Black Networks Matter

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1 Abstract

Although activists at the core of the Black Lives Matter movement have spent years fighting for racial justice, for millions of Americans the summer of 2020 was their first time attending a protest. This so-called "leaderless movement" differed from prototypical protests, first, because formal organizations and leaders stayed in the background, and second, because non-Black allies greatly outnumbered protesters from the group directly affected. Without formal organizers taking center stage, what generated such massive multiethnic turnout? Drawing on a quota-based representative sample of over 100,000 Americans, including 5,347 protest attendees, we find that protesters' pre-existing personal networks proved crucial in transforming individual outrage into collective action. In particular, we examine the role of three types of ties that proved consequential: weak ties, bridging ties, and cross-cleavage ties. First, although strong ties were the primary means of one-on-one personal recruitment, far more respondents attribute their involvement to seeing posts on social media platforms, a medium dominated by weak ties. Second, while returning protesters tended to be mobilized by ties deeply embedded in protest communities, first-time protesters were more likely to be mobilized by bridging ties that connected them to other communities they had little connection to. Finally, cross-cleavage ties between Black and non-Black Americans played a decisive role in non-Black turnout. When formal organizations are largely absent or repressed, a diverse web of informal ties—particularly those that are weak, embedded, or cross-cleavage—can mobilize at unprecedented levels.

Keywords: mobilization, protests, BLM, social networks, contact hypothesis, social capital

2 Introduction

The 2020 Black Lives Matter protests saw unprecedented turnout among both Black Americans and their non-Black allies. On the one hand, much of this turnout may stem from the COVID-19 pandemic. In addition

to the increased biographical availability of Americans laid off or forced to work from home, the pandemic generated outrage at the virus's human and economic toll, anger at authorities for lockdown measures, and a pent-up desire to leave one's house and socialize. However, while the pandemic may have primed large numbers of individuals for political action, would-be protesters still had to overcome coordination and collective action problems in order to converge in the same time and place. Even so-called "spontaneous" protests without organizational backing need ad hoc mobilizers to spread the word. Protest promoters can advertise a protest through traditional mass media, flyers, graffiti, etc., but news about a protest often spreads autonomously: via word of mouth. To borrow the language of social movement scholars, online and face-to-face personal networks in this context act as "mobilizing structures" or catalysts that transform protest demand into action (see, e.g., McAdam 2010; McAdam, McCarthy and Zald 1996; Morris 1981; Morris and Herring 1987). In addition to helping would-be protesters to coordinate, these networks can also facilitate mobilization, providing channels for those already set on attending to motivate their family and friends to join in. In this article, we shed light on the means by which networks encouraged and enabled millions of Americans to come together for political action on a scale unrivaled in modern times.

We put forth three hypotheses about the role of networks in protest mobilization. First, we argue that both strong and weak ties—close relationships and loose acquaintanceships—play an important role in mobilizing turnout (see also Lim 2008). Strong ties are most effective at personal recruitment, enabling a recruiter to tailor their arguments to a person they know well and whom they want to make happy. Weak ties, which make up in sheer volume what they lack in depth, are best equipped to mobilize people through exposure to information and normative expectations. Of these, we find that exposure, and therefore weak ties, appears to have been more consequential than personal recruitment via strong ties.

Second, we predict that networks will engage new and old protesters through different channels—namely, through bridging ties and embedded ties respectively. New people join protests when their networks provide them with "bridges" beyond their close-knit circle of friends and family, introducing them to fresh information, including personal narratives that tug at their conscience. Among those involved, however, it is their embeddedness within a network of other protesters that keeps them coming back by providing both social pressure and a sense of belonging. This embeddedness may result from existing ties to friends and family mobilized along with them or from new ties they form upon getting involved (McAdam and Paulsen 1993). Thus, while embedded ties serve as the glue that keep a movement going, we predict that bridging ties played a far bigger role in expanding BLM protest turnout in 2020 to unprecedented heights.

Third, we expect cross-cleavage ties—in this case, interracial ones—to play a critical role in getting people to protest on behalf of another identity group. While thousands of Americans have marched under banners reading "Save Darfur" or "Free Tibet" without knowing a single Darfuri or Tibetan, these movements

never attracted the mass participation by millions of Americans from across the political landscape seen in 2020. Black networks mattered that year, not only because they enabled Black Americans to mobilize but because their connections to non-Black Americans tapped into an enormous reservoir of protest potential. The success of Black networks in mobilizing non-Black protesters—on a scale far larger than during the 1960s Civil Rights movement (Fisher 2020; McAdam 2020)—speaks to the potential of intergroup contact in general—and cross-cleavage capital in particular—as a potent force multiplier for minority and minoritized identity groups seeking systemic change. This was most likely to manifest in geographic areas with high cross-cleavage capital.

A diverse web of informal ties—particularly those that are weak, bridging, and cross-cleavage—is all the more important in leaderless movements where formal organizations play only a supporting role. Organizations have traditionally been seen as a means to building broad-based coalitions through umbrella groups, alliances, and deliberate networking among leaders. Yet the turnout success of the 2020 BLM protests, most of which (as we show) did not stem directly from formal organizing, illustrates how participants' own networks can serve as a worthy—perhaps superior—substitute. While this lack of organizational formality may have negative implications for the movement's long-term viability, it has not stopped protesters from shifting the national conversation about racism and policing, nor from achieving widespread policy change at the state and local level. Black Lives Matter may therefore contain important lessons for societies in which formal organizations are banned or heavily restrained, either by an authoritarian regime or a nominally democratic state attempting to suppress a particular cause. All else being equal, a society that is well-connected as a whole rather than fractured into weakly connected, ethnically homogeneous pockets should prove a fertile ground for grassroots movements that challenge even the most powerful regimes.

3   Literature Review and Theory

3.1   Mobilization: Formal Organizations and Informal Networks

A crowd of demonstrators parades down Main Street, chanting slogans in unison and carrying home-made—and yet remarkably similar—signs. How did these people all come to be marching in the same place at the same time? Why are these particular individuals out here marching and not others with similar sentiments? Why is it that so many in this crowd, both first-time demonstrators and protest veterans, appear to already know each other? Theories of political participation based on attitudes, identity, and efficacy go part of the way toward explaining why people protest in general, but they struggle to account for the variation these questions imply (e.g., Lubell, Zahran and Vedlitz 2007). First, although protesters may have

different attitudes toward the cause they are protesting than the average citizen, for every supporter of a cause who shows up to a protest, there are others who stay home. A model based on attitudes alone is thus unlikely to overpredict protest turnout, since taking action requires more than a positive attitude towards the cause (Coleman and Ostrom 2011; Olson 1965). Second, stable identity traits such as race and partisanship fail to predict the timing of protest involvement (Petrie 2004). In addition, some protests, including the 2020 wave of Black Lives Matter protests, are remarkably diverse, bringing together individuals from different racial, class, and partisan backgrounds. Third, while individuals with low political efficacy might lack the self-confidence or optimism to take the initiative to join protests, they are still capable of getting swept up in a protest movement if others bring them along or persuade them to go (Bolsen, Druckman and Cook 2014). Moreover, none of these theories explain how mass action comes to be so well-coordinated or why we find protesters clustered together within the broader social network.

Mass mobilization, whether orchestrated by a leader, government, or organization—or at the hands of concerned citizens acting on their own initiative—helps explain both the timing and scale of protest turnout. Although intrinsically motivated individuals are perfectly capable of seeking out opportunities for political action on their own accord, they are even more likely to get involved if someone else urges them to do so—that is, if they are mobilized (Castells 2015; della Porta and Diani 2020) . For others, encouragement from role models or peers prompts them to take actions they would never have considered or prioritized (Campbell and Wolbrecht 2020). Mobilization solves both a collective action problem—an individual who stays home will still benefit from whatever policy or cultural changes the protesters achieve—and a coordination problem, in which would-be protesters must agree on a time and a place for action (Crossley 2002; Diani and McAdam 2003; Diekmann 1985; Gamson 1992; Hardin 1982; Olson 1965). It also helps explain why many protesters are likely to know other protesters even before they show up, though as we shall see, it does so through multiple mechanisms.

Scholars have long known that mobilization affects participation both in protests and in politics more broadly (e.g., Gosnell 1927; see Campbell 2013 for an overview). A common framing takes the perspective of elites seeking to mobilize the masses, whether for an electoral campaign, strike, demonstration, or rebellion. Leaders can either use "direct mobilization," contacting the supporters through their organizations, campaign staff, and volunteers, or they can rely on "indirect mobilization," allowing recruitment to spread organically via word of mouth through neighbors and friends (Rosenstone and Hansen 1993). Direct mobilization can be extremely effective, particularly when done in-person (e.g., Gerber and Green 2000; Green and Gerber 2019). That said, indirect mobilization has the potential to matter even more. Rosenstone and Hansen (1993: 27, 29-30) make this point: "The impact of political mobilization, though, extends far beyond the effect it has on the limited number of people who are contacted directly ... Thus, by working through social networks

political leaders need not provide selective incentives themselves, need not coax, cajole, and persuade people to take part. Social networks do it for them. Family, friends, neighbors, and co-workers echo leaders' calls to action, and participants respond to please their neighbors and co-workers and to honor their obligations to friends. Working through social networks, politicians, parties, interest groups, and activists piggyback political action onto the everyday hum of social relationships."

While we agree with Rosenstone and Hansen's distinction (which focused on electoral campaigns), we find the terminology "direct" versus "indirect" ill-fitting for so-called leaderless non-electoral movements such as the 1989 Leipzig protests in East Germany (Opp and Gern 1993), the Tea Party, Occupy Wall Street, the pro-democracy movement in Taiwan, and the early stages of the Arab Spring. Although formal organizations and leaders did play a part in these movements, to call their mobilization efforts "direct," in contrast to "indirect" mobilization outside their control, would be to place these organizations and leaders at the center. In contrast, many of these organizations are themselves the byproduct of ordinary people mobilizing one another and then coming together to coordinate their efforts, forming new groups and rallying around new leaders. When existing organizations and leaders have gotten involved, they have contributed to or, in some cases, co-opted these movements (see Morris 2000 for similar arguments regarding the need to honor the agency of rank-and-file protesters). However, from the point of view of the original citizen mobilizers, their own efforts going door-to-door (or tweet to tweet) doubtlessly seem more direct, rather than indirectly mobilizing their friends and neighbors through an outside organization. Thus, adapting the terminology of Bennett and Segerberg (2012), we propose "organization-based" and "self-organizing" mobilizations as perspective-neutral terms that fit a variety of contexts.[1]

As its founders readily acknowledge, Black Lives Matter (BLM) fits the "leaderless movement" model (Tometi and Lenoir 2015). A fast-growing body of research explores the degree to which BLM is a non-hierarchical and decentralized movement,[2] and this leaderless nature is itself a source of controversy. On the one hand, BLM supporters extol the movement's commitment to centering the voices of those who have been marginalized within liberation movements—particularly Black women, African Americans who are LGBTQ, people with disabilities, immigrants without documentation, and folks within the carceral system—and its departure from the Civil-Rights-Era notions of "respectability" and "strategic accommodation" (Bunyasi and Smith 2019; Chatelain and Asoka 2015; Jackson 2018; Lebron 2017). On the other hand, older-generation Black activists view the lack of a clearly-articulated socio-political agenda as a major vulnerability of BLM

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[1]Bennett and Segerberg (2012) differentiate between three categories of networks used in collective action: self-organizing (organizations largely absent), organizationally enabled (organizations in the background), and organizationally brokered (organizations play a leading role). All of these are essentially divisions of a continuous spectrum, which we have elected to split into two categories rather than three, based on the precision of our data. Another tradition, going back to Snow et al. (1986), uses the term "micromobilization" to refer to recruitment via individuals' personal networks.

[2]While hardly a comprehensive list, the editors of Politics, Groups, and Identities compiled an online syllabus of the BLM research appearing in their journal (Brown, Block and Stout 2020).

(de Witte 2020). Therefore, when it comes to generating turnout for the summer 2020 wave of BLM protests, we expect organization-based mobilization to play a supporting role. Self-organizing mobilization, we predict, will be far more important in explaining how millions of Americans found themselves assembled in large groups across the nation, calling for police reform and racial justice at one of the largest and longest-running protests in the nation's history (Buchanan, Bui and Patel 2020).

3.2 Mobilization Mechanisms

Self-organizing mobilization can occur through two mechanisms: personal recruitment and exposure. We define "personal recruitment" as a one-on-one appeal to a potential recruit to attend a protest. Examples include a text message, phone call, or face-to-face conversation between a recruiter and the potential recruit. Walgrave and Ketelaars (2019) theorize that personal recruitment serves three functions: persuasion, information, and company. First, the recruiter may attempt to persuade an uninformed or ambivalent target about the justness of the cause. However, recruiters may be more likely to focus their efforts on individuals they expect to be predisposed toward their cause, and instead try to convince them of the efficacy of protest as a tactic or the personal benefits of attending versus staying home (e.g., making a difference, having fun, seeing people, minimizing regret). Second, personal recruitment can also catalyze turnout by providing would-be protesters with details of when and where to show up. Finally, recruiters can also make attendance less intimidating, logistically easier, and more enjoyable by offering to accompany the recruit to the protest. Such agreements can also make a recruit more likely to follow through on their verbal commitment to show up (Burgess et al. 2000). In this study, we measure personal recruitment through a variable called *message/conversation* defined in the next section.

Alternatively, mobilization can take place passively through a non-dyadic mechanism we call "exposure." Examples include seeing posts on social media (either public or directed to all of a user's friends/followers), watching the news, witnessing a protest, or receiving a mass email, text, or robocall that is not tailored to them personally. Exposure is unlikely to entice a would-be protester with promises of companionship—aside from the promise of a large crowd—since it is directed at a large audience. Its persuasive capacity, compared to direct recruitment, is mixed. Appeals via exposure are not personalized to the values, hopes, and fears of a particular recruit. However, they are better at creating a sense of normative behavior (White and Laird 2021). First, the very fact that the appeal is being made publicly signals to the potential recruit that protesting for this cause is socially acceptable. While the person making the appeal may not know the recruit very well, if at all, they may be seen as popular or as a role model worthy of imitation (i.e., something many others are doing). Second, while a would-be protester may be personally recruited by one, or at most,

a handful of individuals, there is virtually no limit on the number of individuals who can influence them via exposure. This chorus of appeals to protest, announcements of the speaker's own intent to protest, and photos of them doing so, may be far more effective at creating the impression that protesting is "correct" behavior that the potential recruit would be wise to follow if they wish to fit in. This idea coheres with the reasoned action approach where engaging in behavior hinges in part on injunctive norms (i.e., if the behavior is desired by important others) and descriptive norms (i.e., if other people perform the behavior) (Fishbein and Ajzen 2009).[3]

Exposure can also spread information and do so far more efficiently than one-on-one appeals. As in the case of personal recruitment, recruiters can provide logistical details about a protest or information related to the cause (e.g., reposting the video of George Floyd's murder). Individuals who share their stories of victimization can reach a far larger audience through airing their accounts publicly than one-on-one. Information spread via exposure is also easy to "repost" and spread virally, in contrast to a personal conversation that may be shared in confidence or so tailored to the listener that it loses its potency when adapted to a general audience. Further, those who do participate can use social media to share their stories, thereby obtaining extrinsic benefits of participation (Gerber, Green and Larimer 2008).

Although students of social movements have long agreed on the importance of self-organizing mobilization, much of the emphasis until now has been on personal recruitment (see Walgrave and Wouters 2021, for a comprehensive overview). The role of exposure has been neglected or downplayed, while at the same time, an entirely separate literature focused on the online platforms has sprung up around it (e.g., Jackson, Bailey and Foucault Welles 2020; Larson et al. 2019). Part of the reason for this is methodological: analyses of Twitter data (e.g., Steinert-Threlkeld et al. 2015) can detect only exposure, since they do not contain data on offline communication or private online messages. We seek to put both mechanisms in a common framework (see also Onuch 2015). While some researchers have examined which characteristics make someone more likely to promote a cause through one mechanism or the other, mobilizers are capable of using both mechanisms. In light of that, we focus on which of their friends and family a mobilizer is likely to reach using each strategy. In other words, we seek to understand what sorts of relationships (or "ties") undergird each recruitment mechanism.

3.3 Tie Strength, Personal Recruitment, and Exposure

An important long-standing debate in the mobilization literature focuses on the relative importance of strong versus weak ties. Snow, Zurcher and Ekland-Olson (1980) find that strong ties are the key to bringing new

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[3]The model also highlights the role of attitudes towards actions and perceived behavioral control (i.e., perception of the ease or difficulty of the behavior, including resource constraints).

recruits into a wide variety of movements from religious cults to mass lobbying efforts, in part because they are needed to overcome the centripetal pull of countervailing ties an individual has to those outside the movement. This logic makes more sense, however, in contexts where joining a movement involves a serious long-term time commitment that would require neglecting (or in the case of cults, abandoning) these other ties. In a reanalysis of McAdam's (1986) data on volunteers for the Mississippi Freedom Summer campaign, McAdam and Paulsen (1993) find strong ties to movement members to be the best predictor of which applicants followed through on their intentions to participate. They speculate that although weak ties may be important for diffusing information (e.g., Granovetter 1973), strong ties are more important for persuasion, a point echoed by Walgrave and Ketelaars (2019). Persuasion is particularly essential when it comes to high risk activism, such as becoming a civil rights volunteer in 1964, and thus we should expect strong ties to play a bigger role in riskier movements. This may not, however, be the case when the risk is less clear—such as in the 2020 BLM protests. Some Black Lives Matter protests involved considerable danger of violence from police and rioters, but this was far from universal. Additional danger stemmed from the risk of contracting COVID-19 in large crowds, but it is unclear how salient this risk was for most people. Existing theory does not give clear predictions for how important tie strength should be when the risk is more ambiguous.

Part of the confusion may stem from a lack of clarity on what exactly tie strength is. Brashears and Quintane (2018) point out that researchers often combine emotional closeness and frequency of communication into a single measure, when in fact, they are different dimensions with important implications for information transmission. Two best friends in different cities who call each other only occasionally may be less likely to share information, including information relevant to a protest, than two coworkers who interact on a daily basis. Some studies use the term "weak tie" to refer to an indirect connection—a friend of a friend—and a "strong tie" to refer to a direct one (e.g., McAdam and Paulsen 1993). But perhaps the most confusion arises from the conflation of an entirely different concept—embeddedness—with tie strength. Embeddedness, sometimes referred to as triadic closure, is the extent to which the individuals at either end of a tie share mutual friends, family, and acquaintances. For instance, a friendship between two middle-school girls in the same exclusive clique is likely to be deeply embedded, in the sense that the two girls share many of the same friends. If one of these girls makes a new friend from out of town while at the beach with her family, this friendship would have low embeddedness since the two girls are unlikely to have other friends in common. We refer to the latter type of tie as a "bridge" since it provides a potential conduit of information between two distinct clusters of friends. A bridging tie means the two individuals share few mutual contacts. Much like strong ties that are sometimes conflated with (high) triadic closure, weak ties are often conflated with bridges. Bridges often are weak, but they do not have to be.

Although embeddedness, emotional closeness, and communication frequency may be correlated, exceptions are manifold. For instance, childhood best friends may continue to feel close into adulthood despite no longer being embedded in the same milieu of friends or speaking more than once or twice a year. While emotional closeness, communication frequency, and embeddedness may all be important for protest mobilization, only by analyzing them separately can we achieve a more complete understanding of when and why "tie strength" matters. For the purposes of this article, we define tie strength as emotional closeness, and use specific terms like communication frequency and embeddedness to refer to these other dimensions. Our survey questions mirror this definition, asking respondents to name "three people with whom you have the strongest, closest relationship" and whether the person who accompanied them to a protest, recruited them, or influenced their decision to participate was someone "I'm close to." For convenience, we use the social network term "alter" to refer to anyone whom a person is connected to by a tie, to avoid having to specify whether this person is a friend, relative, colleague, teacher, boss, or acquaintance. Your "close alter" is thus someone connected to you by a strong tie.

We expect that strong ties will be a more common and more effective means of personal recruitment than weak ties. A recruiter who is emotionally close to a potential recruit is likely to be more familiar with what sort of language or incentives the recruit would find motivating. They may be better able to foresee their alter's concerns and assuage them. An offer to accompany the potential recruit to the protest is likely to be more appealing if the two are emotionally close; the potential recruit may even go to please the person they care about. If the potential recruit perceives the protest as dangerous, they may be more likely to trust a close alter's assurances. Thus, it is the emotional strength of a relationship, rather than embeddedness or communication frequency, that will make persuasion effective. Be that as it may, this effectiveness may come to naught if the recruiter and their alters are not in the habit of speaking. A recruiter systematically going through the contacts in their phone trying to recruit everyone they know may find more success persuading those they are close to than those they are not. While that approach makes sense in the context of organization-based recruitment, when it comes to self-organizing recruitment, we doubt that most recruiters are quite so systematic in their efforts. Rather, we expect recruiters to simply call, message, or text the people they are used to calling, messaging, or texting. Based on this assumption, one way to test whether close ties influence their friends primarily through personal recruitment rather than exposure is to see what happens to close alters who rarely communicate. If personal recruitment is the primary (or sole) mechanism, then a close alter attending a protest should only be correlated with the respondent attending a protest if they communicate on a regular basis. However, if the frequency of communication makes no difference, the mechanism is likely to be exposure. Social media platforms such as Facebook readily display posts from friends to whom the user has not spoken or messaged in years.

Weak ties, in contrast, are highly effective at spreading information. Granovetter (1973) posits that this is due to the tendency of weak ties to be bridging, or as Centola and Macy (2007) put it, weak ties tend to be "long." Leaving aside the bridging/embeddedness dimension for the moment, we argue that weak ties are likely effective information spreaders for an entirely different reason: they are more numerous. Most people have far more acquaintances than close friends (Lubbers, Molina and Valenzuela-García 2019). Although people generally communicate directly with their close alters more often (and may share more information when they do), there are simply a lot more weak ties to get information from in the first place.[4] From this perspective, the strength of weak ties is a strength in numbers. What weak ties lack in persuasive power, they make up for in their ability to create the impression that "everyone you know" has adopted a new behavior or holds a certain opinion. In addition to setting expectations for normative behavior, exposure can also reinforce a collective identity, which can be particularly important to political mobilization (Polletta and Jasper 2001). For creating a sense of identity, the strength of ties makes little difference (Garrett 2006). Indeed, Anderson's (1983) concept of nationalism as membership in an "imagined community" is predicated on the notion that people must feel a connection to those sharing the identity with people they have never met. Thus, nationalism—as well as a sense of belonging to any racial or ethnic group—depends on ties so weak they are, in some sense, imaginary (though perhaps not so imaginary from the point of view of a follower who feels an overwhelming devotion to a charismatic leader). Thus, we expect weak ties, collectively, to be an effective means of spreading both norms and information, the two key functions of the exposure mechanism.

Since the tie strength first entered the social movements literature in the 1980s, the impact of weak ties on mobilization via exposure has likely grown by leaps and bounds. Prior to the advent of social media, Americans were probably likely to encounter more weak ties than strong ties on a daily basis unless they were stuck at home, but for many there were logistical limits on how many weak ties they could be exposed to. With the advent of social media, however, potential recruits may be exposed to the opinions and behavior of hundreds if not thousands of their weak ties on a weekly or daily basis. Most social media platforms are calibrated to show users content they are likely to interact with (to "like", retweet, click on, etc.). Tie strength will likely be correlated with content ranking, but there are many other factors that influence a user's likelihood of reading or retweeting a post. Thus, there are likely to be enough posts prioritized for reasons other than inferred tie strength that users will end up seeing a lot more content from weak ties than from strong ones (Shmargad and Klar 2020). This levels the playing field, at least to an extent, for strong

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[4]Aral and Van Alstyne (2011) discuss a "diversity-bandwidth tradeoff" in which the diversity of one's weak ties (essentially, their tendency to be bridging and thus have access to novel information) may or may not make up for their lower bandwidth (amount of the information they share). We expect that social media platforms largely neutralize bandwidth differences since strong and weak alters alike can see what one posts. The advantage some platforms' content ranking algorithms give to posts from strong ties is still probably not enough to overpower the collective impact of weak ties, which are far more numerous.

and weak ties, and in so doing, gives weak ties the advantage through their numbers. If a user has one close friend for every ten acquaintances, then even if a platform's algorithm has inferred which alter is likely to be the close one and prioritizes them in the content rankings, the user is still likely to be exposed to more content in total from their 10 non-close alters than their one close alter.

While there are other ways to be exposed to weak ties besides social media—for instance, overhearing a colleague at work talk about the protest they attended last weekend—the pandemic-related lockdowns at the time of the 2020 BLM protest wave made these channels less likely. Thus, we predict that weak and not strong tie alters will exert their influence on mobilization via exposure.

Hypothesis 1. Strong and weak ties will be associated with different mobilization mechanisms. In particular:

a) Strong ties will facilitate mobilization primarily through personal recruitment.

b) Weak ties will facilitate mobilization primarily through social media exposure.

We will test the first half of this hypothesis by asking protesters who were recruited what type of relationship they had with their recruiter. We also examine whether a great number of strong ties make recruiting others more likely. We will test this second prediction in two ways. First, if we can show that social media has an impact on mobilization but strong ties are not associated with it, then by default the social media is having an impact though weak ties. Second, we can compare platforms. In a comparison of Twitter and Facebook users in Chile, Valenzuela, Correa and Gil de Zúñiga (2018) find that Twitter usage is associated with weak ties and information diffusion while Facebook is associated with strong ties and social pressure. They add that one's Facebook alters on average are slightly stronger ties than one's Twitter alters. Facebook ties must be mutual and consensual and there is a limit to how many Facebook friends one can have (Vitak, Ellison and Steinfield 2011). Twitter, Instagram, and TikTok, on the other hand, have none of those restrictions and thus should include a higher ratio of weak ties to strong ones. Furthermore, Facebook is the only one of these platforms that allows users to designate a list of up to 20 "closest friends" whose posts will then take precedence. Aside from this feature, Facebook's algorithm is believed to take inferred tie strength into account in its content ranking algorithm more than other platforms (Bucher 2012; Burke and Kraut 2014; Woo-Yoo and Gil-de Zúñiga 2014). Therefore, finding that Twitter, Instagram, or TikTok usage is more predictive of the mobilization via exposure than Facebook usage (while controlling for age and other user demographics), would support Hypothesis 1b.

3.4 Embeddedness, First-Timers, and Protest Veterans

The social factors behind collective action include not only the strength of ties, but also their embeddedness (Walgrave and Wouters 2021). Some mobilization scholars use "embeddedness" to refer to a person's level of involvement in social movement organizations, but in this context of self-organizing recruitment, our interest is in the embeddedness of an individual's ties vis-a-vis the pre-existing social network, not formal organizations. The embeddedness of a tie, in contrast to its strength, has nothing to do with the tie itself and everything to do with the broader network in which it is situated. Embeddedness is sometimes used as a synonym for triadic closure, defined as the proportion of triads (trios of individuals) whose ties form a closed triangle (all three are friends with each other), rather than an open "V" shape (A is friends with B who is friends with C, but A and C are not friends).[5] Although this precise graph theoretic definition is a good way to measure embeddedness (if sufficient network information is available), our conception of embeddedness endows this barebones mathematical metric with a social layer: we are interested in how embedded a tie is within a particular community. For instance, the tie between a married couple may be deeply embedded in their neighborhood (two spouses know all the same neighbors), but hardly embedded at all in each spouse's office community (save for brief introductions at the office holiday party). In particular, we would like to know whether a given tie is embedded in a community of protesters. Stretching this definition a bit, we might also say that an individual is deeply embedded in a protest community if they have ties to lots of protesters who, in turn, have ties to one another.

Should we expect the ties used in mobilization to be deeply embedded? The answer, we predict, will depend on who is being mobilized. On the one hand, a person who has never protested before but is deeply embedded in a protest community ought to be a prime candidate for mobilization. Not only will they be surrounded by weak ties whose protest behavior they are likely to be exposed to, but they may have multiple strong ties ready to reach out and personally recruit them. However, while attempts to mobilize deeply embedded non-protesters are likely to be effective, we expect them to be relatively rare. Simply put, when it comes to recruiting first-time protesters, most of the low-hanging fruit is likely to have already been picked. In the case of our focus, the 2020 wave of BLM protests was not the first upwelling of protests in recent American memory, nor was it even the start of BLM. Unlike models of technology adoption, where one member of a friend group who is more tech savvy or risk tolerant may adopt a new app or phone first (Rogers 2003), followed gradually over months and years by their family and friends, protest mobilization tends to mobilize clusters of individuals all at once (McAdam and Paulsen 1993). Thus, if an individual is surrounded by people who were involved in prior protest waves, chances are either they too were mobilized

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[5]That is, if the ties are visualized as straight lines rather than curves.

at that time or they have a strong reason for holding out. Thus, while ties deeply embedded in a protest community may be effective for mobilizing new recruits, all else being equal, in reality there is likely to be an adverse selection effect whereby the potential recruits they connect are particularly reluctant to join.

On the other hand, deeply embedded ties should be both an effective and a common way to remobilize protest veterans. Protest veterans are likely to have lots of ties to other protesters, either because they were mobilized simultaneously or they met through the protest movement, and these alters are likely to know one another for those same two reasons. Thus, most of the ties veterans have to other protesters are likely to be ties that are deeply embedded in a given protest community, even if those ties are not embedded in other social spheres. For instance, if a protest veteran attends meetings for a local social movement organization, the people they meet there are likely to know one another already, or soon will if they remain involved. They may not know this person's family members, colleagues, or classmates, but within the context of this protest community, these ties are deeply embedded. For protest veterans, therefore, ties embedded in protest communities will likely not only be effective but plentiful, increasing the chances that they will be mobilized by one.

It goes almost without saying that someone who has never protested before is unlikely to be the one to mobilize someone who has. However, we will go a step further and predict that given the choice of two recruiters with the same tie strength and protest experience, a protest veteran is more likely to be personally recruited by the one with whom they are more deeply embedded, sharing more mutual alters. An alter connected by a deeply embedded tie is more likely to live nearby, rendering them more likely to have information about local protests and perhaps able to help with transportation. If the two have mutual friends who are also protesting, this will enhance the benefits of companionship for attending the protest while at the same time increase the sense of being left out if the potential recruit does not attend. If the recruiter is having difficulty persuading the potential recruit, they can enlist mutual alters to apply additional pressure, a resource that an alter who is not deeply embedded would not have access to. Thus, even when controlling for tie strength, we expect deeply embedded ties to other protesters to be more effective in mobilizing veteran protesters.

How then do new protesters become mobilized? Here the power of "bridges," which Granovetter (1973) originally saw as the "strength of weak ties," comes into play. The ties that act as bridges between two barely connected communities serve as important conduits of novel information (Burt 2004). Novel information is more important for first-time protesters who need to be educated about a cause or convinced of the efficacy of protesting. Moreover, while a veteran protester can learn about the existence, timing, and location of a protest through organizations they are part of or densely linked clusters of fellow protest veterans in which they are embedded, the members of a non-veteran's immediate circle are unlikely to know these

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things. Finally, while first-timers are unlikely to mobilize protest veterans, first-timers may be more likely to mobilize each other. Thus, we expect that first-time protesters stand a lower chance than protest veterans of being mobilized by an organizer or a self-described activist. First-time protesters are less likely than veterans to know such people and a slightly higher share of their recruitment comes from fellow first-timers. Thus we arrive at the following hypothesis:

Hypothesis 2. First-time protesters will be more likely to be mobilized by bridging ties, while movement veterans will be more likely to be mobilized by ties that are embedded in a protest community.

The association of bridging ties with new protester recruitment and deeply embedded ties with veteran recruitment may even be manifested on the household level. We justify this prediction by way of the following stylized model. Suppose there is a household in which no one has protested before. Since household members are likely to be embedded in the same communities (particularly spouses, but also roommates who are friends), they are likely to be exposed to the same mobilizers and perhaps even recruited by the same personal recruiters. In other words, multiple housemates will be mobilized simultaneously, and the mobilization will come from someone outside the household. Each housemate will be more likely to attend if at least one of the others also commits to going, due to companionship, social pressure, and the easing of logistical barriers (e.g. carpooling). Thus, not only will recruitment attempts be clustered within households, but so will recruitment successes. A year later, another wave of protests occurs. By now, at least two members of the household are protest veterans. Now there is no need for them to be mobilized by a strong tie outside the household, since they can mobilize one another. Indeed, mobilization within the household, when there is a veteran in the household available to do the mobilizing, is more likely to be effective, since household members spend more time around one another and can more readily ease one another's logistical barriers. Thus, mobilization of first-timers is more likely to come from non-household ties while mobilization of veterans is likely to come from household ties with whom they are more likely to be more deeply embedded.[6]

3.5   Intergroup Contact and Cross-Cleavage Capital

One of the most robust literatures in the social sciences explores how interpersonal contact between an advantaged group and a marginalized group leads to diminished prejudice (e.g., as contact with African-Americans increases, White racial prejudice decreases) (e.g., Allport 1954; Pettigrew and Tropp 2006). Generally, con-

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[6]Beyond this stylized example of pure protester and pure non-protester households, there could also be mixed households in which there are both protest veterans and non-veterans. This situation may arise either because the other household members refused to attend during the initial wave or the household composition has changed since then. Because protesters of a given movement are still relatively rare in the general population, we expect most non-protesters to live in pure non-protester households, making them more likely to be recruited by non-household ties. A protest veteran in a household with no other protesters may be more likely to drop out of the movement for lack of support. Thus, protest veterans in pure protester households stand a greater chance of being re-mobilized.

tact does reduce prejudice, but there is substantial variation based on the groups involved (Paluck, Green and Green 2019). It is also unclear whether the reduced prejudice builds more societal cohesion in general (Mousa 2020) and what conditions are required for prejudice reduction (Paluck et al. 2021; Paluck, Green and Green 2019). That said, it seems that an effective approach involves the sharing of narratives by or about group members to change attitudes concerning marginalized groups (Kalla and Broockman 2020).[7]

Of course, understanding and/or prejudice reduction need not lead to action. As Hässler et al. (2020: 381) state, "Contact may improve advantaged group members' feelings towards disadvantaged groups while having little impact on their support for policies or actions designed to redress group-based inequalities." Nevertheless, after issuing this warning, these authors go on to show that intergroup contact does indeed lead to support for social changes among the advantaged group. Specifically, they find that intergroup contact increases support for low-cost collective actions (e.g., signing an online petition), high-cost collective actions (e.g., demonstrating), empowering policies (e.g., ensuring the disadvantaged group has more decision making power), raising in-group awareness, and working in solidarity. Thus, there is good reason to believe that intergroup contact between Black and non-Black populations will be associated with non-Black participation in BLM protests.

To explain why intergroup contact should lead to action, and not merely less prejudice, we propose a theory of cross-cleavage capital. While definitions of social capital are almost as manifold as the social capital literature itself (e.g., Adler and Kwon 2002; Coleman 1988; Lin 1999), in this study we employ a definition that is simple yet broadly applicable: your social capital is your ability to get other people to help you. Social capital, therefore, is a function of the size of one's social network, the strength of one's ties, the willingness of one's alters to help out, and the skills and resources they have to offer. This definition can easily be extended to the community level, as well. A community with high social capital is one in which people can readily get help from one another, due perhaps to norms of reciprocity, dense social networks of strong ties, community members' connections to well-resourced outsiders which they are willing to share, or some combination thereof (Putnam 2000). We define cross-cleavage capital as one's ability to muster assistance across a social or political cleavage. A community or individual may be high in social capital generally speaking, but if that individual lacks friends of other races, or the community's social network is deeply segregated, then they are lacking in cross-cleavage capital. A lack of cross-cleavage capital can reinforce social inequalities, such as when members of a marginalized group lack the connections needed to get a job, find a good doctor or lawyer, or get their children into a good school. For the members of

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[7]Non-judgmental narratives facilitate persuasion because—compared to direct argumentation—they are perceived to be less manipulative, produce less counter-arguing, and cause less threat to the receiver. Kalla and Broockman (2020) offer evidence that the key is to engage in perspective-giving—that is, hearing about the experiences of an outgroup member (from them or others).

the dominant group, cross-cleavage capital can facilitate cultural competency thanks to interactions with outgroup alters. In a context where cross-cleavage capital is lacking, well-meaning members of the dominant group may be more likely to inadvertently irritate, alienate, or exclude their outgroup alters. In the context of BLM, cross-cleavage capital can provide non-Black individuals with Black alters (or even a non-Black alter with a Black partner) whom they can go to with race-related questions.

Cross-cleavage capital is important for minority protest because it makes abstract injustices concrete. For some majority group members, hearing about a wrong committed against an outgroup member they have never met (e.g., Ahmaud Arbery, Brionna Taylor, George Floyd) is enough to spur them to action. For others, however, it is imagining that wrong happening to someone they know that provides the additional nudge needed to get out the door. Would-be protesters may see protest not only as a response to a past injustice, but as a means of preventing future injustices from happening to those they know. Protest, then, can be seen as a form of helping. By protesting, the majority group member helps the entire "imagined community" of the outgroup, but more importantly they are helping flesh-and-blood network alters whom they actually know and care about. Thus, we should expect communities with higher cross-cleavage capital—where majority group members are used to helping minority alters and where the minority group members can readily call on majority group alters for assistance—to exhibit more majority group protest.

At the individual level, we expect cross-cleavage ties to be more effective than ingroup ties, after accounting for tie strength and embeddedness. Non-Blacks with more ties to Black people may be more likely to be exposed to personal accounts of racism and police violence. All else being equal, these accounts should be more motivating if they come from sources that the potential recruit cares about or trusts rather than from complete strangers. While a stronger emotional connection may amplify the story's effect, weak ties once again manifest power through prevalence, giving the non-Black person the impression that racism and police violence are systemic and widespread. When it comes to strong ties, we expect a Black personal recruiter to be more effective than a non-Black recruiter. Although any recruiter can try to make the recruit feel like attending an event is helping them (for instance, if they are responsible for generating turnout), when the recruiter is Black, the recruit can be made to feel like that cause itself is helping their friend by fighting to protect them from future racism or violence. Thus we arrive at our final two-part hypothesis, encompassing cross-cleavage capital at both the community and individual level:

Hypothesis 3. Outgroup members from communities with high cross-cleavage capital will be more likely to participate. Those who do are likely to be mobilized by cross-cleavage ties.

Practically speaking, cross-cleavage capital can be difficult to measure. At the individual level, we examine whether a non-Black protester was personally recruited by a Black or non-Black alter. Since we

posit that personal recruitment relies on strong ties, and since ties between racial groups are more likely to be weak (and rare), even finding that one out of eight recruiters were Black (that is, the share of Blacks in the U.S. adult population) would suggest that Black recruiters were exceptionally effective recruiters on a per tie basis. We also examine whether knowing someone who was harmed by racism or police violence was a major motivation for non-Black protesters to attend. Although we do not know the identity of the victim, and racism and police violence affect non-Blacks as well, given the context of the protests we take this as a strong signal that the respondent's decision to protest was influenced by a Black alter. Additionally, we would expect those who live in areas with more Black people will have a higher likelihood of having had interactions with Black people. This not only increases the possibility of the aforementioned strong tie effect but it also can work via weak ties. Specifically, Brown et al. (2021) use data that include the residential context of virtually all Americans in 1940; they then look at how that context subsequently affected the political behavior of men alive 70 years later. They find that early-life exposure to Black neighbors predicts Democratic partisanship more than 70 years later. This echoes work showing that intra-group exposure liberalizes political attitudes even in the short term (e.g., Green and Wong 2009). This would lead one to expect those in geographic areas that include more Black people will be more sympathetic to protesting. That, combined with the aforementioned descriptive norms of likely seeing more protests (which occurred with greater frequency in diverse areas), leads to the following expectation: Non-Black individuals will be more likely to protest as the geographic area in which they live becomes more racially diverse, all else constant. Therefore, for non-Black respondents, we use the percentage of residents in their ZIP Code who are Black as a proxy for cross-cleavage capital in their community.

3.6 Black Political Participation, Minority Protest, and Black Lives Matter

In many respects, the BLM moment provides an ideal test case for our arguments. The sheer scope and intensity of the racial reckoning of summer 2020 gives researchers an invaluable opportunity to re-evaluate—and, ultimately, enrich—what we know about the protest activity. Specifically, the contexts surrounding this racial reckoning provide insights that advance the social movement literature. For example, much like the "perfect storm" of racial strife and political agitation that characterized civil unrest in the 1960s (Hall 2007), the summer 2020 protests reflected a volatile mix of public outrage, grassroots organizing, and political opportunities (Chotiner 2020; Wortham 2020). Both movements were unprecedented for their respective times, and each one inspired polarized viewpoints, buoyed by media narratives, among politicians and the public alike (Benford and Snow 2000; Bonilla and Tillery 2020; Reny and Newman 2021).

That said, the Civil Rights Movement (CRM) and BLM pushed for antiracist objectives while forging

coalitions across racial and ethnic groups (Arora and Stout 2019). And as scholars like Gillion (2013, 2020) and Mazumder (2018) rightly note, both movements were successful in their unique ways: The goal in the 1960s was voting rights, and it is police reform in 2020; in both eras, the movements functioned as agenda-setters that ultimately shifted both narratives and policies, not only in politics but also in the academy (McClerking and Philpot 2008; Wasow 2020). Rather than being overly concerned with contrasting protests (for extensive comparisons, see Jenkins-Robinson 2017, and others), we discuss CRM and BLM side-by-side to underscore the significance of linking the past with the present, for it is important to study how current social movements can erode or reinforce the progress made in previous ones. In the next section, we describe our research design and analytical approach to exploring protest networks and recruitment.

4   Data and Methods

Our data comes from the COVID States project, a monthly survey with a quota-based sample of U.S. adults. Respondents are recruited through multiple online survey panel vendors and retained for multiple surveys. Depending on the vendor, panelists are either volunteers or are rewarded with points that can be redeemed for cash or other incentives. After deduplicating and filtering out problematic respondents, we reweighted our sample to match the U.S. adult population on race-gender-age subgroups, education, rurality, and region, based on the 2019 American Community Survey from the U.S. Census Bureau. From this pool of respondents, we obtain similar estimates for key political and public health outcomes to traditional probability-based surveys from Gallup, Ipsos, and Pew Research. For instance, estimates of COVID vaccination rates are strongly correlated with official statistics.

For this study, we examine nine survey waves conducted between June 12, 2020 and December 1, 2021, a total of 141,188 observations of 105,944 unique respondents. Of these, 5,347 said they attended a "rally, vigil or protest" about "racism and/or police violence" in the month leading up to the survey. Respondents were not told the topic of the survey prior to entering, and the vast majority of the questionnaire prior to the protest module focused on public health, election, and economic topics. Thus, while there may be unobserved differences between respondents and the U.S. public that weighting does not account for, the risk of selection bias based on the topic itself is minimized. Our overall rate of protest participation in June 2020—4.5%—falls within the confidence intervals of the Pew and Gallup surveys from that time (Simonson et al. 2021). In fact, since our respondents are incentivized and can avoid taking surveys at inconvenient times, our data may capture protest participation more accurately than phone surveys, which are known to be biased toward individuals with greater levels of political participation and civic engagement (Amaya and Presser 2017; Keeter 2019).

The sheer size of our sample enables us to measure not only which types of individuals were likely to protest, but also what the protesters themselves have to say about the recruitment process. Respondents who said they had attended a protest were presented with a list of motivations and asked to check all that applied. These included two **organization-based recruitment** motivations: a protest *organizer reached out* and being a *member of an organization* involved in the protests. The measures allow us to test our prediction that organization-based recruitment played a (minimal) secondary role in the 2020 BLM protests. The **self-organizing recruitment** motivations included affirmative answers to questions about seeing alters' *social media posts*, a personal *message/conversation* encouraging them to attend, a desire to *see alters* they knew at the protests, and knowing an alter who was harmed by racism and/or police violence (*harm to alter*). These variables serve as outcomes when we test Hypothesis 1, the relationship of tie strength to the personal recruitment and exposure mobilization mechanisms. We use *message/conversation* to measure **personal recruitment** and *social media posts* to measure **exposure**. Note that the phrasing of the *social media posts* item restricts it to posts from known alters, not strangers, though we cannot vouch for how closely respondents paid attention to this framing. The term "posts" implies public statements, consistent with the exposure mechanism, as opposed to using these platform one-on-one direct messaging features.

The *see alters* variable, as well as the organization-related variables discussed above, serve as outcomes for our test of Hypothesis 2, since knowing people at protests and organizational involvement suggest ties that are embedded in a community of protesters. To test Hypothesis 3, we look at the proportion of non-Black respondents who listed *harm to alter* as one of their motivations (with the caveat that having an alter harmed by racism and police violence does not guarantee they were Black, though in this context it seems likely). Other options include faith, conscience, fun, experiencing racism and/or police violence personally (harm to self), and reading or watching the news.

Respondents who selected the *message/conversation* item were then asked how well they knew the person(s) who encouraged them, personally, to attend, whom we refer to here as a recruiter. The choices were "someone in my household" (*household tie*), "someone outside my household I'm close with" (strong non-household tie), "someone outside my household I'm not so close with" (weak non-household tie), and "someone I've never met in person" (stranger). Multiple answers were permitted in case the respondent was recruited by multiple people. Their responses allow us to test both Hypothesis 1a, about the association between strong ties and personal recruitment, and Hypothesis 2, treating household ties as more embedded than non-household ties.

All protesters, regardless of whether they chose the *message/conversation* item, were then asked a series of questions about the person who had the biggest influence on their decision to attend, referred to here as the *prime influencer*. Specifically, they were asked whether their *prime influencer* was someone

they had a close relationship with (used to test Hypothesis 1 about tie strength), a self-described activist, a person who had already attended protests for this cause (that is, a BLM veteran, used to test Hypothesis 2 about ties embedded in a protest community), Black (used to test Hypothesis 3 about cross-cleavage ties), a relative under age 30. We also asked whether the *prime influencer* had encouraged the respondent via social media. For the purpose of the analyses looking at personal recruitment, we dropped any protesters who said no one encouraged them to attend (or were unsure if someone did), as well as responses to individual items where a respondent chose "unsure" rather than "yes" or "no."

All protesters were asked if they attended with anyone else (*co-attendee*) and if so, whether this co-attendee was a household member, strong non-household tie, or weak non-household tie (the "stranger" item from the recruiter question being replaced by "no one"). Multiple responses were permitted in case the respondent went with a group of co-attendees or attended multiple protests. Like the recruiter question, these tie type variables are used to test Hypotheses 1 (tie strength) and 2 (tie embeddedness). Finally, all protesters were later asked whether they had attempted to persuade anyone else to protest (*recruitment attempt*) and had been successful (*recruitment success*). These questions are brought to bear on all three hypotheses.

In addition to asking social network questions of protesters, we also presented two social network questions to either the full pool or a random survey of respondents (both protesters and non-protesters). First, we asked respondents to list the "3 people living outside your household with whom you have the strongest, closest relationship." We refer to these alters as the respondent's *core network* since they represent their strongest (non-household) ties in an emotional sense. For each alter, we asked whether that alter had recently attended a protest (though we did not specify BLM), frequency of communication before the pandemic (spoke weekly, spoke daily, or less often), whether they had any communication in the past week, their relationship (family, friend, neighbor, coworker, classmate), allowing them to select multiple items. The questions were randomly shown to 45% of all survey respondents in the June 2020 wave during the height of the BLM protests and were used to address Hypothesis 1a (tie strength and personal recruitment).

Second, respondents in every survey wave were asked how many people in their "complete social circle of family, friends, neighbors, and other acquaintances" they could rely on to care for them if they got sick (*care network*) or help them find a job (*job-seeking network*). Although social support networks are sometimes conceptualized as a "core" discussion network of close ties (Marsden 1987; McPherson, Smith-Lovin and Brashears 2006), Small (2017) shows that people often turn to people they are not emotionally close to for advice about personal matters and Granovetter (1973) documents the importance of acquaintances for getting a job. Therefore, in some regressions we use the care network as a measure of strong ties and the job-finding network as a measure of weak ties (Hypothesis 1). Bear in mind, however, that people who have

not used their contacts to find a job may not be aware of just how useful weak ties can be in that endeavor, and that the relationships the respondent has in mind when answering this question may still be considerably stronger than their average relationship on social media.

Finally, we asked all respondents which, if any, social media platforms they used: *Facebook user, Tiktok user, Instagram user*, and *Twitter user*. These are used to test the relationship between strong ties (Facebook), weak ties (TikTok, Instagram, and Twitter), and exposure in Hypothesis 1b. Demographic variables include race (Black, White, Hispanic, Asian American, or other), gender, education, household income, residence (urban, suburban, or rural based on census classification of their ZIP code), age, and party. We asked respondents to list their ideology ranging from extremely liberal to extremely conservative on a 7-point scale. Although we analyze ideology in our robustness checks, we omit it from our main result because of its strong correlation with party and because Black respondents' ideological scales may be orthogonal to or even the reverse of those in the minds of White respondents (Jefferson 2020). Instead, we convert it to a 4-point *ideological extremity* scale, ranging from moderate (0) to extremely liberal or conservative (3). Some models also include the respondent's *interest in politics* (5-point scale), *feelings toward police* (100-point scale). Since biographical availability (free time, lack of obligations) may affect one's level of participation (McAdam 1986), as well as unrelated grievances (Achen and Bartels 2017), we include whether the respondent *worked outside the home* at the time of the survey (work outside home), lived with children under 18 (*parent*), was *married/partnered* (coded 1 if living with partner, married, or engaged, 0 otherwise), had contacted *COVID-19* (only if diagnosed by a medical professional), whether a *housemate had COVID-19*, and the number of *pandemic hardships* in their household (pay cut, laid off, school closed, forced to start working from home, reduced work hours or quit to care for kids, and reduced work hours or quit to care for someone with COVID-19). Depending on the model, we also include fixed or random effects for region, state, or county, and control for the number of months since May 2020 when this wave of protests began (time). Analysis was performed in R 3.6.1 statistical computing software, with Bayesian models supported by the stan programming language. All regressions use weighted least squares (for continuous outcomes) or weighted logistic regression (for binary variables) using either maximum likelihood estimation or MCMC sampling for Bayesian models. Topline estimates and crosstabs always take survey weights into account, unless we are reporting the raw number of respondents in a given category.
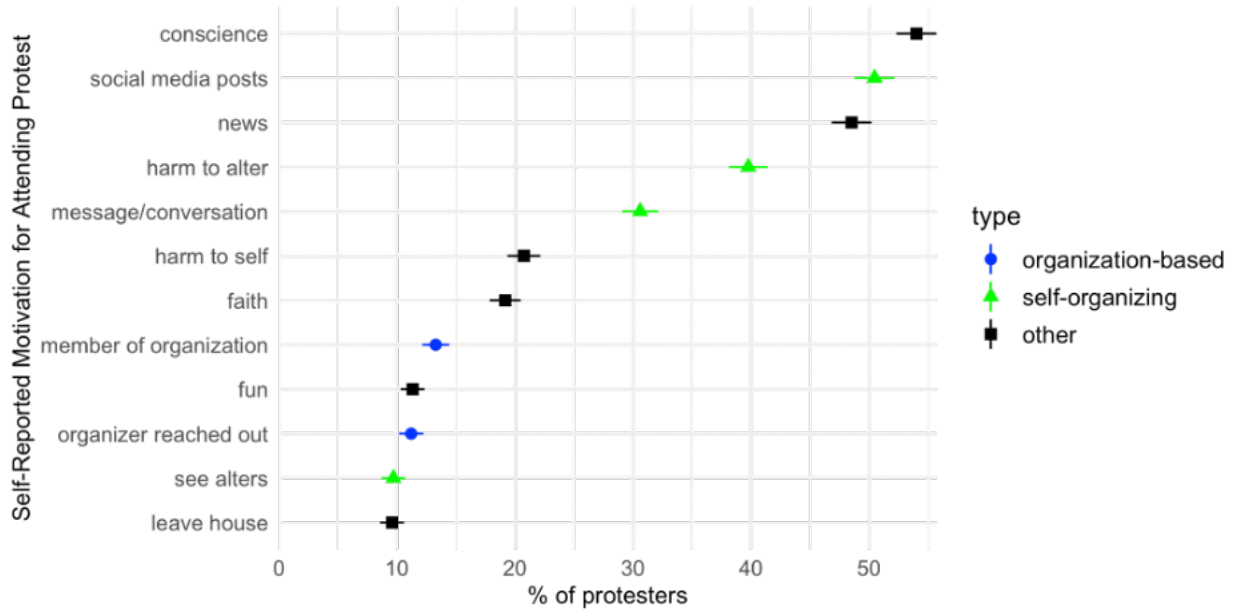
Figure 1: Percentage of respondents who attribute their attendance to formal organizations, by education and income. Bars represent 95% confidence intervals.

5   Results

5.1   Organization-Based vs. Self-Organizing Mobilization

When asked what motivated them to attend, barely 1 in 5 protesters (21.2%) selected a reason having to do with formal organizations (SE = 0.7). A mere 11.2% cited *organizer reached out* as a reason for attending, while 13.2% attributed their presence to being a *member of an organization* that was involved. Although the role played by formal organizations was not insignificant (21% of protesters implies over a million people), informal networks played a bigger role in turnout (as predicted). As shown in Figure 1, over half of protesters (50.5%) cite *social media posts* by people they knew as a reason for attendance, 39.8% cite someone they knew being a victim of racism and/or police violence (*harm to alter*), 30.6% cite a personal *message/conversation*, and 9.7% cite wanting to *see alters* at the protests as a motivation (SE < 0.9). All told, 80.8% of protesters cite one of these four self-organizing recruitment motivations.

Of course, self-reported motivations are never free from bias. Respondents may, for instance, omit selecting *see alters* as a reason for fear of being seen as opportunist or insincere, have forgotten a conversation they had with a friend, or not be fully aware of the impact social media had on their mindset at the time. On the whole, however, these biases imply our estimates actually underestimate the full impact of social networks on protest mobilization. Furthermore, since people are unlikely to forget that they were members of an organization, the gap between formal organizations and informal networks may be even wider than

reported (see Appendix for further details).

5.2 Tie Strength and Mobilization Mechanisms

Homing in on self-organizing mobilization, we test hypothesis 1a examining whether strong ties—and not weak ties—are associated with personal recruitment. For protesters who reported being personally recruited via a *message/conversation*, nearly half (44.5%) said their recruiter was a household member, 61.2% a non-household strong tie, 16.3% a non-household weak tie, and 10.3% a stranger. If we assume that within-household ties are usually strong—freshman college roommates and estranged couples excepted—then as many as 88.9% of personally recruited protesters were recruited through a strong tie, over three times more than claim to have been recruited through a weak one. Of those who report being recruited by someone outside of their household, 83.2% consider their relationship with that person to be close (SE = 1.4). Later, when we asked all protesters about the *prime influencer* who had the greatest impact on their decision to attend, 69.7% of respondents reported a close relationship with this person. Thus, personal recruitment appears to have taken place primarily through strong ties, as predicted.

We see additional evidence for Hypothesis 1a when we examine which protesters became personal recruiters themselves. Overall, 66.2% of protesters reported encouraging someone else to attend (SE=0.6). In Table 1, we consider the factors that made recruiting others more likely, focusing on the role of strong ties—represented by *care network size*—and weak ties, represented by *job-seeking network size*. Model 1 includes census demographics and time, model 2 adds social media usage and politics, and model 3 includes household and COVID-19 related variables. In every model, the coefficient estimate for *care network size* is positive and statistically significant at $p < 0.05$ or stronger. Neither the point estimate nor the uncertainty is much affected by the inclusion of additional controls. In contrast, *job-seeking network size* has consistently smaller effect sizes and falls below a $p < 0.1$ significance threshold in every model with controls. Thus, consistent with Hypothesis 1, the number of strong ties one has—and not the number of weak ties—is associated with personal recruitment. In Appendix Table 2, we also show that people who themselves are personally recruited are more likely to become recruiters in turn, particularly if their own recruiter or *prime influencer* was connected by a strong tie. We also demonstrate in Table 3 that *care network size* affects not only recruitment attempts but recruitment success (as reported by the recruiter). Appendix Table 4 shows the results are robust to different levels of fixed effects and standard error clustering.

Hypothesis 1a receives further support from our June 2020 survey module asking both protesters and non-protesters to "think about the 3 people living outside your household with whom you have the strongest, closest relationship" (*core network alters*). Of those who provided three names, 55.7% of protesters had a

Dependent Variable:	recruitment attempt		
Model:	(1)	(2)	(3)
job-seeking network size	**0.01** (0.02)	**0.01** (0.02)	**0.01** (0.02)
care network size	**0.08***** (0.02)	**0.08***** (0.02)	**0.08***** (0.02)
female	0.14* (0.08)	0.12 (0.08)	0.18** (0.08)
White (vs. Black)	0.09 (0.13)	0.05 (0.14)	-0.02 (0.14)
Hispanic (vs. Black)	0.02 (0.18)	-0.03 (0.19)	-0.11 (0.20)
Asian American (vs. Black)	-0.06 (0.27)	-0.07 (0.26)	-0.08 (0.27)
Suburban	0.18 (0.16)	0.15 (0.16)	0.14 (0.16)
Urban	0.16 (0.18)	0.18 (0.18)	0.16 (0.18)
ZIP % Black	0.04 (0.22)	-0.06 (0.22)	-0.06 (0.23)
age	-0.02*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)
some college (vs. no college)	0.06 (0.12)	0.02 (0.12)	-0.00 (0.13)
bachelor's degree (vs. no college)	0.16 (0.11)	0.08 (0.11)	0.01 (0.11)
graduate degree (vs. no college)	0.56*** (0.13)	0.46*** (0.13)	0.32** (0.13)
Facebook user		-0.43*** (0.14)	-0.44*** (0.14)
Twitter user		0.13 (0.13)	0.12 (0.14)
Instagram user		0.08 (0.15)	0.11 (0.15)
TikTok user		0.49*** (0.11)	0.44*** (0.10)
Republican (vs. Democrat)		-0.16 (0.12)	-0.28** (0.13)
Independent (vs. Democrat)		-0.17* (0.10)	-0.16 (0.10)
ideological extremity		0.21*** (0.03)	0.20*** (0.03)
parent			-0.03 (0.12)
married/partnered			0.05 (0.10)
pandemic hardships			0.13*** (0.03)
housemate had COVID-19			0.09 (0.07)
COVID-19			0.73*** (0.15)
work outside home			0.03 (0.10)
state fixed-effects	Yes	Yes	Yes
Observations	4,631	4,610	4,574
Pseudo R^2	0.01650	0.06071	0.07569
BIC	6,204.6	6,121.5	6,038.9

Clustered (state) standard-errors in parentheses
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 1: Logistic regressions predicting the likelihood of a protester attempting to recruit other protesters. *Income*, *other party*, and *other race* omitted for brevity.

core network alter who protested (SE < 3.0). In contrast, only 7.3% of non-protesters had a protesting core network alter (SE < 0.4). Although we cannot infer whether or not the respondent was recruited by one of their alters, we can predict what sort of tie is associated with both parties protesting. Treating each respondent–alter dyad as a separate observation, and clustering standard errors on the respondent, we predict whether each respondent protested based on respondent traits, alter traits, and their relationship. The results are shown in Appendix Table 5. In all four models, *alter protested* is positively associated with the respondent protesting, as expected. However, this effect is attenuated, and in later models erased entirely, if the alter and respondent spoke rarely prior to the pandemic. There are two ways to interpret this finding. On the one hand, the frequency of communication is merely a proxy for emotional closeness. On the other hand, if we assume all three alters are equally close, then communication frequency itself appears to be the operative feature of the relationship for determining protest attendance. This suggests that what we are witnessing is personal recruitment, not exposure, since the protesting alter must regularly communicate with the respondent in order to increase the latter's probability of protesting. Thus, the connection between strong ties and personal recruitment is confirmed (see Appendix for further details).

In Figure 2, we flip the alter and respondent, using the respondent's protest behavior to predict whether the alter protested, and plot the marginal effects. Our results remain significant in this direction as well with various controls; a respondent protesting is only associated with their alter protesting if there is frequent communication between them. Having established that strong ties are associated with personal recruitment, we now turn to Hypothesis 1b: Weak ties, not strong ties, are associated with mobilization via social media exposure.

If protest turnout were merely a matter for personal recruitment, we would conclude strong ties carry the day and a person's acquaintances are unlikely to have much impact on their odds of protesting. However, personal recruitment did not appear to be the primary means by which protesters came to be involved. As noted above, only 30.6% of protesters listed *message/conversation* as a reason they attended, compared to 50.5% who cited alters' *social media posts*. Although we cannot be certain which alters' posts influenced them, the vast majority of ties on social media are weak. To predict what sorts of ties are associated with recruitment via exposure, we regress being motivated by the *social media posts* of people you know on all the standard controls included in the previous model. We again include *care network size* and *job-seeking network size* and measures of strong and weak ties respectively, while noting even if the latter are weaker than the former, they are still far stronger than the vast majority of ties on social media. We also include the four most popular social media platforms in our data: Facebook, Twitter, Instagram, and TikTok. As discussed in the theory section, ties on Facebook are believed to be stronger on average than ties on Twitter, though on average still far weaker than those in the job-seeking network. Instagram and TikTok ties are
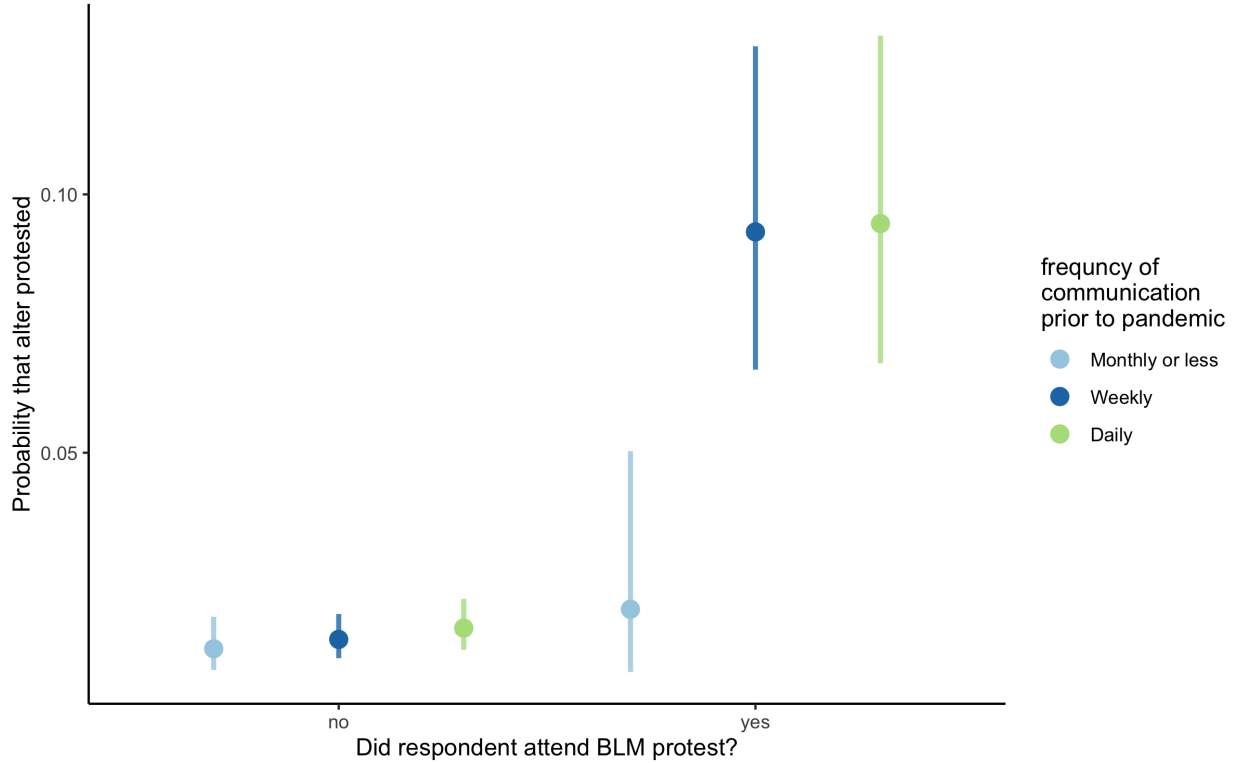
Figure 2: Predicted probability that alter protested, subset by frequency of communication with respondent.

likely weaker than Facebook ties as well, since their ties consist of unidirectional "followers" rather than mutual and consensual "friends."[8] As we discuss in the next section, first-time protesters are far less likely to cite *social media posts* as a motivation than BLM veterans, and it stands to reason that their networks may look different as well. Thus, in addition to running our logit regression predicting *social media posts* on the full sample of protesters, we run it separately on first-time and veteran BLM protesters to compare the results.

Our results confirm the weak tie–exposure association predicted by Hypothesis 1b. As shown in Appendix Table 6, *care network size* is never associated with being mobilized through *social media posts*. Thus, the number of strong ties of protesters seems to bear little relationship to whether they are mobilized via exposure. While we see no significant associations between any other network indicators in the full sample or the new BLM protesters, among the BLM veterans *job-seeking network size* is significant at the $p < 0.1$ level, and Twitter user is significant at the $p < 0.05$ level. As discussed above, ties in the job-seeking network are presumed to be weaker than those in the care network, while ties on Twitter are presumed to be weaker than those on Facebook. Furthermore, as shown in Figure 3 and discussed in the next section,

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[8]One should bear in mind, however, that closeness is relative. Many Facebook "friends" may be acquaintances, and the average strength of Facebook ties may have declined since the platform's inception as a result of shifting norms about how the platform is used. Still, we should expect these ties to be stronger, on average, than on other platforms where users frequently follow celebrities and influencers they have never met. In addition, Facebook currently limits users to 5000 friends.

the protesters for whom this association is significant (BLM veterans), are the ones more likely to attribute their mobilization to social media. Thus, the prevailing evidence points to the importance of weak ties in the exposure mechanism, which, as it turns out, is a far more common motivation cited by protesters than personal recruitment.

5.3   Embeddedness and Protester Type

Given the unprecedented turnout in the 2020 BLM protests, it is perhaps not surprising that nearly four out of ten attendees were first-time protesters (39.6%) and another 15.7% were new to BLM (SE < 0.9). Thus, only 39.4% were BLM veterans (an additional 4.9% couldn't recall whether they had attended protests previously or skipped the question). As predicted by Hypothesis 2, when we compare the self-reported motivations of BLM veterans to first-timers who have never protested for any cause, we can see that the veterans are far more embedded in protest communities (experienced protesters new to BLM consistently fall in between the other groups). A priori, we might expect repeat protesters to be more devoted to the cause than first-timers and less likely to supply self-serving reasons for attendance. Yet, as shown in Figure 3, a larger proportion of BLM veterans list *see alters* as a motivation for attending a protest (12.5%) compared to 5.4% of first-timers (SD < 0.9). Veteran protesters appear to be drawn back, at least in part, by the connections they have made at earlier events or by the fact that friends were mobilized with them. Thus, BLM veterans are more likely than first-timers to report fun or a desire to leave the house as motivations as well.

Second, to the extent that organizations influence turnout, they appear far more likely to remobilize veteran protesters than to reach new protesters. Pooling respondents who cited being a *member of an organization* or *organizer reached out*, we find that 27.5% of veteran BLM protesters were motivated by organizational factors compared to 13.5% of first-timers (SD < 1.2). Thus, BLM veterans are likely to be connected to other protesters through these organizations. Third, BLM veterans were also far more likely to be influenced by *social media posts*, suggesting that they are friends and followers of other veteran protesters on social media. First-time protesters, in contrast, are more likely than veterans to say they were motivated by *conscience*, *news*, or *harm to alter*. While veteran protesters may still find these factors motivating, they are less likely to find them novel. Thus, fresh information related to the cause itself appears more influential at mobilizing new protesters, while existing network ties to other veterans are more likely to motivate veterans via social media, organizations, and the opportunity to reconnect with friends at protests.[9]

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[9]It may not be entirely possible to separate news from social media posts as many people increasingly get their news through social media. Even those who get news directly from newspapers, TV, and radio may rely on social media for particular types of news, such as news about protests. Nevertheless, the distinction here is still worth considering, given that many respondents checked one item and not the other. The same online article or headline may carry more weight if it comes with an alter's endorsement than if the respondent finds it on their own.
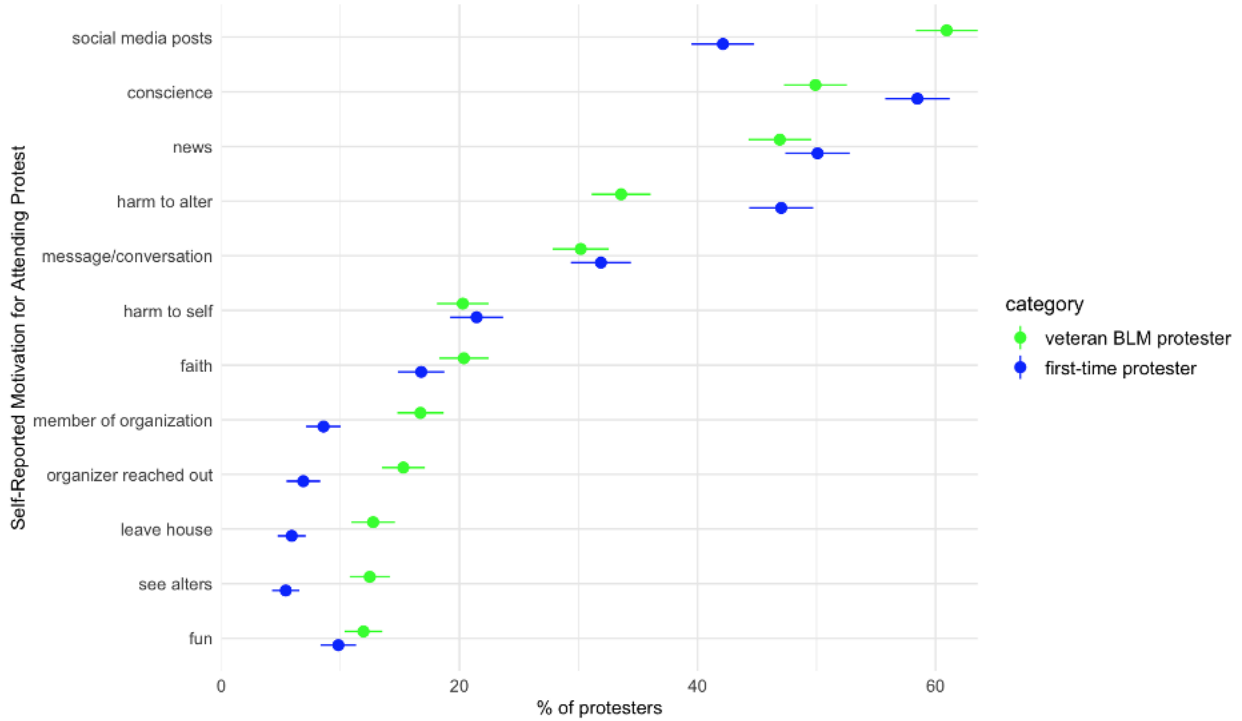
Figure 3: Motivations for attending a protest, color coded by BLM veterans and first-timers. Bars represent 95% confidence intervals.

Although first-time and veteran protesters are equally likely to be personally recruited by a *message/conversation*, they tend to have different relationships with their recruiters. While neither is especially likely to be recruited by weak tie alters or strangers, BLM veterans were far more likely to be recruited by someone within their household, while first-timers were more likely to be recruited through a strong non-household tie (see Figure 4, left panel). We see a similar pattern in the right panel when we consider who people attended with (this question includes all protesters and not just those who were directly recruited). While veterans and first-timers were equally likely to attend alone or with a weak tie, veterans were more likely to attend with a household member, while first-timers were more likely to attend with a non-household strong tie.

Together, these findings are consistent with the recruitment model first laid out in the theory section. Members of households where no one has protested are likely to be initially recruited by non-household members. Protest within households is correlated, so if you have not protested before, chances are that no one in your household has either and they are unlikely to persuade you to attend. Other household members may join you, but you are more likely to attend with someone out of the household (perhaps even your recruiter). Once people have joined the movement, however, they are more likely to remain in the movement if other members of their household are also involved. Therefore, veteran protesters are slightly more likely

Figure 4: Strength and type of ties between protesters and their recruiters, if any (left panel), and the people they attended with, if any (right panel). Bars represent 95% confidence intervals.

to be recruited by household members than strong non-household alters, since they spend more time around them and since their decision to attend may lower logistical barriers for the rest of the household (e.g., carpooling). We, therefore, are more likely to see veteran protesters attending alongside other members of their household.

Other survey questions lend credence to this model. Turning to the complete data set of all respondents, we find heavy clustering of protesters within households. On average, 23.6% of protesters said that another member of their household has also attended a protest compared with 2.0% of non-protesters ($p < 0.001$).[10] Although protesters reported larger households than non-protesters (3.5 occupants versus 3.1), this gap is not nearly enough to account for the aforementioned tenfold difference.

When we asked protesters to describe who had the biggest influence on their decision to attend (see Figure 5), those who had someone in mind were more likely to say this *prime influencer* lived nearby and was a relative (under age 30) if they were a BLM veteran. They were also more likely to be influenced by other BLM veterans, self-described activists, and through social media. Thus, veteran protesters appear more likely than first-timers to be embedded in networks of other BLM veterans. This correspondence could

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[10]Unlike in the previous question, respondents and household members did not have to attend together, so long as they both attended in the past month. This question is also likely to be an undercount, since respondents who checked off "I protested" may have skipped to the next question without reading down the list of options and indicating that a household member had protested. This would explain why the rate of household member attendance is higher when respondents are explicitly asked "who attended with you?"
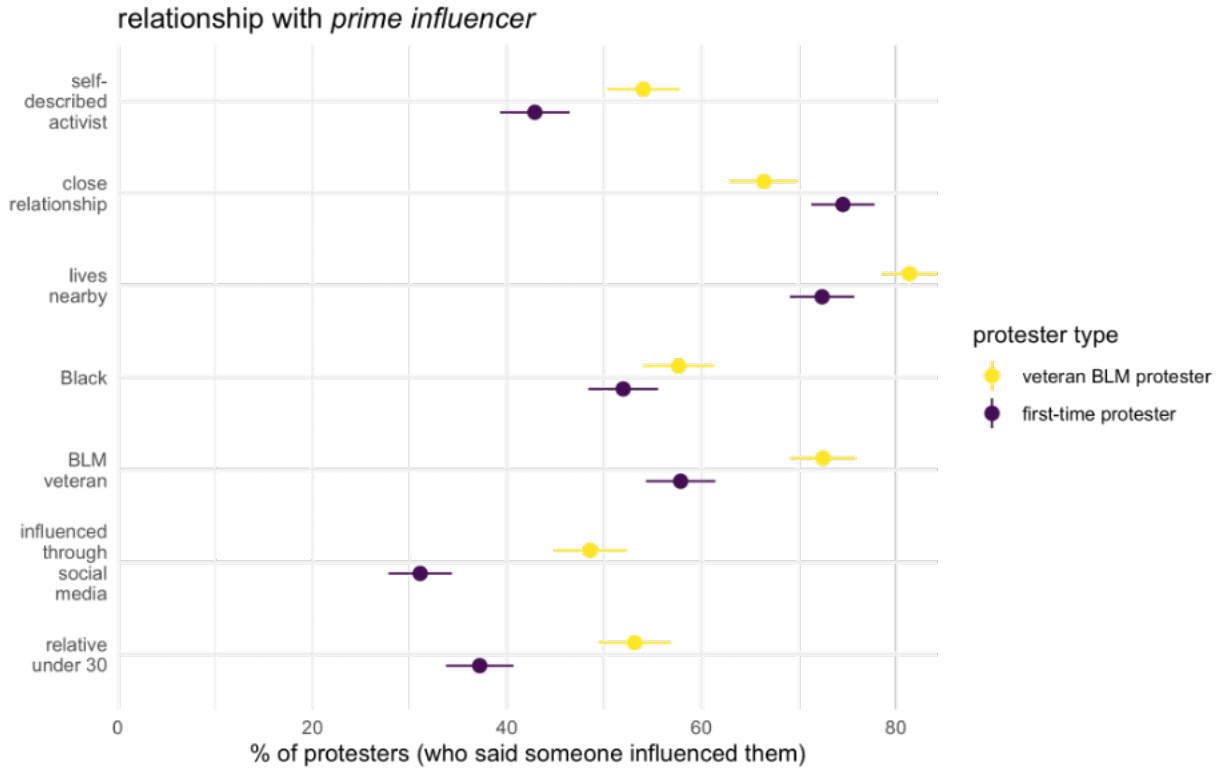
Figure 5: Respondents report on the attributes of the *prime influencer* who was most influential in getting them to attend. Bars represent 95% confidence intervals.

be due to the formation of new ties with veteran protesters (perhaps by attending a protest or joining an organization) or through the attrition of those whose friends and family members don't get involved and thus are unlikely to encourage their continued participation. Finally, while strong ties were important for first-timers and BLM veterans alike, they were particularly important for bringing new protesters into the movement. If new protesters need to be persuaded to give protest a try, then perhaps a strong ties alter whom they trust or are particularly fond of has a better chance of convincing them; veteran protesters, on the other hand, may only require a small nudge to be remobilized, one that does not require a close bond with the nudger. First-timers are more likely to be mobilized by personal narratives of injustice and strong inter-household ties. Veterans are more likely to be remobilized through social media, intra-household ties, and connections to other BLM veterans.

Thus, we find ample confirmation for Hypothesis 2: veterans tend to be recruited though deeply embedded ties; first-timers, via bridges. We now turn to examining what role Black people had in non-Black turnout.

5.4 Cross-Cleavage Capital: Mobilizing Allies

Overall, we find that a majority of protesters were White, a finding confirmed by other surveys (Barroso and Minkin 2020; Fisher 2020; Mobilewalla 2020). We estimate that 52.2% of protesters were White, 22.2% were Black, 17.1% were Hispanic, 5.5% were Asian American, with the rest identifying with other races or opting not to identify with just one race (SE < 0.9). Although non-Black adults protested at about half the rate as Black adults (3.7% versus 7.7%), this turnout is nonetheless impressive, given that it was largely on behalf of another group (SE < 0.3). What role did Black adults play in mobilizing millions of non-Black protesters?

Over a third of non-Black protesters (38.5%) list "someone I knew was a victim of racism and/or police violence" (*harm to alter*) as one of their motivations for protesting. Although we cannot be sure these victims were Black, we find a high correlation between one's *prime influencer* being Black and reporting *harm to alter* as a motivation (see Appendix Table 7). Also, the percentage of Black protesters listing this motivation, 44.3%, is higher, as we would expect due to racial homophily (SD < 1.9). Thus, for roughly a third of non-Black protesters, the motivation to protest came, in part, from their relationship with a victim who was likely to be Black. To understand what type of ties and mechanisms were at play here, we ran a logistic regression to predict the likelihood of a protester listing the *harm to alter* motivation.

Appendix Table 8 presents the same model on four samples: all protesters, Black protesters, White protesters, and protesters of all other races (combined due to sample size). Despite the widespread presumption in the literature that cross-cleavage ties are likely to be weak, our regression results suggest that being motivated by *harm to alter* is correlated with having more strong ties (as measured by the *care network*) but not more weak ties (as measured by the *job-seeking network*). None of the models show a positive association with personal recruitment (as measured by *message/conversation*) or exposure (as measured by *social media posts*), so we cannot conclude that the *harm to alter* motivation is associated with a particular mechanism. Most likely, people learn about their alters' experience of racism and police violence through both private conversations and posts on social media. While a personal revelation about victimization told one-on-one to a close friend may be more impactful than a terse public announcement on social media, the former is likely to be more rare, which perhaps explains why neither mechanism seems to have a bigger overall impact than the other.

One might expect people living in an overwhelmingly Black neighborhood to be more likely to know people who have been harmed by racism or police violence. Not only are there more potential victims nearby, but heavily Black neighborhoods are more likely to experience a heavy police presence, even after controlling for other demographic factors (see, e.g., Gibson and Nelson 2018; Peffley, Hutchison and Shamir

2015; Soss and Weaver 2017). Yet, contrary to our expectations, the *ZIP % Black* coefficient is significant and negative for Black protesters. There is no such relationship, however, for non-Black protesters. One possible explanation is that Black people living in areas with few people who look like them actually encounter more incidents of racism at the hands of non-Blacks in their schools, workplaces, and community.

We find further influence of Black people on their non-Black alters when we examine who protesters say had the biggest impact on their decision to attend. As expected, Black protesters were far more likely than protesters of other races to say this *prime influencer* was Black (80.5%). This is to be expected given that Americans' social networks exhibit a high degree of racial homophily (Marsden 1988; Smith, McPherson and Smith-Lovin 2014), so Black people are likely to have a far higher proportion of Black alters to begin with. However, the proportion of non-Black protesters whose prime influence (if they named one) was Black is still substantial: 44.1% for White protesters, 50.8% for Hispanic protesters, 44.9% for Asian American protesters, and 54.1% for those reporting mixed race or other. Black *prime influencer*s were just as likely to have a strong tie to the respondent as non-Black *prime influencers*. This finding is all the more remarkable given that homophily is even more pronounced among strong ties (McPherson, Smith-Lovin and Cook 2001). Thus, as predicted by Hypothesis 3, Black protesters appear to have had considerable influence across racial lines, in spite of the infrequency of strong cross-racial ties.

Although the participation rate for Whites was roughly half that of Blacks, the fact that millions of Whites participated in protests that focused, in part, on anti-Black racism, is nonetheless remarkable. To what extent can we attribute historically high non-Black turnout to cross-racial recruitment? To investigate this question, we ran a weighted logistic regression on the full dataset of 103,863 respondents to predict the probability of a respondent attending a BLM protest. To measure the effect of community-level cross-cleavage capital, we interacted race with *ZIP % Black*. Hypothesis 3 predicts that non-Black individuals living among more Black neighbors will be more likely to protest. As usual, we controlled for any variables that could be reasonably exogenous to the protests themselves including basic demographics, location, party, and COVID-related hardships. Since location has a substantial influence on the availability of protests to attend, Model 1 includes fixed effects for eight regions while Model 2 includes fixed effects for the 50 states and the District of Columbia. As shown in Appendix Table 9, the interaction terms between respondent race being White (compared to Black) and the *ZIP % Black* variable are positive and significant in both models. Interaction terms for other races are not significant.

Based on Model 1, Figure 6 shows the predicted probability of attending a BLM protest for Black respondents (left panel) and White respondents (right panel) as the percentage of Black residents in their ZIP Code increases. While the racial composition of ZIP Code has only a negligible effect for Black respondents, the effects for White respondents are dramatic. White respondents living in a neighborhood that is, aside
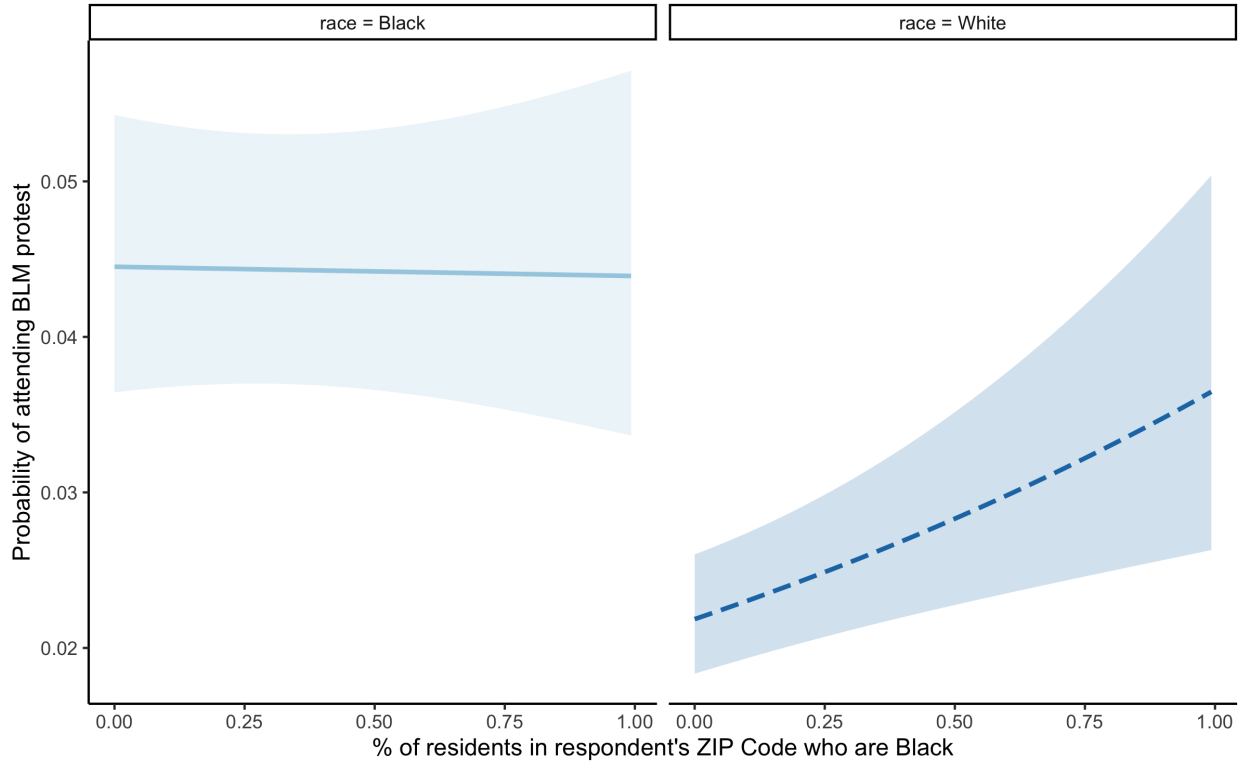
Figure 6: Predicted probability of attending a BLM protest for Black and White respondents, conditional on the percentage of their ZIP Code that is Black. All other variables held to their median values. Bands show 95% confidence intervals with HC3 robust standard errors.

from them, entirely Black, are 67% more likely to protest than those with no Black neighbors. Thus, as predicted by Hypothesis 3, communities with higher cross-cleavage capital (as measured by the diversity of their residents) give rise to high levels of non-Black protest.

6   Conclusion

Despite decades of research on how tie strength affects political mobilization, the debate about the relative utility of "strong" and "weak" ties continues to turn up contradictory findings. In this article, we have attempted to lend clarity to this debate by differentiating three concepts that are frequently conflated in the protest literature—emotionally weak ties, bridging ties, and cross-cleavage ties—and demonstrate that each has a distinct relationship to protest mobilization. While strong ties were frequently used to mobilize individuals through personal recruitment, most protesters were not personally recruited. Instead, roughly half were mobilized through exposure to *social media posts* from people they knew—people who, on average, were far more likely to be connected to them by emotionally weak ties than strong ones. Similarly, while ties that were deeply embedded in communities of protesters (including social movement organizations)

were highly effective at mobilizing BLM veterans, they cannot account for the vast expansion of protest participation in 2020. First-time protesters, and those new to BLM in particular, were far more likely to be recruited by a bridging tie to someone in a different community. These new protesters were less likely to be recruited by social movement organizations, self-described activists, or members of their own household than were BLM veterans. This finding is consistent with a model where those who have not previously attended a protest are unlikely to have protesters in their household or close-knit circles of friends because members of households and friend groups tend to get mobilized simultaneously.

Finally, we find substantial evidence that cross-cleavage capital—both on the community and individual level—helped drive non-Black turnout to record heights. Despite the fact that cross-cleavage social ties are both weaker and rarer in the U.S. than ties within a racial group, and that only 1 in 8 American adults identifies as Black, nearly half of non-Black protesters who said someone encouraged their attendance said that person was Black. Black people also influenced their White neighbors and friends not merely through their personal recruitment but by sharing publicly their personal accounts of harm done to them by racism and police violence. Thus, Black Americans exercised considerable agency, drawing on their cross-cleavage capital to mobilize their non-Black contacts. Non-Black people were more likely to protest if they lived in proximity to more Black people, suggesting that diverse communities foster mutual assistance across racial lines. Intergroup contact, in addition to reducing prejudice, may, in fact, lead to political action on behalf of the oppressed outgroup.

Given the decentralized nature of the BLM protests, and the lack of organizational influence on most participants, our findings may be applicable to other so-called "leaderless movements," including those in authoritarian states. In the absence of formal organizations, instigators of protests, strikes, and rebellions may still be able to mobilize millions of their fellow citizens through their weak, bridging, and cross-cleavage ties. This is particularly important for marginalized groups seeking to rally allies to their cause. Residential integration may provide a bedrock of cross-cleavage capital an oppressed minority can draw on, but it will likely be even more effective in the presence of strong cross-cleavage ties, personal recruitment, and weak ties through which majority group members can be exposed to the injustices they face. The importance of social media for utilizing these weak ties, however, may make such movements vulnerable to government-imposed internet blackouts. As demonstrated by King, Pan and Roberts (2013), some authoritarian regimes see the ability of social media to mobilize the discontented as a far greater threat than its capacity to spread discontent, and hence may selectively censor content relating to protest logistics.

That said, organizations may still have played an important role in creating the unseen infrastructure that protesters mobilized by family and friends remain unaware of. While our approach here has been egocentric, focused on the personal networks of individual respondents, whole network approaches that ask

"who influenced the influencers" might find organizers and leaders at the origin of these webs of influence. In a sense, our study has focused on "last mile mobilization," rather than the people who organized and initially publicized individual marches, vigils, and rallies. Future research should endeavor to connect this last mile mobilization to its source. While it may be tempting to trace these lineages using Twitter data alone by asking respondents what organizations they were members of, this study should serve as a caution to such approaches. A mobilizer who receives their marching orders from an organization leader may recruit their best friend face-to-face, who then posts a picture on Instagram, which inspires a distant cross-cleavage acquaintance, and so forth. Only by studying multiple mobilization mechanisms together, ideally through a mixed methods approach, can we begin to understand how a society-wide social network shapes protests.

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A   The Role of Organizations

As discussed in Section 5.1, most protesters did not cite formal organizations as being involved in their recruitment process. While some respondents may have either forgotten having been contacted by an organizer or didn't consider it motivating, these organizations clearly did not leave a significant imprint in the minds of the vast majority of protesters and hence are unlikely to have played a major role in their attendance. The protesters that the organizations did reach tended to be of higher socioeconomic status as shown in Figure 7.
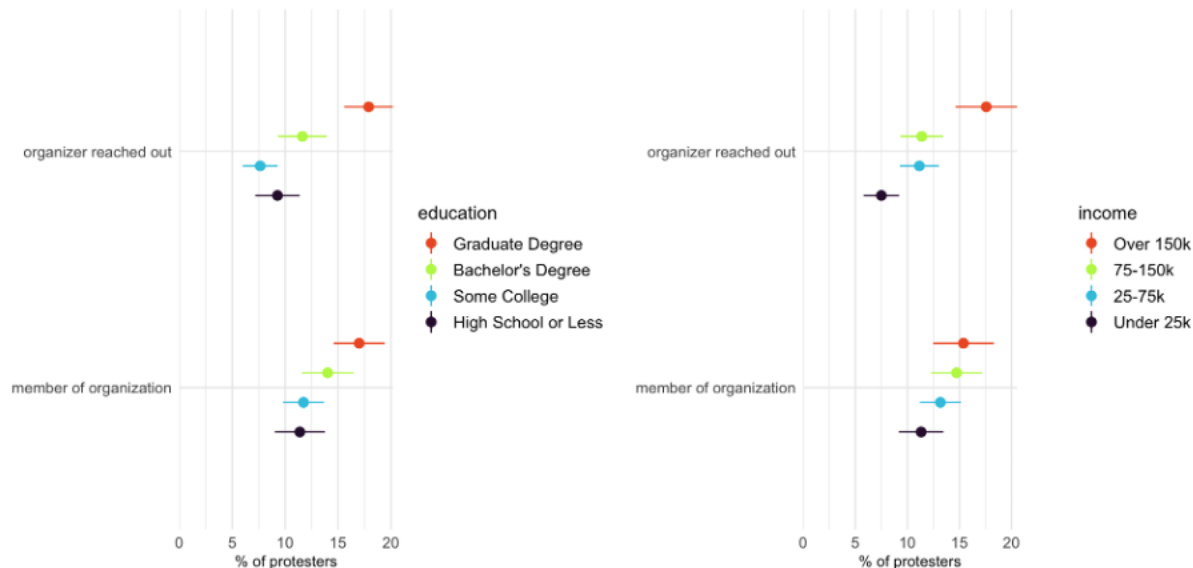
Figure 7: The relationship between socioeconomic status and organization-based mobilization. Estimates represent the percentage of protesters who cited a given motivation. Error bars represent 95% confidence intervals.

B Protester Recruitment

Tables 2–4 examine the factors that predict whether a protester will attempt to recruit other protesters. Table 3 looks at whether these attempts were successful. See section 5.2 for discussion.

In all these tables, strong ties—and not weak ties—are consistently associated with recruitment.

C Association between Respondents and Core Network Alters Attending Protests

Table 5 tests four models that predict whether a respondent attended a BLM protest based on the protest behavior of their *core alters*. Each observation represents an alter-respondent dyad, with standard errors clustered on the respondent. Model 1 accounts for communication and respondent demographics. Model 2 adds political- and COVID-19-related variables. Model 3 adds relationship type and alter's COVID-19 status. Model 4 interacts these relationship/alter characteristics with the alter's protest behavior.

Models 1-3 are discussed in Section 5.2. Model 4, which interacts *alter protested* with other traits, provides further evidence for Hypothesis 1. Note that the *alter protested times classmate* interaction term cancels out the *alter protested* term, suggesting that classmates who protested had no effect on a respondent deciding to protest. If the alter and respondent are classmates, there is a good chance that the frequency of their communication dropped after the pandemic began due to classes going online (or due to the end

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Dependent Variable:	recruitment attempt		
Model:	(1)	(2)	(3)
Variables			
job-seeking network size	0.02 (0.02)	0.00 (0.03)	-0.03 (0.04)
care network size	0.07*** (0.02)	0.10*** (0.03)	0.08* (0.04)
female	0.17** (0.08)	0.15 (0.13)	0.06 (0.15)
White (vs. Black)	-0.03 (0.14)	-0.01 (0.23)	-0.09 (0.29)
Hispanic (vs. Black)	-0.11 (0.20)	-0.11 (0.25)	-0.32 (0.42)
Asian American (vs. Black)	-0.09 (0.27)	-0.19 (0.34)	0.18 (0.42)
other race (vs. Black)	-0.25 (0.23)	-0.39 (0.31)	-0.12 (0.48)
Suburban	0.15 (0.16)	0.27 (0.28)	0.43* (0.23)
Urban	0.16 (0.18)	0.33 (0.32)	0.47 (0.31)
ZIP % Black	-0.07 (0.23)	-0.24 (0.34)	0.33 (0.54)
age	-0.01** (0.00)	-0.01** (0.01)	-0.01 (0.01)
some college (vs. no college)	-0.01 (0.13)	0.02 (0.21)	0.11 (0.22)
bachelor's degree (vs. no college)	-0.00 (0.11)	-0.10 (0.19)	0.05 (0.21)
graduate degree (vs. no college)	0.32** (0.13)	0.26 (0.20)	0.30 (0.25)
income 25-75k/year	-0.23* (0.12)	-0.20 (0.19)	-0.01 (0.21)
income 75-150k/year	-0.06 (0.13)	0.03 (0.21)	-0.06 (0.24)
income over 150k/year	-0.09 (0.14)	0.20 (0.22)	-0.05 (0.28)
Facebook user	-0.43*** (0.14)	-0.61*** (0.20)	-0.12 (0.23)
Twitter user	0.12 (0.14)	0.18 (0.22)	0.17 (0.25)
Instagram user	0.10 (0.15)	0.27 (0.23)	-0.14 (0.26)
TikTok user	0.43*** (0.10)	0.23 (0.17)	0.42* (0.23)
Republican (vs. Democrat)	-0.28** (0.13)	-0.33 (0.20)	-0.55* (0.28)
Independent (vs. Democrat)	-0.15 (0.11)	-0.27* (0.15)	-0.39* (0.21)
other party (vs. Democrat)	-0.26 (0.24)	-0.06 (0.35)	-0.18 (0.39)
ideological extremity	0.20*** (0.03)	0.16*** (0.06)	0.18** (0.07)
parent	-0.03 (0.12)	-0.08 (0.15)	-0.02 (0.18)
married/partnered	0.06 (0.10)	0.09 (0.14)	0.05 (0.20)
pandemic hardships	0.12*** (0.03)	0.09 (0.06)	0.09 (0.07)
housemate had COVID-19	0.09 (0.07)	0.12 (0.09)	-0.08 (0.11)
COVID-19	0.72*** (0.15)	0.65*** (0.21)	0.68** (0.33)
work outside home	0.03 (0.10)	-0.04 (0.16)	-0.02 (0.19)
message/conversation	0.20** (0.09)		
prime influencer: close		0.34** (0.14)	
recruiter: household tie			0.36** (0.17)
recruiter: strong non-household tie			0.46*** (0.14)
Fixed-effects			
state	Yes	Yes	Yes
Fit statistics			
Observations	4,574	2,445	1,456
Squared Correlation	0.08042	0.08678	0.08009

Clustered (state) standard errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table 2: Logistic regressions predicting attempted recruitment including various measures of whether the respondent was themselves recruited and by whom.

| Dependent Variable: | recruitment impact | | |
Model:	(1)	(2)	(3)
Variables			
job-seeking network size	0.03 (0.02)	0.04* (0.02)	0.05** (0.02)
care network size	0.05** (0.02)	0.05** (0.02)	0.05** (0.02)
female	0.30** (0.11)	0.27*** (0.09)	0.30*** (0.10)
White (vs. Black)	-0.22 (0.16)	-0.23* (0.12)	-0.27* (0.15)
Hispanic (vs. Black)	-0.28 (0.16)	-0.25 (0.19)	-0.31 (0.24)
Asian American (vs. Black)	-0.40 (0.31)	-0.35 (0.27)	-0.46 (0.30)
other race (vs. Black)	-0.18 (0.18)	-0.22 (0.23)	-0.18 (0.24)
Suburban	-0.03 (0.09)	0.01 (0.16)	
Urban	-0.11 (0.10)	0.01 (0.18)	
ZIP % Black	0.04 (0.28)	-0.05 (0.25)	-0.15 (0.35)
age	-0.01* (0.00)	-0.01* (0.00)	-0.01 (0.01)
some college (vs. no college)	0.04 (0.13)	0.04 (0.12)	0.10 (0.16)
bachelor's degree (vs. no college)	0.11 (0.14)	0.09 (0.11)	0.07 (0.18)
graduate degree (vs. no college)	0.49*** (0.13)	0.49*** (0.14)	0.53** (0.20)
income 25-75k/year	-0.26*** (0.07)	-0.28** (0.13)	-0.21 (0.15)
income 75-150k/year	-0.13 (0.15)	-0.14 (0.12)	-0.10 (0.16)
income over 150k/year	-0.13 (0.16)	-0.13 (0.18)	-0.05 (0.20)
Facebook user	-0.49* (0.21)	-0.53*** (0.14)	-0.51*** (0.15)
Twitter user	0.04 (0.15)	0.05 (0.13)	-0.03 (0.16)
Instagram user	0.24 (0.18)	0.26* (0.14)	0.25 (0.16)
TikTok user	0.45*** (0.10)	0.44*** (0.11)	0.56*** (0.15)
Republican (vs. Democrat)	-0.09 (0.12)	-0.13 (0.13)	-0.16 (0.15)
Independent (vs. Democrat)	-0.21** (0.08)	-0.24** (0.11)	-0.29** (0.14)
other party (vs. Democrat)	-0.32 (0.30)	-0.31 (0.20)	-0.28 (0.22)
ideological extremity	0.22*** (0.03)	0.22*** (0.04)	0.23*** (0.05)
parent	-0.06 (0.09)	-0.02 (0.11)	-0.03 (0.12)
married/partnered	0.13 (0.13)	0.12 (0.10)	0.07 (0.13)
pandemic hardships	0.13** (0.05)	0.13*** (0.04)	0.18*** (0.04)
housemate had COVID-19	0.03 (0.03)	0.03 (0.06)	-0.04 (0.07)
COVID-19	0.79*** (0.04)	0.83*** (0.16)	1.07*** (0.17)
work outside home	-0.03 (0.04)	-0.04 (0.08)	-0.04 (0.11)
Fixed-effects			
region	Yes		
state		Yes	
county			Yes
Fit statistics			
standard errors	region	state	county
Observations	4,439	4,439	3,725
Squared Correlation	0.08283	0.08950	0.12436

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table 3: Logistic regressions predicting whether a respondent reports *successfully* recruiting others.

Dependent Variable:	recruitment attempt		
Model:	(1)	(2)	(3)
job-seeking network size	0.02 (0.02)	0.02 (0.02)	0.03 (0.02)
care network size	0.07** (0.02)	0.07*** (0.02)	0.07*** (0.02)
female	0.20** (0.08)	0.18** (0.08)	0.20* (0.11)
White (vs. Black)	0.00 (0.12)	-0.02 (0.14)	0.00 (0.16)
Hispanic (vs. Black)	-0.14 (0.13)	-0.11 (0.20)	-0.17 (0.24)
Asian American (vs. Black)	-0.12 (0.31)	-0.08 (0.27)	-0.02 (0.30)
other race (vs. Black)	-0.22 (0.17)	-0.26 (0.23)	-0.28 (0.24)
Suburban	0.10 (0.09)	0.14 (0.16)	
Urban	0.04 (0.13)	0.16 (0.18)	
ZIP % Black	0.03 (0.24)	-0.06 (0.23)	-0.31 (0.32)
age	-0.01*** (0.00)	-0.01** (0.00)	-0.01* (0.01)
some college (vs. no college)	0.00 (0.08)	-0.00 (0.13)	0.06 (0.16)
bachelor's degree (vs. no college)	0.02 (0.12)	0.01 (0.11)	-0.05 (0.18)
graduate degree (vs. no college)	0.30*** (0.07)	0.32** (0.13)	0.26 (0.21)
income 25-75k/year	-0.20** (0.06)	-0.23* (0.12)	-0.16 (0.15)
income 75-150k/year	-0.05 (0.13)	-0.06 (0.13)	-0.07 (0.15)
income over 150k/year	-0.06 (0.14)	-0.08 (0.14)	-0.05 (0.18)
Facebook user	-0.41* (0.21)	-0.44*** (0.14)	-0.40** (0.16)
Twitter user	0.11 (0.12)	0.12 (0.14)	0.03 (0.16)
Instagram user	0.09 (0.18)	0.11 (0.15)	0.08 (0.17)
TikTok user	0.46*** (0.06)	0.44*** (0.10)	0.52*** (0.15)
Republican (vs. Democrat)	-0.26*** (0.07)	-0.28** (0.13)	-0.26* (0.14)
Independent (vs. Democrat)	-0.12 (0.08)	-0.16 (0.10)	-0.22 (0.14)
other party (vs. Democrat)	-0.27 (0.25)	-0.26 (0.24)	-0.26 (0.25)
ideological extremity	0.20*** (0.04)	0.20*** (0.03)	0.21*** (0.05)
parent	-0.06 (0.11)	-0.03 (0.12)	-0.08 (0.12)
married/partnered	0.07 (0.12)	0.05 (0.10)	0.03 (0.14)
pandemic hardships	0.13*** (0.03)	0.13*** (0.03)	0.18*** (0.05)
housemate had COVID-19	0.09* (0.05)	0.09 (0.07)	0.06 (0.08)
COVID-19	0.70*** (0.06)	0.73*** (0.15)	0.96*** (0.17)
work outside home	0.04 (0.08)	0.03 (0.10)	-0.01 (0.12)
Fixed-effects			
region	Yes		
state		Yes	
county			Yes
Fit statistics			
standard errors	region	state	county
Observations	4,574	4,574	3,799

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table 4: Logistic regressions predicting whether a protester recruits someone else with varying levels of fixed effects.

| Dependent Variable: | | Attended BLM protest | | |
Model:	(1)	(2)	(3)	(4)
Variables				
alter protested	**2.23***** (0.17)	**1.89***** (0.18)	**1.74***** (0.20)	**1.45***** (0.46)
alter protested × spoke rarely	**-1.41**** (0.57)	**-1.16**** (0.54)	**-1.17**** (0.59)	**-1.41**** (0.71)
alter protested × spoke weekly	-0.00 (0.22)	0.10 (0.23)	0.26 (0.24)	0.14 (0.24)
alter protested × alter is a relative				0.78* (0.42)
alter protested × alter is a friend				0.43 (0.39)
alter protested × alter is a neighbor				0.85* (0.47)
alter protested × alter is a coworker				0.62 (0.48)
alter protested × alter is a classmate				**-1.58***** (0.60)
alter protested × alter had COVID-19				**-1.55***** (0.40)
spoke weekly	0.01 (0.22)	0.03 (0.24)	0.01 (0.24)	0.03 (0.25)
spoke daily	-0.14 (0.23)	-0.18 (0.24)	-0.21 (0.25)	-0.22 (0.25)
any communication in past week	0.37* (0.22)	0.46** (0.22)	0.43* (0.22)	0.47** (0.23)
female	-0.10 (0.13)	-0.06 (0.14)	-0.06 (0.14)	-0.07 (0.14)
White (vs. Black)	-0.17 (0.20)	-0.18 (0.21)	-0.19 (0.21)	-0.17 (0.21)
Hispanic (vs. Black)	-0.11 (0.26)	-0.29 (0.28)	-0.31 (0.29)	-0.28 (0.28)
Asian American (vs. Black)	-0.72** (0.29)	-0.69** (0.29)	-0.74** (0.30)	-0.70** (0.30)
other race (vs. Black)	-0.49 (0.35)	-0.49 (0.35)	-0.43 (0.35)	-0.36 (0.36)
Suburban	0.28 (0.21)	0.17 (0.22)	0.18 (0.22)	0.17 (0.22)
Urban	0.47** (0.24)	0.32 (0.24)	0.31 (0.24)	0.30 (0.24)
ZIP % Black	0.61 (0.38)	0.45 (0.41)	0.44 (0.42)	0.47 (0.42)
age	-0.05*** (0.01)	-0.04*** (0.01)	-0.04*** (0.01)	-0.04*** (0.01)
some college (vs. no college)	0.39* (0.21)	0.30 (0.22)	0.28 (0.22)	0.27 (0.22)
bachelor's degree (vs. no college)	0.79*** (0.22)	0.68*** (0.23)	0.71*** (0.24)	0.69*** (0.24)
graduate degree (vs. no college)	0.97*** (0.25)	0.80*** (0.26)	0.77*** (0.27)	0.73*** (0.26)
income 25-75k/year	-0.16 (0.17)	-0.16 (0.19)	-0.21 (0.19)	-0.21 (0.19)
income 75-150k/year	-0.19 (0.21)	-0.13 (0.22)	-0.18 (0.22)	-0.18 (0.22)
income over 150k/year	0.08 (0.23)	0.14 (0.24)	0.09 (0.25)	0.07 (0.24)
pandemic hardships		0.19*** (0.06)	0.18*** (0.06)	0.18*** (0.06)
COVID-19 household		0.75*** (0.23)	0.52** (0.25)	0.60** (0.24)
work outside home		0.52*** (0.14)	0.54*** (0.14)	0.54*** (0.14)
parent		0.01 (0.15)	0.02 (0.15)	0.03 (0.15)
married/partnered		-0.16 (0.18)	-0.14 (0.18)	-0.12 (0.18)
Republican (vs. Democrat)		-0.60*** (0.21)	-0.63*** (0.21)	-0.61*** (0.20)
Independent (vs. Democrat)		0.01 (0.17)	0.01 (0.18)	-0.00 (0.18)
other party (vs. Democrat)		0.17 (0.26)	0.18 (0.27)	0.15 (0.28)
ideological extremity		0.42*** (0.07)	0.42*** (0.07)	0.42*** (0.07)
alter is a relative			0.00 (0.20)	-0.13 (0.22)
alter is a friend			0.16 (0.18)	0.10 (0.21)
alter is a neighbor			0.28 (0.20)	0.10 (0.23)
alter is a coworker			-0.03 (0.23)	-0.17 (0.27)
alter is a classmate			**0.26** (0.36)	**0.67**** (0.33)
alter had COVID-19			**0.71***** (0.24)	**1.34***** (0.23)
region fixed effects	Yes	Yes	Yes	Yes
Fit statistics				
Observations	25,673	24,930	24,325	24,325
Pseudo R^2	0.30901	0.25661	0.26058	0.26715
BIC	7,261.6	6,896.4	6,688.2	6,693.3

Clustered (respondent) standard errors in parentheses
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 5: Coefficient estimates for the likelihood of a respondent protesting based on their characteristics and those of their *core network alters* (based on logistic regressions).

of the school year). Even if a pair of classmates spoke weekly or spoke daily before the pandemic, this communication link was less likely to be operative at the time of the protests. The classmate and respondent's relationship on social media would not have changed, so the exposure mechanism would not be disrupted, but without direct communication, the personal recruitment mechanism would be. Thus, our finding that core network alters (strong ties) have no effect on protest if they are students is consistent with our hypothesis that strong ties drive turnout through personal recruitment. One can draw a similar inference from the *alter protested times alter had COVID-19* interaction. A sick alter, even a close one, is less likely to be communicating with the respondent, particularly face-to-face. Note that for alters who did not protest, *alter had COVID-19* has a positive effect of a similar magnitude, so the net effect of an alter who both had COVID-19 and attended a protest is close to zero. Thus, another interpretation is that if the *alter had COVID-19* and still went to a protest, their illness was not very severe and thus didn't exacerbate the respondent's grievances.

D Association between Tie Strength and Exposure

As referenced in Section 5.2 Table 6 shows the factors associated with a respondent citing *social media posts* as a motivation for protesting. Model 1 includes all protesters, Model 2 includes first-time BLM protesters, and Model 3 includes BLM veterans. *Job-seeking network* ties are weak compared to *care network ties* while Twitter ties are weak compared to Facebook ties. While none of these variables are significant in the full sample, the weak tie indicators are significant in the model restricted to BLM veterans. This finding not only offers support for Hypothesis 1 (weak ties are associated with the exposure mechanism) but is also relevant to Hypothesis 2 (BLM veterans more likely to be mobilized through embedded ties). BLM veterans may have formed more loose acquaintanceships with other protesters during past campaigns. They may also be following other protesters on Twitter. In both cases, weak ties prove effective in remobilizing them to protest.

E Association between Cross-Cleavage Ties and Protest Participation

Tables 7 and 8 show the factors associated with a protester saying they were motivated to protest due to someone they know being the victim of police violence or racism (*harm to alter*). Table 7 shows a strong relationship between the prime recruiter being Black and the respondent being motivated by *harm to alter*. Our results are robust under various levels of fixed effects. Note that this is a smaller sample than the

Dependent Variable:		social media posts	
protester type	Full sample	BLM first-timer	BLM veteran
Model:	(1)	(2)	(3)
job-seeking network size	**0.01** (0.02)	**-0.03** (0.02)	**0.04*** (0.02)
care network size	**0.01** (0.02)	**-0.01** (0.03)	**0.01** (0.02)
female	-0.10 (0.10)	-0.22* (0.13)	-0.00 (0.14)
White (vs. Black)	0.05 (0.13)	0.14 (0.20)	-0.04 (0.14)
Hispanic (vs. Black)	-0.15 (0.15)	0.00 (0.20)	-0.33** (0.17)
Asian American (vs. Black)	0.18 (0.20)	0.67** (0.32)	-0.13 (0.21)
other race (vs. Black)	-0.33 (0.20)	0.11 (0.33)	-0.61** (0.25)
Suburban	0.00 (0.15)	0.10 (0.23)	-0.09 (0.21)
Urban	-0.16 (0.15)	-0.37 (0.23)	-0.04 (0.22)
ZIP % Black	0.41** (0.21)	0.52 (0.36)	0.13 (0.26)
age	-0.02*** (0.00)	-0.01 (0.01)	-0.02*** (0.00)
some college (vs. no college)	-0.12 (0.13)	0.08 (0.28)	-0.26* (0.14)
bachelor's degree (vs. no college)	-0.29** (0.15)	-0.36 (0.24)	-0.30 (0.20)
graduate degree (vs. no college)	-0.05 (0.15)	0.19 (0.26)	-0.45** (0.19)
income 25-75k/year	0.09 (0.10)	0.16 (0.18)	0.03 (0.14)
income 75-150k/year	0.03 (0.13)	0.30* (0.18)	-0.18 (0.21)
income over 150k/year	0.44*** (0.15)	0.59*** (0.23)	0.33 (0.23)
Facebook user	**0.02** (0.13)	**0.17** (0.23)	**0.04** (0.19)
Twitter user	**0.22** (0.13)	**-0.02** (0.23)	**0.34**** (0.15)
Instagram user	-0.06 (0.15)	-0.13 (0.28)	-0.11 (0.18)
TikTok user	0.16 (0.10)	0.11 (0.17)	0.16 (0.14)
Republican (vs. Democrat)	0.42*** (0.14)	0.26 (0.18)	0.42** (0.19)
Independent (vs. Democrat)	-0.21** (0.10)	-0.29* (0.17)	-0.18 (0.12)
other party (vs. Democrat)	-0.19 (0.21)	-0.45 (0.31)	-0.12 (0.27)
ideological extremity	0.09* (0.05)	0.05 (0.08)	0.05 (0.05)
parent	0.11 (0.09)	0.01 (0.15)	0.10 (0.11)
married/partnered	0.08 (0.12)	0.41** (0.17)	-0.12 (0.15)
pandemic hardships	0.11*** (0.03)	0.08 (0.05)	0.13*** (0.04)
housemate had COVID-19	0.01 (0.05)	-0.03 (0.07)	-0.00 (0.08)
COVID-19	0.52*** (0.15)	0.32* (0.17)	0.46** (0.20)
work outside home	0.12 (0.08)	0.05 (0.14)	0.13 (0.11)
state fixed effects	Yes	Yes	Yes
Fit statistics			
Observations	4,374	1,811	2,563
Pseudo R^2	0.07494	0.08731	0.07565
BIC	6,292.4	2,789.8	3,867.1

Clustered (state) standard errors in parentheses
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 6: Logistic regressions predicting protester citing social media posts as a motivation for attending.

main specification; respondents in this subsample all had to provide information about a prime influencer, which may induce selection effects that alter other coefficient estimates. In Table 8, Model 1 includes all protesters; subsequent models split the sample by race. Table 9 shows the probability of any respondent joining a protest. Note the interaction between race and *Zip % Black*. The results are robust to different levels of fixed effects. See Section 5.4 for discussion.

Dependent Variable:		harm to alter	
Model:	(1)	(2)	(3)
job-seeking network size	0.07*** (0.01)	0.07*** (0.02)	0.10*** (0.03)
care network size	0.03 (0.02)	0.03 (0.02)	0.04 (0.03)
female	0.44*** (0.12)	0.42*** (0.12)	0.41*** (0.16)
White (vs. Black)	0.20 (0.23)	0.18 (0.17)	-0.08 (0.24)
Hispanic (vs. Black)	0.16 (0.14)	0.20 (0.25)	-0.16 (0.30)
Asian American (vs. Black)	-0.59*** (0.15)	-0.54** (0.24)	-1.02*** (0.30)
other race (vs. Black)	0.52 (0.36)	0.52* (0.31)	0.54 (0.41)
Suburban	0.33 (0.28)	0.41 (0.26)	
Urban	0.38 (0.29)	0.57* (0.32)	
ZIP % Black	-0.08 (0.31)	-0.26 (0.41)	-0.38 (0.55)
age	-0.01** (0.00)	-0.01* (0.00)	-0.01 (0.01)
some college (vs. no college)	0.22* (0.13)	0.20 (0.16)	0.12 (0.22)
bachelor's degree (vs. no college)	0.11 (0.27)	0.08 (0.20)	0.01 (0.23)
graduate degree (vs. no college)	-0.18 (0.21)	-0.25 (0.19)	-0.36 (0.24)
income 25-75k/year	0.11 (0.09)	0.10 (0.16)	0.11 (0.22)
income 75-150k/year	-0.28 (0.18)	-0.31* (0.18)	-0.20 (0.25)
income over 150k/year	-0.43*** (0.16)	-0.47** (0.21)	-0.46 (0.33)
Facebook user	-0.03 (0.14)	-0.02 (0.16)	-0.13 (0.23)
Twitter user	0.01 (0.13)	0.01 (0.18)	-0.01 (0.23)
Instagram user	0.14 (0.09)	0.13 (0.18)	0.20 (0.27)
TikTok user	0.11** (0.05)	0.12 (0.15)	0.01 (0.24)
Republican (vs. Democrat)	-1.06*** (0.17)	-1.11*** (0.22)	-1.20*** (0.30)
Independent (vs. Democrat)	0.36** (0.14)	0.32** (0.16)	0.34* (0.20)
other party (vs. Democrat)	0.62*** (0.19)	0.60** (0.30)	0.51 (0.38)
ideological extremity	0.07 (0.05)	0.09* (0.05)	0.20*** (0.08)
parent	-0.54*** (0.07)	-0.55*** (0.15)	-0.77*** (0.21)
married/partnered	0.08 (0.14)	0.07 (0.14)	0.09 (0.19)
pandemic hardships	0.23*** (0.08)	0.24*** (0.05)	0.31*** (0.07)
housemate had COVID-19	-0.29*** (0.08)	-0.29*** (0.11)	-0.19 (0.15)
COVID-19	-0.83*** (0.26)	-0.85*** (0.22)	-1.10*** (0.34)
work outside home	-0.19 (0.15)	-0.19 (0.13)	-0.50*** (0.18)
recruiter_black	0.87*** (0.12)	0.88*** (0.14)	1.15*** (0.18)
Fixed-effects			
region	Yes		
state		Yes	
county			Yes
Fit statistics			
standard errors	region	state	county
Observations	2,444	2,444	1,867
Pseudo R^2	0.21354	0.23075	0.29420
BIC	2,955.1	3,232.8	3,937.0

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table 7: Logistic regressions predicting harm to alter as a motivation with various levels of fixed effects.

Dependent Variable:		harm to alter		
race	Full sample	Black	White	Other
Model:	(1)	(2)	(3)	(4)
Variables				
job-seeking network size	**0.03** (0.02)	**0.02** (0.05)	**0.03*** (0.02)	**0.05** (0.05)
care network size	**0.08***** (0.02)	**0.11**** (0.05)	**0.06**** (0.02)	**0.09*** (0.05)
female	0.64*** (0.09)	0.85*** (0.25)	0.64*** (0.14)	0.73*** (0.24)
White (vs. Black)	0.51*** (0.14)			
other race (vs. Black)	0.05 (0.17)			
Suburban	0.07 (0.16)	0.77* (0.44)	0.04 (0.22)	-0.42 (0.36)
Urban	0.37** (0.19)	1.46*** (0.49)	0.30 (0.27)	-0.15 (0.37)
ZIP % Black	**-0.51** (0.33)	**-1.10***** (0.42)	**-0.58** (0.56)	**0.37** (1.32)
age	-0.00 (0.01)	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)
some college (vs. no college)	-0.08 (0.12)	-0.48** (0.21)	-0.21 (0.20)	0.26 (0.37)
bachelor's degree (vs. no college)	-0.11 (0.11)	-0.14 (0.31)	-0.17 (0.17)	-0.05 (0.30)
graduate degree (vs. no college)	-0.67*** (0.15)	-1.42*** (0.38)	-0.54*** (0.20)	-0.64 (0.40)
income 25-75k/year	-0.04 (0.14)	0.26 (0.27)	-0.07 (0.17)	-0.13 (0.33)
income 75-150k/year	-0.30** (0.15)	-0.04 (0.35)	-0.18 (0.18)	-0.97*** (0.34)
income over 150k/year	-0.59*** (0.17)	-0.07 (0.42)	-0.54** (0.23)	-0.86** (0.35)
Facebook user	-0.05 (0.13)	0.45* (0.27)	-0.30** (0.12)	0.03 (0.37)
Twitter user	-0.02 (0.13)	0.06 (0.27)	-0.00 (0.17)	-0.07 (0.28)
Instagram user	0.05 (0.15)	-0.01 (0.40)	0.23 (0.18)	-0.18 (0.40)
TikTok user	0.06 (0.12)	-0.30 (0.29)	0.14 (0.17)	0.43 (0.29)
Republican (vs. Democrat)	-1.20*** (0.17)	-0.77* (0.45)	-1.15*** (0.23)	-1.51*** (0.46)
Independent (vs. Democrat)	0.20 (0.13)	0.45** (0.23)	0.20 (0.15)	0.12 (0.27)
other party (vs. Democrat)	0.29 (0.19)	1.18** (0.52)	0.60** (0.25)	-0.75* (0.39)
ideological extremity	0.06 (0.04)	-0.08 (0.12)	0.06 (0.05)	0.07 (0.09)
parent	-0.43*** (0.13)	-0.23 (0.22)	-0.66*** (0.15)	-0.45* (0.27)
married/partnered	0.05 (0.11)	-0.17 (0.25)	0.01 (0.12)	0.19 (0.35)
pandemic hardships	0.22*** (0.03)	0.25*** (0.09)	0.27*** (0.05)	0.18** (0.08)
housemate had COVID-19	-0.22*** (0.08)	0.12 (0.20)	-0.27*** (0.09)	-0.37** (0.15)
COVID-19	-0.81*** (0.20)	-1.23* (0.64)	-0.73*** (0.17)	-0.78** (0.37)
work outside home	-0.03 (0.11)	0.28 (0.34)	-0.19* (0.11)	0.13 (0.24)
harm to self	2.25*** (0.11)	2.67*** (0.19)	2.16*** (0.20)	2.58*** (0.24)
message/conversation	**0.10** (0.08)	**0.10** (0.24)	**-0.01** (0.13)	**0.42*** (0.24)
social media posts	**-0.22**** (0.09)	**-0.47**** (0.19)	**-0.21*** (0.11)	**-0.08** (0.25)
Fixed-effects				
state	Yes	Yes	Yes	Yes
Fit statistics				
Observations	4,581	917	2,755	887
Squared Correlation	0.30101	0.36499	0.30053	0.30772
Pseudo R^2	0.29392	0.35136	0.28712	0.34454
BIC	5,126.8	1,406.1	2,899.2	1,538.1

Clustered (state) standard errors in parentheses
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 8: Logistic regressions predicting probability of listing harm to alter as a motivation for protest attendance.

| Dependent Variable: | BLM protester | |
Model:	(1)	(2)
White (vs. Black)	-0.73*** (0.08)	-0.77*** (0.09)
Hispanic (vs. Black)	-0.69*** (0.14)	-0.69*** (0.12)
Asian American (vs. Black)	-0.82*** (0.13)	-0.78*** (0.13)
other race (vs. Black)	-0.56*** (0.06)	-0.52*** (0.12)
ZIP % Black	-0.01 (0.10)	-0.06 (0.16)
female	-0.25*** (0.04)	-0.26*** (0.04)
Suburban	0.11 (0.08)	0.08 (0.07)
Urban	0.27*** (0.05)	0.31*** (0.08)
age	-0.04*** (0.00)	-0.04*** (0.00)
some college (vs. no college)	0.14* (0.07)	0.14** (0.06)
bachelor's degree (vs. no college)	0.42*** (0.04)	0.41*** (0.05)
graduate degree (vs. no college)	0.76*** (0.06)	0.76*** (0.07)
income 25-75k/year	-0.03 (0.03)	-0.03 (0.06)
income 75-150k/year	-0.09* (0.05)	-0.09 (0.06)
income over 150k/year	0.19** (0.08)	0.18** (0.08)
Facebook user	-0.34*** (0.06)	-0.36*** (0.07)
Twitter user	0.18** (0.08)	0.18*** (0.06)
Instagram user	0.22*** (0.04)	0.22*** (0.05)
TikTok user	0.23*** (0.04)	0.24*** (0.06)
Republican (vs. Democrat)	-0.70*** (0.08)	-0.70*** (0.08)
Independent (vs. Democrat)	-0.36*** (0.05)	-0.36*** (0.05)
other party (vs. Democrat)	-0.28** (0.12)	-0.27*** (0.09)
ideological extremity	0.36*** (0.04)	0.36*** (0.02)
parent	0.11 (0.07)	0.11** (0.05)
married/partnered	-0.18*** (0.05)	-0.18*** (0.04)
pandemic hardships	0.23*** (0.01)	0.23*** (0.02)
housemate had COVID-19	0.12*** (0.03)	0.12*** (0.03)
COVID-19	0.88*** (0.06)	0.90*** (0.07)
work outside home	0.25*** (0.04)	0.25*** (0.03)
White (vs. Black) × ZIP % Black	0.55*** (0.13)	0.60** (0.26)
Hispanic (vs. Black) × ZIP % Black	-0.05 (0.40)	-0.04 (0.35)
Asian American (vs. Black) × ZIP % Black	-0.24 (0.42)	-0.43 (0.65)
other race (vs. Black) × ZIP % Black	0.51 (0.46)	0.41 (0.47)
Fixed-effects		
region	Yes	
state		Yes
Fit statistics		
standard errors	region	state
Observations	102,373	102,373
Pseudo R^2	0.28595	0.28960
BIC	29,869.4	30,215.1

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table 9: Logistic regressions predicting whether a respondent will attend a BLM protest using the full dataset of respondents.