



A field experiment on community policing and police legitimacy

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Despite decades of declining crime rates, longstanding tensions between police and the public continue to frustrate the formation of cooperative relationships necessary for the function of the police and the provision of public safety. In response, policy makers continue to promote community-oriented policing (COP) and its emphasis on positive, nonenforcement contact with the public as an effective strategy for enhancing public trust and police legitimacy. Prior research designs, however, have not leveraged the random assignment of police–public contact to identify the causal effect of such interactions on individual-level attitudes toward the police. Therefore, the question remains: Do positive, nonenforcement interactions with uniformed patrol officers actually cause meaningful improvements in attitudes toward the police? Here, we report on a randomized field experiment conducted in New Haven, CT, that sheds light on this question and identifies the individual-level consequences of positive, nonenforcement contact between police and the public. Findings indicate that a single instance of positive contact with a uniformed police officer can substantially improve public attitudes toward police, including legitimacy and willingness to cooperate. These effects persisted for up to 21 d and were not limited to individuals inclined to trust and cooperate with the police prior to the intervention. This study demonstrates that positive nonenforcement contact can improve public attitudes toward police and suggests that police departments would benefit from an increased focus on strategies that promote positive police–public interactions.

community policing | field experiment | legitimacy | intergroup contact

Following nationwide political unrest after Michael Brown was shot and killed by police in Ferguson, MO in 2014, President Barack Obama’s Task Force on 21st Century Policing identified building trust and legitimacy as a foundational goal of effective and just policing (1). Legitimacy—the belief that an individual, group, or institution has the authority to dictate an individual’s behavior and demand their cooperation—is vital to the effective function of police as a social institution (2, 3). When police lack legitimacy, residents are less likely to contact police or cooperate with their investigations (4, 5). Worse, police–public interactions charged by distrust are more likely to escalate into contests for dominance and status that can lead to the injury or death of police and the public alike (6). Such interactions fuel a cycle of mutual antipathy that further erodes police–public relations and frustrates public safety (5, 7).

In light of the contemporary crisis of police legitimacy and recognition of the damage caused by aggressive policing and mass incarceration (8), community-oriented policing (COP) has re-emerged as a potential policy tool for improving police–community relations. In contrast to policing that emphasizes punitive enforcement (9), COP encourages the formation of cooperative relationships through a variety of nonenforcement interactions, such as community meetings and neighborhood watch programs (1, 10). Despite decades of scholarship suggesting the necessity of cooperative police–community relations for the successful function of police organizations (11), prior research designs have not leveraged the random assignment of

police–public contact to identify the causal effect of such interactions on individual-level attitudes toward the police (12–14). Therefore, the question remains: Do positive, nonenforcement interactions with uniformed patrol officers actually cause meaningful improvements in attitudes toward the police?

This question has direct implications for police policy and public health in the United States, particularly in minority communities where police–community relations are often characterized by longstanding conflict and distrust (4, 15). Interpersonal contact between the public and government officials is a fundamental part of democratic political socialization, with negative experiences undermining trust and political efficacy (16), particularly in the domain of criminal justice (17–20). Police officers come into frequent contact with the public and exercise wide discretion in the implementation of criminal justice policies (21). This discretion covers not only what kinds of offenses they choose to formally sanction through citation or arrest (22) but also, how they choose to interact with the public. The limited studies focused on COP and nonenforcement interactions suggest that, under certain circumstances, police contact may improve police–public relations (3, 14, 20). This is further supported by decades of research on the social psychology of intergroup relations more broadly: positive interpersonal contact can have a powerful effect on attitudes (23–25), even in the case of a single brief interaction (26). However, positive interpersonal contact does not necessarily lead to attitude change in contexts where intergroup relations are charged by a history of

Significance

Repeated instances of police violence against unarmed civilians have drawn worldwide attention to the contemporary crisis of police legitimacy. Community-oriented policing (COP), which encourages positive, nonenforcement contact between police officers and the public, has been widely promoted as a policy intervention for building public trust and enhancing police legitimacy. To date, however, there is little evidence that COP actually leads to changes in attitudes toward the police. We conducted a randomized trial with a large urban police department. We found that positive contact with police—delivered via brief door-to-door nonenforcement community policing visits—substantially improved residents’ attitudes toward police, including legitimacy and willingness to cooperate. These effects remained large in a 21-d follow-up and were largest among nonwhite respondents.

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violent conflict (27), and field interventions demonstrating the efficacy of brief instances of positive contact for durable attitude change are still rare (25, 28). Given the distrust engendered by repeated high-profile instances of police violence against unarmed civilians in the United States, skepticism that the palliative effects of a brief positive interaction can be applied to police–public interactions is warranted, particularly for members of minority groups (1, 4, 15). A recent report by the National Academy of Sciences, for example, characterized the few empirical studies in this domain as insufficient, concluding that “research is needed that tests the ability of a single interaction to shape general views about police legitimacy” (29).

Here, we report a field experiment that provides such a test. Our intervention, which focused on the individual-level consequences of positive, nonenforcement contact between police and the public, represents a significant departure from prior studies on police–community interactions. Prior work has drawn largely on aggregate administrative records, cross-sectional surveys, case studies, and metaanalyses of various observational research designs (12–14, 20). Observed differences in community-level outcomes across environments that use COP approaches, however, are not necessarily attributable to individual-level attitude change or the mechanism of nonenforcement contact. Take a widely cited study conducted in Houston, Texas (1983 to 1984), which found that a contact program increased residents’ satisfaction with police service and decreased reported crime victimization and fear (30). In this study, 1 small geographic area was, for a period of ~10 mo, targeted with a variety of initiatives, including positive interpersonal contact, more frequent patrols and traffic stops, and newsletters delivered to residents by mail. Prepost interview data from residents in this targeted area were then compared with responses from a sample of residents in another area. As with other studies using such designs, differences in outcomes between control areas and those using a variety of COP interventions might be explained by differences across the communities in which COP was implemented rather than COP itself (14). The only field experiments related to COP we are aware of have used cluster-randomized designs that administered treatments across census block groups in the United States (31) and villages in post-conflict Liberia (32), preventing assessment of the individual-level effects of police–public contact on attitudes toward police.

Methods

The intervention described here, conversely, involved uniformed patrol officers in New Haven, CT, making unannounced visits to randomly assigned homes across the city’s 10 police districts. Prior to 2017, the police department used dedicated walking beats in each district, and officers would regularly introduce themselves and interact with residents; however, officer shortages have since undermined their capacity to maintain regular walking beats, and there has been no systematic study of the effect of such interpersonal contact on public attitudes. In the implementation described here, officers first knocked on the door of a home, initiated a formal greeting with anyone who answered, and immediately explained that they were making a community policing visit in a nonenforcement capacity (e.g., “Everything is okay. No one is in trouble and everyone is safe.”). They then asked to speak with the resident(s) living at the home and engaged them in a brief 10-min conversation using a series of strategies shown in prior studies to encourage positive intergroup contact (23–25). Officers were trained to anticipate suspicion and immediately disarm anxiety within the first 20 s of contact. During the interaction, officers communicated respect by initiating a formal greeting, emphasizing that the visit was an equal status engagement with the goal of improving their shared community, and encouraging residents to provide feedback about policing and neighborhood issues. Officers ended the interaction by giving residents a personalized business card with their work-issued cell phone number handwritten in a designated area. Additional details about the intervention’s implementation are provided in *SI Appendix, section 1.5*.

We measured the effects of these visits by combining the randomized experiment with parallel survey measurement. Following best practice in the design and implementation of field experiments with survey outcomes (26, 33), we first contacted registered voters ($n = 49,757$) via mail to participate in an

ostensibly unrelated survey that was presented as the first wave of a longitudinal university-sponsored public opinion study of city residents. The survey attempted to conceal the connection between the survey and intervention by including unrelated questions about city government, local politics, and national politics in each survey wave (*SI Appendix, section 1* has additional details). Of those contacted by mail, 2,013 individuals nested in 1,852 households completed the baseline survey and provided their contact details to participate in follow-up surveys. We then randomly assigned 926 households (1,007 individuals) to the treatment (i.e., to receive a COP visit) and 926 households (1,006 individuals) to the control (i.e., to receive no COP visit).

Random assignment took place at the household level so that all individuals living in the same household received the same treatment assignment. Of the 1,007 individuals in the treatment group, 412 were successfully reached at the door and received treatment. Compliance was measured in the field using an iPhone app installed on the department-issued cell phones of all participating officers. After the intervention, all 2,013 individuals who participated in the baseline survey were invited via email to complete 2 follow-up surveys. These additional online surveys, presented as a continuation of the baseline survey, were sent 3 d after the intervention ($n = 1,484$ respondents) and 21 d after the intervention ($n = 1,069$ respondents). We did not have sufficient research funds to conduct more than 2 follow-up surveys. Our study was reviewed by the Human Subjects Committee (HSC) at Yale University, and the HSC determined that it presented “minimal risk to research subjects” (Institutional Review Board Protocol ID 2000023097). *SI Appendix, section 1* provides additional information about recruitment, design, and sample characteristics. *SI Appendix, Fig. S1* shows an overview.

As specified in our preanalysis plan (PAP) (*SI Appendix, Appendix C*), we included both primary (confirmatory) and secondary (exploratory) outcomes in the online panel survey. The primary outcome measures, derived from widely used survey batteries on civilian attitudes toward police (3, 6, 34), tap 4 attitudinal dimensions: legitimacy, perceived effectiveness, cooperation, and compliance. Conceptually, the first 2 measures capture values-based beliefs about the normative appropriateness of the police, whereas the latter 2 measures capture behavioral legitimacy, or the willingness to act in a manner that aids law enforcement (35). Following prior work, the “legitimacy” dimension included measures that tap the interdependent concepts of trust in the police and judgements about the normative alignment of police–public values (3, 6, 34–36). Secondary outcomes included an index of respondents’ judgements about “the police” as a group (e.g., whether police officers are “compassionate” or “cold hearted”), an index of questions about respondents’ confidence in the police (e.g., “The police make me feel safer in my neighborhood”), and support for specific policies (e.g., a funding increase to hire more patrol officers). *SI Appendix, section 2* provides additional details about outcome measurement, and *SI Appendix, Appendix D* presents all survey instruments.

Prior to the intervention, individuals in treatment and control scored similarly on all primary outcome indices (*SI Appendix, Fig. S10*). Background characteristics remained balanced across treatment and control for all subsequent survey waves (*SI Appendix, Tables S7–S10*), and differential attrition was not detected in any wave (*SI Appendix, Tables S11 and S12*). We assess the effect of the intervention by estimating the “average treatment effect on the treated” (ATT) and the “intent-to-treat effect” (ITT). The ATT measures the effect of the treatment on the treated. The estimand is the average causal effect among “compliers,” the subset of individuals who would be treated if assigned to the treatment group. We use the term ATT rather than “complier average causal effect” since none of the units assigned to control were treated (see *SI Appendix, section 4* for additional details). The ITT represents the overall effect of the intervention (comparing all individuals assigned to treatment with all individuals assigned to control regardless of whether they were successfully contacted) and is relevant to the practical implementation of policing strategy, since no intervention that assigns unannounced police contact in a field setting can guarantee that all attempted visits will result in contact. All outcomes are transformed to a scale ranging from 0 to 100 in order to facilitate interpretation and comparisons across measures. Additional details are provided in *SI Appendix, section 4*. The replication data and statistical code for this study have been deposited at the Institution for Social and Policy Studies (ISPS) Data Archive (<https://ips.yale.edu/research/data>).

Results

The intervention had a significant positive effect on overall attitudes toward the police as measured by an index of all primary outcome measures 3 d after the intervention (ITT: $t = 6.94$; $P < 0.001$; ATT: $t = 7.15$; $P < 0.001$) and 21 d after the intervention (ITT: $t = 3.83$; $P < 0.001$; ATT: $t = 3.85$; $P < 0.001$). These differences are substantively large: among those who were treated, attitudes

toward the police increased by about 7 points on a 0 to 100 scale in the first follow-up survey. To provide some context for this effect size, we note that this increase is larger than the gap between white and black respondents observed at baseline (5 points). Similarly, the visits increased generalized positivity toward police by 9.5 points on 0 to 100 point “feeling thermometer” scale. For additional context, this is comparable with the 10-point increase in positivity toward transgender people reported in a recent field experiment that showed that brief door-to-door interactions emphasizing active perspective taking reduced transgender prejudice (26).

The effect of the intervention was evident across all 4 primary outcome measures (Fig. 1). The immediate effect was strongest on perceptions of police performance and legitimacy, and these effects were also evident in the 21-d follow-up. The intervention also increased self-reported willingness to cooperate with police and willingness to comply with police directives. Although these effects were comparatively smaller, the effect on willingness to cooperate is particularly noteworthy given how responses were clustered near the upper bound of this index at baseline (*SI Appendix*, Fig. S10). The intervention was also broadly effective across all preregistered subgroups (Fig. 2). Among black respondents who were successfully contacted, the intervention had an initial effect of ~11 scale points—nearly twice as large as the 6-point effect among white respondents (*SI Appendix*, section 5.1). Furthermore, the visits had the strongest effect among individuals who held the most negative views toward police prior to the intervention as measured in the baseline survey (*SI Appendix*, section

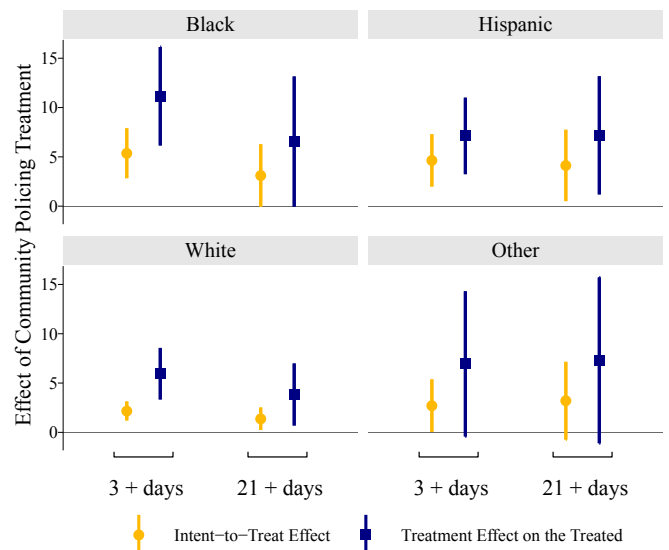


Fig. 2. Effect of community policing treatment on the index of primary outcomes by race/ethnicity. The index of primary outcomes includes all questions underlying the performance, legitimacy, cooperation, and compliance measures and is scaled to range from 0 to 100. Race/ethnicity was measured with the combined race and ethnicity question format used in the 2010 US Census: “Other” includes Asian, Native American, Middle Eastern, multiracial, or another race or ethnicity. Covariate-adjusted point estimates and 95% confidence intervals are estimated separately for each of the 4 major subgroups of subjects in the study. Point estimates and standard errors are presented in tabular form in *SI Appendix*, Table S14. *SI Appendix*, section 2 shows all individual questions.

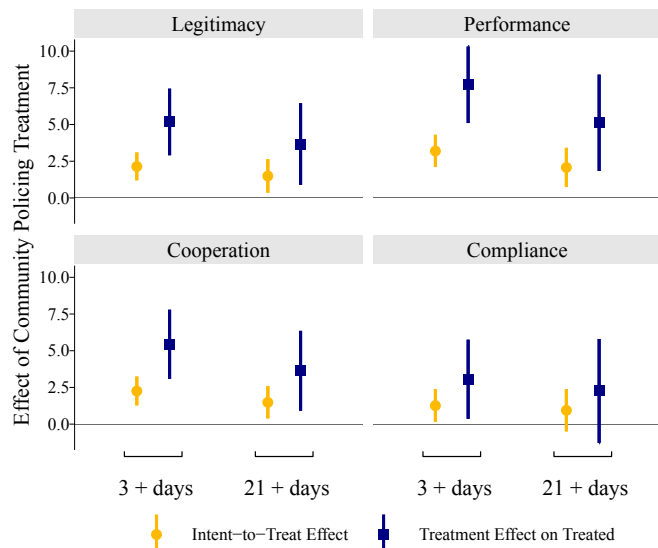


Fig. 1. Effect of community policing treatment on primary outcome measures. Primary outcome measures are indices of multiple questions and scaled to range from 0 to 100. Legitimacy is an index of responses to 8 statements about police legitimacy (e.g., “They make fair and impartial decisions”). Performance is an index of responses to 4 statements about police effectiveness (e.g., “I have confidence that the police in New Haven can do their job well”). Cooperation is an index of responses to 4 questions about willingness to assist police (e.g., “If the police were looking for a suspect who was hiding, and you knew where that person was, how likely would you be to provide the police with information?”). Compliance is an index of responses to 4 questions about willingness to comply with police directives (e.g., “If the police tell you to do something, you should do it”). Covariate-adjusted point estimates and 92% confidence intervals are constructed using the prespecified levels and estimation procedures described in the PAP (*SI Appendix*, Appendix C). Point estimates and standard errors are presented in tabular form in *SI Appendix*, Table S13. *SI Appendix*, section 2 has all individual questions.

5.2). Thus, efficacy was not limited to those subgroups inclined to have positive attitudes toward police prior to the intervention.

Finally, the intervention also improved attitudes toward police on our secondary outcome measures (Fig. 3). Of particular note is the substantial reduction in generalized negative attitudes toward police as captured by a reduction in negative beliefs about police officers as a group and an increase in perceived warmth toward police on the feeling thermometer. We also examined the effect on support for 2 specific policy initiatives: the department’s use of body-worn cameras and a 10% funding increase to hire more patrol officers. Body-worn cameras were implemented in 2017, and this initiative was supported by 95% of respondents in the baseline survey. We find evidence that the intervention caused a small reduction in support for body-worn cameras in the 3-d follow-up survey, but these effects were not statistically distinguishable from 0 in the 21-d follow-up, suggesting that the officer visits did not have a durable effect on residents’ support for this popular initiative. During the intervention period, the department had roughly 20% fewer uniformed patrol officers than in 2017, and starting salaries were \$44,400, the lowest level in the state of Connecticut. We also found that the intervention raised support for a policy to increase the number of police on the street by 10%, a measure of public support that prior research shows to be negatively affected by militarized policing practices (37). Relatedly, the visits had a large positive effect on an index of questions about respondents’ confidence in the police (e.g., “The police make me feel safer in my neighborhood”). Conversely, we found little evidence that the visits improved diffuse support for local government institutions beyond the police as measured with a battery of trust in government questions that regularly appear in national public opinion surveys. We note there are long-standing concerns about the validity of these “trust in government” measures (38), and as

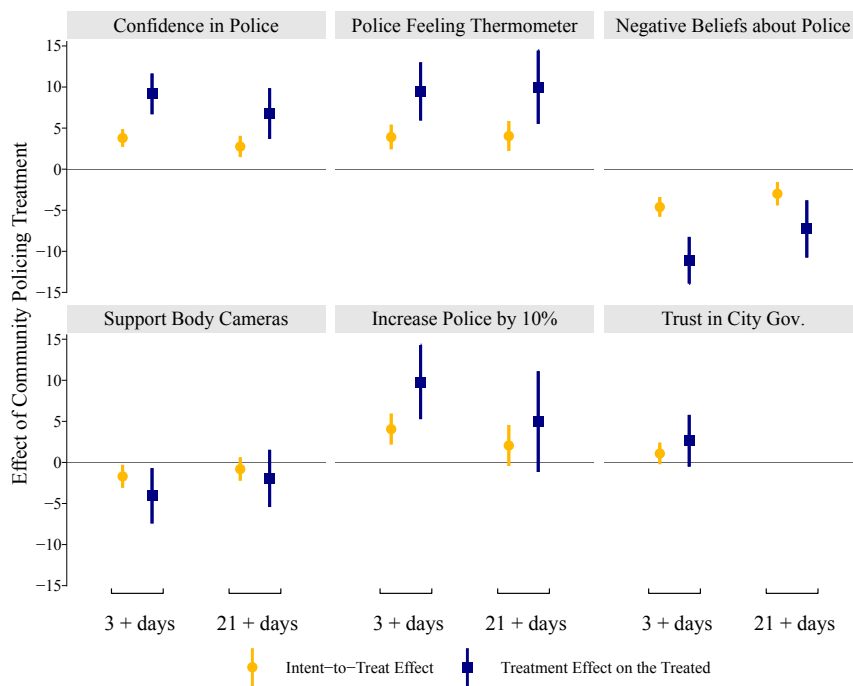


Fig. 3. Effect of community policing treatment on secondary outcome measures. All secondary outcomes are scaled to range from 0 to 100. Confidence in police is an index of responses from “strongly disagree” to “strongly agree” to 6 statements (e.g., “The police make me feel safer in my neighborhood”). Police feeling thermometer is a sliding scale from “cold” (0) to “warm” (100). The negative beliefs about police measure is an index of responses to 5 judgements about the police as a group measured using a sliding scale (e.g., the police as are rated from compassionate to cold hearted). Support for body cameras and increase police by 10% are both single-item measures ranging from “strongly oppose” to “strongly support.” Trust in city government is an index of responses to 4 items (e.g., “How often do you think you can trust government in the City of New Haven to do what is right?”). Covariate-adjusted point estimates and confidence intervals (95% for support body cameras and 92% for all others) are constructed using the prespecified levels and estimation procedures described in the PAP (*SI Appendix, Appendix C*). Point estimates and standard errors are presented in tabular form in *SI Appendix, Table S15*. *SI Appendix, section 2* shows all individual questions.

described in our preanalysis plans, they were not included in the 21-day survey to make room for other questions.

Discussion

The findings reported here have both theoretical and applied importance. A growing body of empirical evidence suggests that brief interactions focused on promoting positive contact can play a powerful role in attitude change. This foundational component of intergroup relations theory, proposed more than 50 y ago (23), has been subjected to only a handful of tests using randomized experiments conducted in the field rather than the laboratory (25). For example, a recent study using a field experiment design similar to the one reported here showed that a single interaction with an activist canvasser could substantially reduce antitransgender prejudice, especially when the activist also identified as transgender (26). The intervention reported here provides evidence in support of the power of positive intergroup contact, extending these insights to interactions between uniformed patrol officers and the individuals they police. The broad effects of positive, non-enforcement police–public interactions reported here are especially noteworthy in light of the well-documented tensions between police and the public, including within minority communities, where one might expect longstanding distrust of police to engender decidedly negative interactions (39). The observation that the largest attitudinal improvements in this field experiment occurred among racial minorities and those who held the most negative views toward police at baseline underscores the power of positive contact in communities most in need of less punitive, more cooperative policing.

At an applied level, prior research on the effectiveness of neighborhood-level community policing has been hampered by the amorphous operationalization of this concept. Indeed, over the

past 30 y, COP has been defined as community meetings, neighborhood watches, community newsletters, and door-to-door visits (10), ultimately restricting claims of effectiveness to the particular bundle of COP activities implemented by a given department. The lack of experimental designs in past evaluations further compounds difficulties in assessing the causal effect of COP on public attitudes toward police. Although police legitimacy is widely acknowledged as a necessary condition for lower crime and increased public safety (40, 41), the lack of rigorous evaluations of well-defined COP strategies has left many law enforcement professionals skeptical of their value. As a result, many police departments in the United States eschew COP and instead invest limited time, money, and personnel in enforcement activities that a growing body of research links to public distrust and damaged police legitimacy (4, 37, 39).

The intervention described here provides an example of how a relatively simple change to police behavior can have a substantial positive effect on measures of both values-based and behavioral legitimacy (35). Of course, it is premature to definitively conclude that such an intervention could be successfully replicated in another jurisdiction, much less the full range of nearly 18,000 state and local law enforcement agencies spread across the United States (42). Even in police departments with an organizational commitment to COP, the reality of shrinking budgets and longstanding issues in the hiring and retention of officers will likely pose significant barriers to the implementation of such programs. While the intervention assessed here improved public attitudes toward police, positive, nonenforcement police contact is no panacea for longstanding issues in policing that include police brutality, corruption, and racial bias (1). In short, it is our view that improved police–public relations is a necessary but not sufficient condition to achieve more just, effective policing and should not be

pursued to the exclusion of other vital reforms. These challenges and cautions notwithstanding, evaluation of similar interventions in other municipalities as well as long-term longitudinal analyses of downstream effects on outcomes like crime rates, crime reporting, and neighborhood violence, are clear avenues for future research. The results reported here provide clear empirical support for the efficacy of policing strategies aimed at improving attitudes toward the police via positive nonenforcement contact between officers and the communities they serve.

Data and Materials Availability. An initial PAP, dated 15 September 2018, was uploaded to the Open Science Framework website on 16 September 2018. This PAP was uploaded after baseline data were collected in the T0 Survey but before data collection was completed in the posttreatment surveys. Two supplements to the initial PAP were filed during the intervention period as described in *SI Appendix*. These are available at <https://osf.io/zhuqm/>. This study was approved by the Human Subjects Committee (HSC) at Yale University (IRB Protocol ID 2000023097). Consent to participate in the 3 wave panel survey was obtained online during the first survey, and the HSC waived written informed consent for the

home visit portion of the study per federal regulation 45 CFR 46.117 (c)(2). All participants were debriefed after the third survey wave. All replication data and code are deposited at the ISPS Data Archive (<https://isps.yale.edu/research/data>).

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