health Consequences of Racial Disparities Sparks Support for Action [Dataset]. Dryad. https://doi.org/10.5061/dryad.cz8w9gj8t

Supplementary Materials References

52. Hanselmann, M., & Tanner, C. Taboos and conflicts in decision making: Sacred values, decision difficulty, and emotions. *Judgment and Decision Making*, **3**, 51-63. (2008).

53. Oliphant, J. B. (2023). *Top tax frustrations for Americans: The feeling that some corporations, wealthy people don't pay fair share.* Retrieved from: https://www.pewresearch.org/short-reads/2023/04/07/top-tax-frustrations-for-americans-the-feeling-that-some-corporations-wealthy-people-dont-pay-fair-share/

Notes

1. This is the final sample size after removing participants with incomplete responses. Initially, S1a had 200 participants and S1b had 343 participants. Results remain consistent if we retain participants with incomplete responses.
2. This is the final sample size after removing participants with incomplete responses. Initially, S3 had 1,607 participants. Results remain consistent if we retain participants with incomplete responses.
3. In S4b, we preregistered one other policy (allocation of the federal budget). This item did not yield significant results (see Supplement for detailed description of all items and analyses).

Acknowledgments: We would like to thank the TESS program for the aid in Study 3.

Funding: National Science Foundation grant NSF-BCS-2046842 (MAC)

Author contributions: Each author's contribution(s) to the paper should be listed [we encourage you to follow the CRediT model]. Each CRediT role should have its own line, and there should not be any punctuation in the initials.

Examples:

Conceptualization: RMB, PD, MAC

Methodology: RMB, PD, MAC

Investigation: RMB, PD

Visualization: RMB

Funding acquisition: MAC

Project administration: RMB, PD

Supervision: PD, MAC

Writing – original draft: RMB, PD

Writing – review & editing: RMB, PD, MAC

Competing interests: Authors declare that they have no competing interests.

Data and materials availability: All study materials are provided in the Supplement and all data and syntax are provided at Dyrad (doi:10.5061/dryad.cz8w9gj8t). All studies followed ethical guidelines and were IRB approved (Study 1 IRB-FY2018-1870; Study 2 IRB-FY2018-2070; Study 3 and Study 4 IRB-1700).

Supplementary Materials

Materials and Methods

Supplementary Text

Figures S1 to S3

Tables S1 to S5

References (*52-53*)

Study Materials

Submitted Manuscript: Confidential
Template revised November 2022

Supplementary Materials for

Highlighting Health Consequences of Racial Disparities Sparks Support for Action

Riana M. Brown, Pia Dietze, Maureen A. Craig

Corresponding authors: riana.brown@nyu.edu and pdietze@uci.edu

The PDF file includes:

Materials and Methods
Supplementary Text
Figure S1 to S3
Tables S1 to S5

Other Supplementary Materials for this manuscript include the following:

Study Materials

Materials and Methods

Study 1

Participants. Two samples (S1a: N=200; S1b preregistered: N=343) of U.S. citizens were recruited from MTurk.com and Prolific Academic. After removing incomplete responses, we had a total of 191 participants in S1a (101 women, 90 men; ages 21-72, M_{age}=41.86, SD_{age}=12.96; 24 Asian, 11 Black, 139 White, 9 Hispanic, 2 Native American, 2 Middle Eastern, 4 Multiracial) and 337 participants in S1b (169 women, 164 men, 1 non-binary; ages 18-80, M_{age}=39.80, SD_{age}=14.52; 166 Black, 171 White). For Study 1a, we aimed for a minimum of 150 participants. For Study 1b, based on a power analysis using the results of Study 1a, we sought to recruit a minimum of 150 White and 150 Black American participants. Given the difficulty of conducting power analyses for multilevel models, we conducted a sensitivity analysis for a simpler repeated measures design, which suggest that the achieved sample size reliably detects small sized effects (S1a: d=.22; S1b: d=.14) at 80% power.

Procedure. After informed consent, participants were told that they would be presented with different disparities between Black and White Americans and asked to report their thoughts and opinions. Each participant was then presented with nine examples of racial disparities (three in health, three in economics, and three in belonging domains; the order for each example was randomized) and participants rated each example in terms of how unjust it is, and how much they supported taking action to reduce the disparity. Last, participants completed exploratory measures, demographics, and were debriefed.

Materials and Measures. For full measures see Study Materials at the end of this document.

Disparities Manipulation. Participants read nine examples of racial disparities, three each from the domains of health (e.g., “Black American communities have less access to hospitals, pharmacies, and medical care compared to White American communities"), economics (e.g., “Black American communities experience lower home-ownership rates leading to less wealth compared to White Americans"), and belonging (e.g., “Black Americans feel less welcome in shops and public spaces compared to White Americans"). The order of presented disparities was randomized. All authors took part in creating the examples and all disparities reflect examples from the news (*17-21, 23-26, 28-32*) with three examples involving community space, three involving criminal justice, and three involving education. See Study Materials at the end of this document for all items.

Perceived Injustice and Support for Action. After each example, participants reported whether the disparity was unjust and fair (reverse-coded; 2-items; *rs* within each domain ranged from .62-.64 [S1a] and .83-.85 [S1b]). Participants then indicated their agreement (1=*strongly disagree*, 7=*strongly agree*) that they “personally want to take action to reduce the given disparity”. In S1b, participants also indicated how likely (1=*extremely unlikely*, 7=*extremely likely*) they were to engage in specific actions: donating, engaging in a protest, and sharing information on social media to reduce the disparity (concrete actions, 3-items; αs within each domain ranged from .82-.87). See Study Materials at the end of this document for all items.

Study 2

Participants. Our audience for Study 2 (that is, individuals who would be randomly assigned to the ad manipulation) was composed of adult Facebook users (aged 18+), located in the United States, who accessed the newsfeed feature on desktops to ensure that the ads appeared correctly. An individual user could see only one of the ad versions and, to count as a unique view, each user could see it only once. A total of 24,952 users were presented with the ads between 11 and 12 May 2022 for 24 hours. We set our ad budget to 85 euros, which allowed for estimated 95% power to detect an effect (that is, the likelihood of detecting a difference in the ad versions, if there is one to detect, as calculated by Facebook).

Materials and Procedure. Consistent with the methods in Dietze and Craig (*12*), we used Facebook's ad manager to create the two different advertisements to run a split test. In a split test, ads are tested against each other to determine which ad performs best in terms of the marketing objective. We selected 'reach' as our marketing objective because we considered this to be the best proxy for measuring the potential for collective engagement (see *12* for rationale). At the end of the testing period, Facebook determines the winning ad by calculating the cost for each ad to reach 1,000 people (Facebook can also declare no winner if the ads perform equally well). In addition, Facebook reports the absolute number of people reached by each ad. As an ad format, we used a single-image advertisement, which included a headline, descriptive text, an image, and a website URL (Figure 2). Each ad was labeled as sponsored content. We used the same free stock image and NYU Qualtrics URL for each ad. If users clicked on the ad, they were forwarded to a form, which included the contact information of the researchers and debriefing information.

Study 3

Participants. Study 3 data were collected from NORC's AmeriSpeak Panel via the Time-sharing Experiments for the Social Sciences Short Studies program. A nationally-representative sample of 1,607 U.S. residents (1,550 after removing incomplete responses; 809 women, 741 men; ages 18-92, M_{age}=49.51, SD_{age}=17.49; 1021 White, non Hispanic, 176 Black, non Hispanic, 16 other, non-Hispanic, 254 Hispanic, 27 multiracial, non-Hispanic, 46 Asian, non-Hispanic participants; preregistered) completed the study. The sample size was determined via The Social Sciences Short Studies program, which aims to collect a sample of around 1600 U.S. residents. A sensitivity analysis indicated that the achieved sample size reliably detects small sized effects (d=.16) at 80% power. Due to missing data on citizenship (only 56% of the sample provided information about citizenship status), we did not filter out non-U.S. citizens as preregistered. When looking at those who identity as US citizens or those who are missing citizenship. information (i.e., removing those who indicated that they were not US citizens) results remain consistent.

Procedure. Participants viewed a short infographic highlighting either health-, economic-, or belonging-based racial disparities. Then all participants reported on their perceptions of how unjust and morally sacred the issue was (adapted from *52*) and their support for policies to reduce it. Finally, participants completed demographics and were debriefed. Given constraints of the TESS short studies format, participants also completed two other research groups' short

studies either positioned before our study or after. Results remain consistent if adjusting for Study order.

Materials and Measures. For full measures see Study Materials at the end of this document.

Disparities Manipulation. Participants were randomly-assigned to view a brief infographic similar to that for Study 2 highlighting either health-, economic-, or belonging-based racial disparities. For example, participants read that health, economic, or belonging disparities persist between Black and White Americans. The infographic also described one example of either a health, economic, or belonging disparity. Thus, all participants read about disparities between Black and White Americans, but whether health, economic, or belonging disparities were described varied across experimental condition. See Study Materials at the end of this document for the infographics.

Perceived Injustice, Moral Violations, and Policy Support. After reading the infographic, participants reported on their agreement (1=*strongly disagree*, 7=*strongly agree*) of how unjust (1-item) and morally sacred (2-items, r=.48; "These racial disparities involve issues or values which should never be violated"; adapted from *52*) the issue was and their support for policies to reduce it (2-items, r=.77; "I support policies that aim to reduce these disparities"). See Study Materials at the end of this document for all items. In the pre-registration on aspredicted, we indicated that moral sacredness would be analyzed with one item; however, we measured moral sacredness with two items. Running the analyses with each moral sacredness item separately yields consistent results.

Study 4

Participants. Two samples (S4a: N=500; S4b preregistered: N=1100) of U.S. citizens were recruited from Prolific Academic. After removing incomplete responses and those who failed the Qualtrics bot check (preregistered exclusions in S4b), we had a total of 490 participants in S4a (238 women, 242 men, 10 non-binary; ages 19-84, M_{age}=40.70, SD_{age}=13.83; 40 Asian, 28 Black, 373 White, 30 Hispanic, 3 Native American, 15 Multiracial) and 1088 participants in S4b (524 women, 545 men, 16 non-binary, 3 gender not specified; ages 18-94, M_{age}=39.10, SD_{age}=13.42; 99 Asian, 79 Black, 803 White, 56 Hispanic, 7 Native American, 4 Middle Eastern, 39 Multiracial). For S4a, we sought to recruit a minimum of 470 participants based on a power analysis to detect a small to medium effect size (d=.30) for 90% power. For S4b, based on a power analysis (90% power) using the results from S4a, we sought to recruit a minimum of 1054 participants. A sensitivity analysis indicated that the achieved sample size reliably detects small sized effects (S4a: d=.25; S4b: d=.17) at 80% power.

Procedure. After informed consent, participants read that Congress is considering a number of policies to reduce either health- or economic-based disparities between Black and White Americans and were asked to indicate their support or opposition (1=*strongly oppose*, 7=*strongly support*). Participants indicated their preferences for eight policies in S4a (exploratory) and two policies in S4b (preregistered). The order of presented policies was randomized in S4a, except for the budget item which was always shown last. In S4b, the tax policy item was shown before the budget item. Finally, participants completed demographics and were debriefed.

Materials and Measures. For full measures see Study Materials at the end of this document.

Disparities Manipulation. All participants indicated their support or opposition for several policies; crucially, whether the policies were described as reducing health-based racial disparities or economic-based racial disparities was randomly-assigned. Thus, policies were kept consistent across conditions and only whether the policies were described as addressing health or economic disparities varied across experimental condition. See Study Materials at the end of this document for all policy items.

Supplementary Text

For descriptive statistics see Table S1 for Studies 1a-1b, Table S3 and S4 for Study 3, and Table S5 for Study 4a-4b. For breakdown of means and standard deviations for all disparity examples used in Studies 1a-1b see Table S2. For comprehensive results of mediation analyses in Studies 1a and 1b, see Figures S1-S3.

Analysis Strategy

In Study 1, to assess the effects of domain (S1a and S1b) and participant race (S1b only), we conducted multilevel models with domain condition (S1a and S1b) and participant race (S1b) as fixed effects and participant and scenario type as random effects (intercept only). To assess the mediating factor of perceived injustice on domain condition and action support, we used within-subject mediation (JSmediation package). In Study 3, we conducted an ANOVA and planned contrasts to test if the type of disparity influenced policy support. To assess the proposed serial mediation (highlighting health (vs. economic) disparities elicits support for mitigating policies due to perceptions that the issue is morally sacred which in turn, induces perceived injustice), we used process mediation model 6 (process package). In Study 4a and 4b, we conducted independent samples t-tests to test if disparity framing influenced policy support.

Study 1b Results

In Study 1b, one significant participant race X disparity domain interaction emerged but only for the general support item ($F(2, 2690)=6.21$, $p=.002$): Because White Americans reported less general support for addressing economic disparities than Black Americans ($\beta=-.42$, $t(383.48)=-4.25$, $p<.001$), the gap between general action support to address health vs. economic disparities was larger for White Americans than for Black Americans (see Table S1).

Study 4 Results

In S4a, in addition to the results reported in the main text, we assessed support for 7 other fiscal policies (e.g., restructuring the federal budget, a millionaire's tax, paying reparations by taxing certain racial groups, raising income taxes for Americans who make above the median income) in order to test the boundary conditions of the effect. These items were also either framed as reducing health-based or economic-based racial inequality. The other policies varied on two main dimensions. First, the policies ranged from affecting all Americans to affecting a select few. Second, the policies differed in how directly the policy affected our participants

(directly vs. indirectly). There were no significant differences in support for six of the eight policies between the health and economic conditions (ts<1.27, ps>.203; see Table S5). We did find (as reported in the main text) that participants who read that a 0.5% tax increase for all Americans would go to reducing health-based disparities supported the increase more than those reading that the same tax increase would go to reducing economic-based disparities, $t(488)=2.35$, $p=.019$, $d=.21$. Additionally, participants allocated somewhat of a higher percentage of the federal budget to the mitigation of health-based disparities compared to economic-based disparities, albeit trending, $t(488)=1.69$, $p=.092$, $d=.15$ (this item reached significance in S4a when adjusting for political orientation, $t(486)=2.06$, $p=.040$).

Thus, in S4b, we tested support for the two policies that were affected by our experimental manipulation: tax increases for all Americans and federal budget allocation. Here, we preregistered the prediction that participants would both support a tax increase for all more and allocate a higher percentage of the federal budget (0-5 percent) to fighting health-based racial disparities, compared to economic-based racial disparities. As reported in the main text, participants who read that a 0.5% tax increase for all Americans would go to reducing health-based disparities supported the increase more than those reading that the same tax increase would go to reducing economic-based disparities, $t(1086)=4.02$, $p<.001$, $d=.24$. However, in S4b we did not find a significant difference in how much money participants allocated to the budget for either health or economic efforts ($t<0.21$, $p>.832$). Overall, Americans express more support for a policy (increasing taxes) aimed at mitigating racial health inequality (vs. economic inequality), but we did not find consistent support for the hypothesis that Americans allocate more of the federal budget to the fight of racial health disparities (vs. economic disparities).

Taken together, future research should seek to specify the exact type of policies that are influenced by racial disparity domain framing. We find that a policy that affects everyone directly—a 0.5% tax increase for all Americans (which normally is a very unsupported policy stance, see *53*)—is less opposed when considering racial health disparities compared to racial economic disparities. Policies that target a select few (e.g., millionaires, Americans who make above the median income) and policies that are less costly to the self, meaning that they do not influence participants directly (e.g., federal budget allocation, creating a task force to fight racial inequality) were not affected by disparity type. Thus, it might be the case that actions that are more costly to the self (which are less supported, generally) are more likely to reveal the effect. Future research can directly test for this possibility.

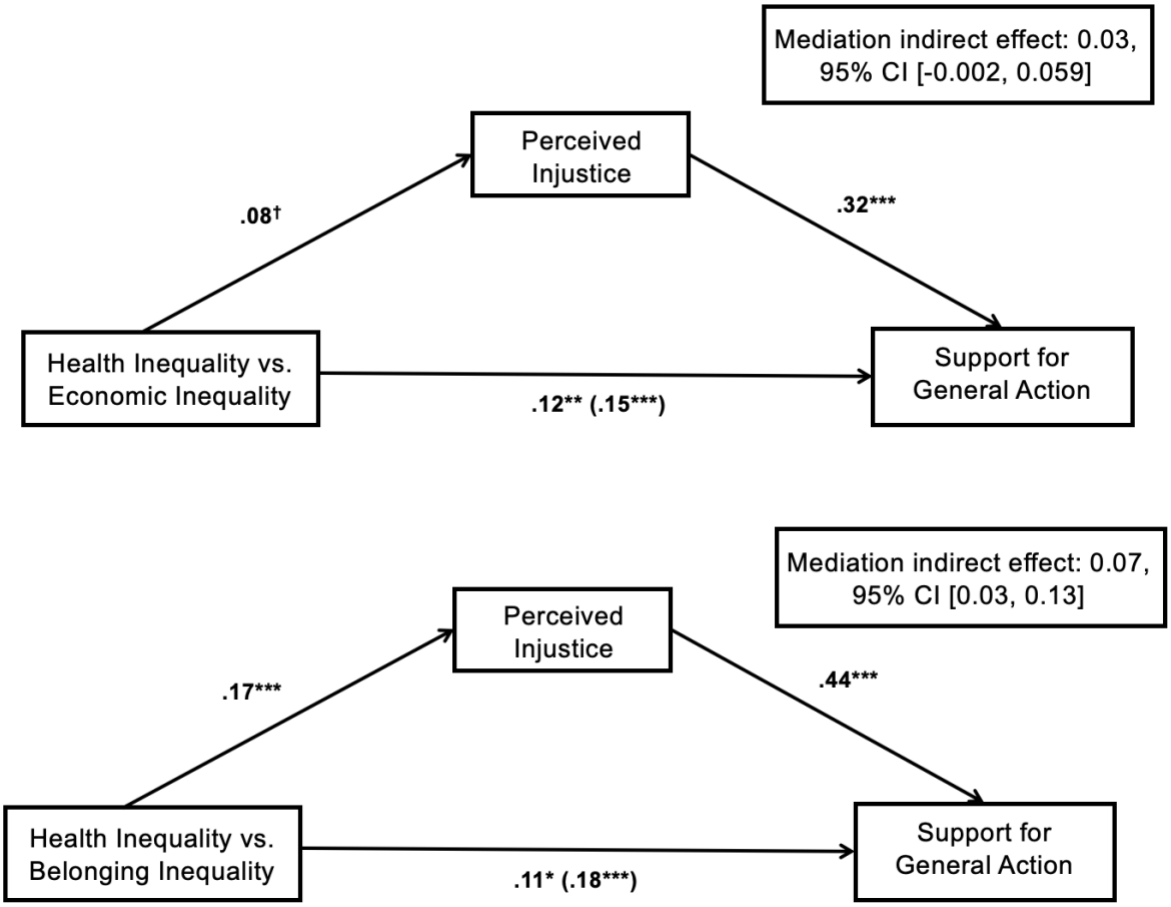


Fig. S1. Study 1a within-participant mediation model of the indirect effect of disparity condition (top: health vs. economic; bottom: health vs. belonging) on general action support via perceived injustice (with 10,000 bootstrap samples). The value in parentheses represents the total effect prior to the inclusion of the mediators. *Notes.* †p<.10, *p<.05, **p<.01, ***p<.001.

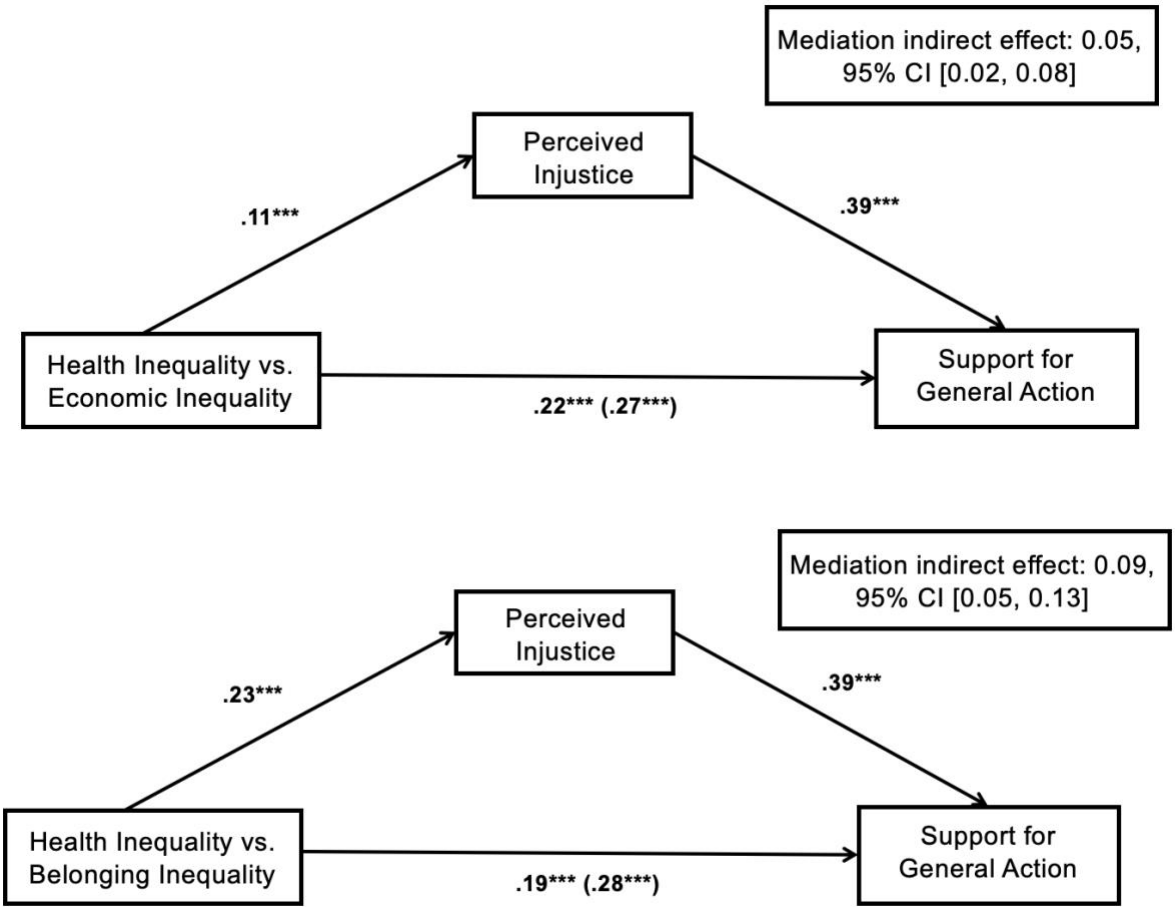


Fig. S2. Study 1b within-participant mediation model of the indirect effect of disparity condition (top: health vs. economic; bottom: health vs. belonging) on general action support via perceived injustice (with 10,000 bootstrap samples). The value in parentheses represents the total effect prior to the inclusion of the mediators. *Notes.* †p<.10, *p<.05, **p<.01, ***p<.001.

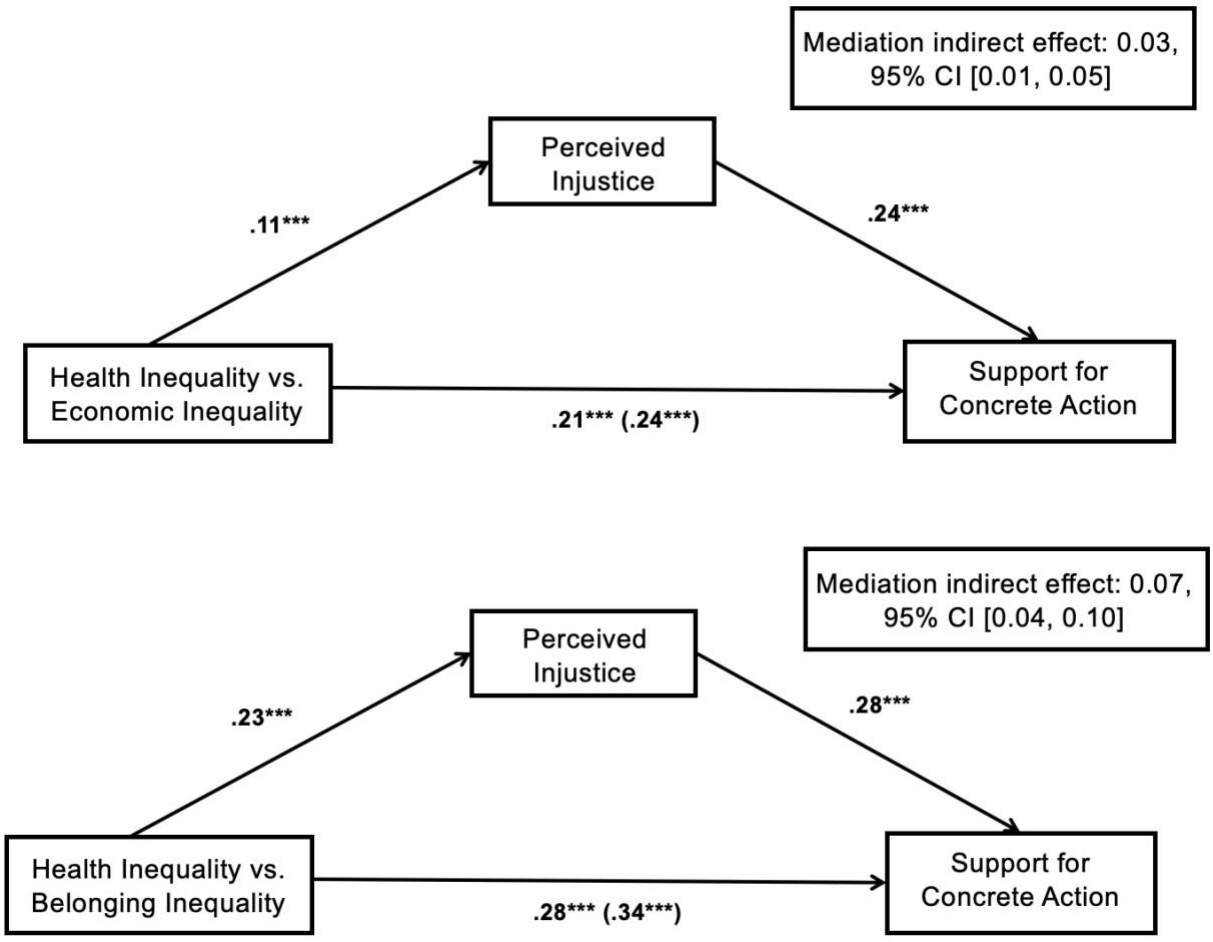


Fig. S3. Study 1b within-participant mediation model of the indirect effect of disparity condition (top: health vs. economic; bottom: health vs. belonging) on concrete action support via perceived injustice (with 10,000 bootstrap samples). The value in parentheses represents the total effect prior to the inclusion of the mediators. *Notes.* †p<.10, *p<.05, **p<.01, ***p<.001.

Table S1.
Means (and standard deviations in parentheses) for health-related, economic-related, and belonging-related inequality conditions across studies S1a and S1b.

		Health condition	**Economic condition**	**Belonging condition**
Study 1a		*M*(*SD*)	*M*(*SD*)	*M*(*SD*)
n = 191	Injustice perceptions	5.42_a (1.51)	5.34_a (1.52)	5.25_b (1.57)
	Support for general action	5.01_a (1.72)	4.88_b (1.65)	4.85_b (1.72)
Study 1b				
White Americans *n* = 171	Injustice perceptions	5.93_a (1.18)	5.78_b (1.21)	5.68_c (1.30)
	Support for general action	5.13_a (1.65)	4.71_b (1.75)	4.78_b (1.76)
	Support for concrete action	3.81_a (1.91)	3.53_b (1.85)	3.49_b (1.91)
Black Americans *n* = 166	Injustice perceptions	6.20_a (0.87)	6.12_a (0.89)	5.98_b (0.94)
	Support for general action	5.53_a (1.37)	5.42_b (1.37)	5.32_b (1.41)
	Support for concrete action	4.57_a (1.75)	4.38_b (1.73)	4.19_c (1.74)

Notes. Means with different letter subscripts indicate significant differences at $p<.05$ within each row based on domain condition.

Table S2.
Means (and standard deviations in parentheses) for all individual health-related, economic-related, and belonging-related examples in Studies 1a and 1b based on area (community space, criminal justice, education).

		Health condition	**Economic condition**	**Belonging condition**
Study 1a		*M*(*SD*)	*M*(*SD*)	*M*(*SD*)
Community space	Injustice perceptions	5.55_{a} (1.57)	5.25_{b} (1.57)	5.41_{c} (1.59)
	Support for general action	5.08_{a} (1.70)	4.74_{b} (1.80)	4.82_{b} (1.80)
Criminal justice	Injustice perceptions	5.32_{a} (1.76)	5.29_{a} (1.63)	5.35_{a} (1.69)
	Support for general action	$4.93_{a\dagger}$ (1.92)	4.84_{a} (1.75)	5.07_{b} (1.84)
Education	Injustice perceptions	5.38_{a} (1.61)	5.47_{a} (1.60)	4.99_{b} (1.76)
	Support for general action	5.09_{a} (1.72)	5.06_{a} (1.72)	4.66_{b} (1.84)
Study 1b				
Community space	Injustice perceptions	6.12_{a} (1.14)	5.84_{b} (1.25)	5.94_{b} (1.15)
	Support for general action	5.38_{a} (1.63)	4.93_{b} (1.80)	4.96_{b} (1.80)
	Support for concrete action	4.17_{a} (1.96)	3.78_{b} (1.95)	3.69_{b} (1.89)
Criminal justice	Injustice perceptions	6.00_{a} (1.32)	5.88_{b} (1.23)	$5.98_{a\dagger}$ (1.25)

	Support for general action	5.36_{a} (1.68)	4.95_{b} (1.74)	5.29_{a} (1.68)
	Support for concrete action	4.23_{a} (2.04)	3.87_{b} (1.92)	4.12_{c} (2.01)
Education	Injustice perceptions	6.05_{a} (1.12)	6.11_{a} (1.12)	5.57_{b} (1.46)
	Support for general action	5.30_{a} (1.60)	5.30_{a} (1.66)	4.89_{b} (1.82)
	Support for concrete action	4.15_{a} (1.86)	4.19_{a} (1.95)	3.70_{b} (1.98)

Notes. Means with different letter subscripts indicate significant differences at $p<.05$ within each row based on domain condition. Subscripts denoted with † indicate $p<.10$ within each row based on domain condition. We caution against interpreting the statistics for each example. We intentionally constructed our measures to include three items per domain to avoid issues pertaining to analyzing individual items, namely that one item might not meaningfully capture all facets of a construct and the lack of internal consistency reliability with one item.

Table S3.
Means (and standard deviations in parentheses) for health-related, economic-related, and belonging-related inequality conditions in Study 3.

	Health condition (n=523)	**Economic condition (n=511)**	**Belonging condition (n=516)**
	M(*SD*)	*M*(*SD*)	*M*(*SD*)
Injustice perceptions	4.85_{a} (1.84)	4.74_{a*} (1.81)	4.99_{a*} (1.83)
Moral sacredness	4.60_{a} (1.51)	4.20_{b} (1.38)	4.68_{a} (1.42)
Support for policy action	5.26_{a} (1.54)	5.04_{b} (1.59)	5.17_{a} (1.51)

Notes. Means with different letter subscripts indicate significant differences at $p<.05$ within each row based on domain condition. Subscripts denoted with * indicate $p<.05$ only between economic and belonging conditions.

Table S4.

Correlations with 95% confidence intervals of main variables in S3

Variable	1	2
1. Injustice perceptions	--	
2. Moral sacredness	.36 [.31, .40]	--
3. Policy support	.62 [.59, .65]	.42 [.38, .46]

Note. Values in square brackets indicate the 95% confidence interval for each correlation. All correlations were statistically significant at $p < .001$.

Table S5.
Means (and standard deviations in parentheses) for health-related and economic-related inequality conditions across studies S4a and S4b.

		Health condition (S4a: n=248; S4b: n=549)	**Economic condition (S4a: n=242; S4b: n=539)**
Study 4a		*M*(*SD*)	*M*(*SD*)
	Tax increase (0.5%) all Americans	3.13_a (1.97)	2.75_b (1.75)
	Federal budget allocation (0-5 percent)	1.17_a (1.41)	0.97_a (1.15)
	Tax increase for Americans who make above the median income	3.66_a (2.15)	3.66_a (2.09)
	Reparations to increase taxes for White Americans	2.30_a (1.71)	2.44_a (1.80)
	Reparations to increase taxes for non-Black Americans	2.45_a (1.80)	2.29_a (1.70)
	Create a task force in government	4.83_a (1.79)	4.67_a (1.84)
	Millionaire's tax	4.78_a (2.09)	5.02_a (2.12)
	Restructure federal budget for new initiatives	3.88_a (1.81)	3.81_a (1.85)
Study 4b		*M*(*SD*)	*M*(*SD*)
	Tax increase (0.5%) all Americans	3.49_a (1.96)	3.03_b (1.80)

Federal budget allocation (0-5 percent)	1.21_a (1.45)	1.19_a (1.45)

Notes. Means with different letter subscripts indicate significant differences at $p<.05$ within each row based on domain condition.

Study Materials
S1a-S1b.

Health Disparities

A. *Community space:* Black American communities have less access to hospitals, pharmacies, and medical care compared to White American communities
B. *Criminal justice:* Black Americans experience more violent encounters with the police compared to White Americans
C. *Education:* Black American children are more likely to eat unhealthy and nutrient deficient school provided lunches compared to White American children

Economic Disparities

A. *Community space:* Black American communities experience lower home-ownership rates leading to less wealth compared to White Americans
B. *Criminal justice:* Black Americans experience greater difficulty acquiring a job after incarceration compared to White Americans
C. *Education:* Black American children are more likely to attend underfunded schools leading to lower paid jobs in the future compared to White American children

Belonging Disparities

A. *Community space:* Black Americans feel less welcome in shops and public spaces compared to White Americans
B. *Criminal justice:* Interactions with the police make Black Americans feel more alienated, fearful, and unsafe compared to White Americans.
C. *Education:* Black American children experience more discipline (e.g., suspensions) in school compared to White American children

Outcome items

Scale: 1=strongly disagree 2= disagree, 3=somewhat disagree, 4=neither agree nor disagree, 5=somewhat agree, 6= agree, 7=strongly agree

Unjust perception scale

1. This disparity is unjust.
2. This disparity is fair. (reverse coded)

Action support item

1. I really want to take action to reduce this disparity.

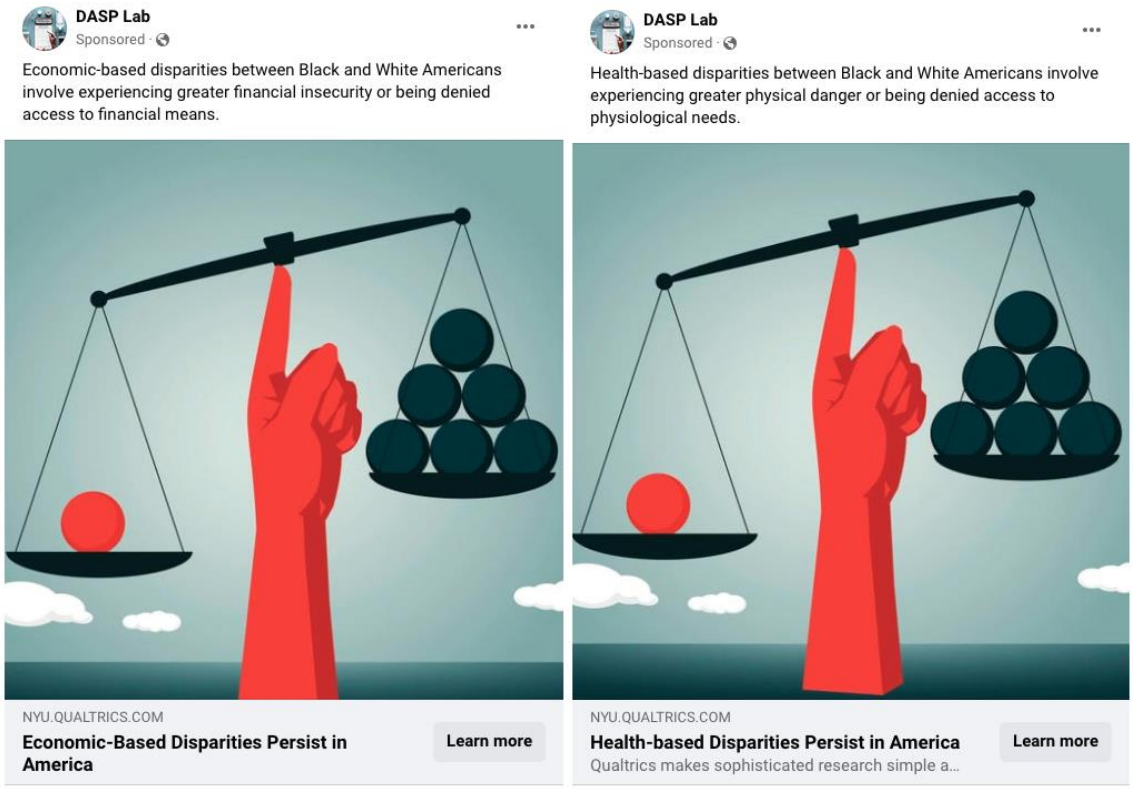
Study 1b additional questions-concrete action support scale:

Considering this disparity (i.e., [Black American children are more likely to attend underfunded schools leading to lower paid jobs in the future compared to White American children]), what is the likelihood that you would do each of the following?

Scale: 1=extremely unlikely 2= somewhat unlikely, 3=slightly unlikely, 4=neither likely nor unlikely, 5=slightly likely, 6= somewhat likely, 7=extremely likely

1. Donate money to an organization that seeks to reduce this disparity.
2. Post information (for example a newspaper article or an infographic) about this disparity on social media.
3. Attend a protest that aims to bring awareness of this disparity.

Study 2.
Infographics



Study 3.
Infographics


Health Disparities Persist Between Black and White Americans
These disparities involve experiencing greater physical danger or difficulty in getting basic medical needs met.
For example, Black Americans have less access to hospitals, pharmacies, and medical care compared to White Americans.
Economic Disparities Persist Between Black and White Americans
These disparities involve experiencing greater financial insecurity or difficulty in getting economic needs met.
For example, Black Americans experience lower home-ownership rates, lower incomes, and less assets passed down by previous generations compared to White Americans.

Outcome items

Instructions: Please answer the following questions considering the information in the graphic:

Scale: 1=strongly disagree 2= disagree, 3=somewhat disagree, 4=neither agree nor disagree, 5=somewhat agree, 6= agree, 7=strongly agree

Unjust perceptions item

1. These racial disparities are unjust.

Moral sacredness violation scale

1. These racial disparities involve issues or values which should never be violated.
2. These racial disparities are about something that we should not sacrifice, no matter what the benefits.

Policy support items

2. I support policies that aim to reduce these disparities.
3. Politicians need to prioritize creating policies that reduce these racial disparities.

Study 4a.

Instructions

Health condition: Congress is considering a number of policies to reduce health disparities between Black and White Americans. There are many racial disparities in health. For example, Black Americans' life expectancy is consistently shorter than White Americans. To address this and other health disparities, Congress is considering a number of policies.

On the next page, you will read about policies that Congress is proposing to implement. Please read them carefully and indicate your support or opposition for each one.

Economic condition: Congress is considering a number of policies to reduce economic disparities between Black and White Americans. There are many racial disparities in economics. For example, Black Americans' lifetime wealth accumulation is consistently smaller than White Americans'. To address this and other economic disparities, Congress is considering a number of policies.

On the next page, you will read about policies that Congress is proposing to implement. Please read them carefully and indicate your support or opposition for each one.

Policy support items

1. Increase income taxes by 0.5% for all Americans to reduce [health/economic]-based racial inequality.

2. Increase income taxes by 0.5% for Americans who make above the median income ($70,784) to reduce [health-based/economic-based] racial inequality.

3. Pay reparations in the amount of one hundred billion (or about 2 percent of federal expenditures) by increasing taxes for White Americans. The money earned would be given to Black Americans in the form of direct payments to be used to reduce [health-based/economic-based] racial inequality.

4. Pay reparations in the amount of one hundred billion (or about 2 percent of federal expenditures) by increasing taxes for non-Black Americans. The money earned would be given to Black Americans in the form of direct payments to be used to reduce [health-based/economic-based] racial inequality.

5. Create a task force to make it a priority within the government to reduce [health-based/economic-based] racial inequality.

6. A new millionaire's tax which would apply an additional 4 percent tax to annual incomes over $1 million. The money earned would go to reduce [health-based/economic-based] racial inequality.

7. Restructure the federal budget where 2% of the budget will be taken from existing social programs to create new initiatives to reduce [health-based/economic-based] racial inequality.

Scale: 1=strongly oppose 2= oppose, 3=somewhat oppose, 4=neither oppose nor support, 5=somewhat support, 6= support, 7=strongly support

8. Every year, congress passes a new budget for the new fiscal year. The budget is the financial representation of the priorities of the government. For example, the budget for the year 2023 is $1.7 trillion.

What percentage of the budget would you want Congress to dedicate to fighting [health/economic]-based racial inequality next year?

Sliding Scale: 0 to 5 percent

Study 4b.

Instructions

Health condition: Congress is considering a number of policies to reduce health disparities between Black and White Americans. There are many racial disparities in health. For example, Black Americans' life expectancy is consistently shorter than White Americans. To address this and other health disparities, Congress is considering a number of policies.

On the next page, you will read about policies that Congress is proposing to implement. Please read them carefully and indicate your support or opposition for each one.

Economic condition: Congress is considering a number of policies to reduce economic disparities between Black and White Americans. There are many racial disparities in economics. For example, Black Americans' lifetime wealth accumulation is consistently smaller than White Americans'. To address this and other economic disparities, Congress is considering a number of policies.

On the next page, you will read about policies that Congress is proposing to implement. Please read them carefully and indicate your support or opposition for each one.

Policy support items

1. Increase income taxes by 0.5% for all Americans to reduce [health/economic]-based racial inequality.

Scale: 1=strongly oppose 2= oppose, 3=somewhat oppose, 4=neither oppose nor support, 5=somewhat support, 6= support, 7=strongly support

2. Every year, congress passes a new budget for the new fiscal year. The budget is the financial representation of the priorities of the government. For example, the budget for the year 2023 is $1.7 trillion.

   What percentage of the budget would you want Congress to dedicate to fighting [health/economic]-based racial inequality next year?

Sliding Scale: 0 to 5 percent