Winning Hearts and Minds in Civil Wars: Governance, Leadership Change, and Support for Violent Groups in Iraq

Christoph Mikulaschek   Harvard University
Saurabh Pant   Institute for Advanced Study in Toulouse
Beza Tesfaye   Mercy Corps

Abstract: *The "hearts and minds" model of combating rebellions holds that civilians are less likely to support violent opposition groups if the government provides public services and security. Building on this model, we argue that a political event that raises popular expectations of future public service and security provision increases support for the government and decreases sympathy for violent opposition groups. To test this argument, we leverage a unique research design opportunity that stems from the unforeseen announcement of the resignation of Iraq's divisive prime minister in August 2014 while an original survey was being administered across the country. We show that the leadership transition led Iraq's displeased Sunni Arab minority to shift support from the violent opposition to the government. In line with our argument, this realignment was due to rising optimism among Sunni Arabs that the new government would provide services and public goods—specifically security, electricity, and jobs.*

Verification Materials: The data and materials required to verify the computational reproducibility of the results, procedures, and analyses in this article are available on the *American Journal of Political Science* Dataverse within the Harvard Dataverse Network, at: https://doi.org/10.7910/DVN/P5TAFD.

The "hearts and minds" model of combating rebellions indicates that civilians in civil war theaters are less likely to support armed opposition groups if they are satisfied with the provision of public services and security by the government (Beath, Christia, and Enikolopov 2012, Berman, Shapiro, and Felter 2011). If the government effectively signals that it will address the grievances of a certain displeased group, then this group will reward the government with support in return; and simultaneously, this group will reduce support for insurgents, terrorists, and anti-government militias. The model implies that an unexpected major political event that increases a group's expectation of future security and public service delivery by the government will be associated with an increase in support for the government and a decrease in sympathy for the violent opposition. Iraq's recent past offers an example of such a seminal event: the abrupt announcement of the resignation of Prime Minister Nouri al-Maliki on August 14, 2014, which resulted in the first transition of the government's leadership in 8 years and which replaced a divisive leader with a successor viewed as less sectarian. This article investigates the effect of the prime minister's announced resignation on Iraqi public attitudes vis-à-vis the government and violent opposition groups. The study leverages original data from a national survey conducted in Iraq in the

Christoph Mikulaschek is a Postdoctoral Fellow, Harvard University, Department of Government, 1737 Cambridge Street, Cambridge, MA 02138 (mikulaschek@gov.harvard.edu). Saurabh Pant is a Postdoctoral Research Fellow, Institute for Advanced Study in Toulouse, 21 Allée de Brienne, 31015 Toulouse Cedex 6, France (saurabh.pant@iast.fr). Beza Tesfaye is a Senior Researcher, Mercy Corps, 1111 19th Street NW #650, Washington, DC 20036 (btesfaye@dc.mercycorps.org).

summer of 2014 immediately before and after the resignation was announced. It shows that the announcement of the resignation was associated with a strong decrease in support for violent opposition groups among Sunni Arabs, Iraq's largest minority. The study concludes that this drop in sympathy is consistent with the explanation that Sunni Arabs became more optimistic about the future provision of key public services and security by the government. In sum, these results lend strong support to the argument on public goods, services, and civilian attitudes derived from the hearts and minds model.

The literature on civil war ascribes a decisive role to the civilian population. The primary constraints on the production of insurgent and counterinsurgent violence are the insurgency's ability to recruit combatants (Dube and Vargas 2013) and the willingness of civilians to share actionable intelligence with counterinsurgency forces (Berman, Shapiro, and Felter 2011, Kalyvas 2006, Lyall and Wilson 2009). In a conventional civil war, the production of direct violence also requires the cooperation of the local population, which can enable a group to identify enemies in the areas under its control (Balcells 2010). While civilians' collaboration with combatants is not simply a function of their preferences (Humphreys and Weinstein 2008, Kalyvas 2006), civilians' attitudes vis-à-vis the conflict parties shape their wartime behavior (Balcells 2010, Wood 2003). Therefore, understanding popular support for armed groups "remains a first-order concern" for scholars of civil war and for policy makers (Shapiro and Fair 2010, 84). According to a recent study, a "near consensus now exists among practitioners around the notion that counterinsurgency wars are decided by the relative success each combatant enjoys in winning support from the civilian population" (Lyall, Blair, and Imai 2013, 680).

Given the important role of civilians in insurgencies and conventional civil wars, there is surprisingly little empirical research investigating public attitudes in conflict theaters. A recent survey of political science research on post-9/11 wars and insurgencies in Afghanistan and Iraq reveals that only 11 studies analyzed public opinion in these two countries, whereas almost five times as many examined the wars' impact on U.S. public attitudes (Mikulaschek and Shapiro 2018). The difficulty of researching public opinion in war theaters goes a long way in explaining the striking dearth of knowledge about civilian attitudes during conflict.

This study empirically investigates Iraqi public attitudes vis-à-vis the government and violent opposition groups in order to examine how major political events affect the attitudes of civilians in rebellious environments. We exploit a unique research design opportunity that stems from the resignation of the Iraqi prime minister while a national survey on civic attitudes and violence was being administered in Iraq. Al-Maliki was a divisive leader whom many consider to have marginalized the Sunni Arab minority (see below). This marginalization drove many Sunni Arab Iraqis to support armed opposition groups, including ISIS, which capitalized on widespread resentment in order to take control of North-Western Iraq. We show that the announcement of al-Maliki's resignation had a strong impact on the attitudes of the aggrieved. Specifically, the share of Sunni Arabs who expressed sympathy for armed opposition groups sharply declined from 52% within 2 weeks before the resignation was announced to 27% within 2 weeks after the resignation. We then demonstrate that this fall in sympathy is linked to improved perceptions of the government's future "performance legitimacy," not "process legitimacy." In other words, in the wake of the announced resignation, the drop in sympathy was due to the Sunni Arab minority feeling increasingly optimistic that the new government would provide the necessary security and public services to address their grievances, but not necessarily incorporate this minority group's voice in the governing process.

These findings have several major implications. First, many Iraqi Sunni Arabs do not support violent groups (e.g., ISIS) for purely ideological reasons and are willing to support a Shia Arab-led government if they expect the government to improve their plight. Second, leadership change in civil war countries with a history of personalized dictatorship can drastically shift mass political attitudes even when the new head of government is a member of the same sect, political party, and ruling coalition as his predecessor, as long as the transition improves public perceptions of future service delivery to aggrieved communities. Third, while the recent literature shows that leadership transitions in weakly institutionalized regimes alter public goods and service provision (Burgess et al. 2015, Hodler and Raschky 2014), this study indicates that the public's expectation of such changes triggers a realignment of popular support from violent opposition groups to the government. Thus, effective signals about future public service delivery start to at least temporarily win over hearts and minds even before any concrete policy change.

Theory

What determines civilians' support for combatants during wartime? Recent studies show that civilian attitudes are responsive to the behavior of warring factions. Public opinion research conducted in Afghanistan, Pakistan,

and the Palestinian Territories indicates that civilian casualties adversely affect (at least temporarily) popular perceptions of the perpetrator (Bullock, Imai, and Shapiro 2011, Jaeger et al. 2012, Lyall, Blair, and Imai 2013). Research on Iraq is consistent with this finding, as it shows that civilians are less likely to share information with the counterinsurgency when the government inadvertently kills civilians and are more likely to supply intelligence when the insurgents are responsible for civilian deaths (Shaver and Shapiro 2016).

Clearly, then, the government's posture toward civilians influences popular support for warring factions. One implication is that counterinsurgent forces can buy the allegiance of civilians by providing aid to them. Beath, Christia, and Enikolopov (2012) find that an Afghan government program tasked with delivering services and with building village-level representative institutions improved economic welfare, attitudes toward the government, and perceptions of security. Berman, Shapiro, and Felter (2011) show that a U.S. reconstruction program in Iraq, which enabled counterinsurgent commanders to launch small-scale projects that responded to the needs of local communities, reduced insurgent attacks because such provision of public goods incentivized civilians to share information with the counterinsurgents, thus enhancing the latter's effectiveness. In the Philippines, a conditional cash transfer program in conflict-affected areas reduced insurgents' influence and led to a decrease in violence (Crost, Felter, and Johnston 2016). On the other hand, a public works program in India increased the number of attacks by the police on Maoist insurgents and triggered retaliatory attacks by Maoists on civilians; but the authors show that this effect is consistent with the argument that the government program made civilians more willing to share actionable intelligence with the police (Khanna and Zimmermann 2015). Similarly, Crost, Felter, and Johnston (2014) find that the start of a community-driven development program in the Philippines increased attacks by insurgents, who anticipated that successful program implementation would weaken their popular support.

These results on the effect of public goods and service delivery are consistent with the hearts and minds model, which conceives of civil conflict as a competition between the government and its violent opponents over legitimacy (Berman and Matanock 2015; Mao 1937; Thompson 1966).[1] In the words of the *Counterinsurgency Field Manual* of the U.S. Army and Marine Corps (2006, 1–20), counterinsurgent "success requires the government to be accepted as legitimate by most of that uncommitted middle, which also includes passive supporters of both sides." If the government is viewed as legitimate by the population the rebels claim to represent (e.g., a sectarian group), support for the violent opposition evaporates, and the uprising cannot be sustained. To win over the hearts and minds of these civilians, a government confronted with a civil conflict needs to address their grievances and provide salient public goods and services such as security and electricity. This reasoning implies that a major event that improves perceptions of governance and service provision among members of the rebellion's constituency should be associated with a decrease in support for the violent opposition. When a government suffers from a legitimacy deficit, which gave rise to the violent conflict in the first place, a major reform of the government can strengthen the latter's claim to legitimacy (Isaac et al. 2008, 348; Malkasian 2006). A transition in government leadership will enhance the government's legitimacy if the population expects the incoming leader to be more willing and able to deliver services and address grievances. The hearts and minds model implies that such a change will increase popular support for the government among aggrieved parts of the population, and that it will simultaneously decrease the popularity of armed opposition groups. Public attitudes will start to change as soon as the displeased group's expectations of future governance and service provision rise. Therefore, a leadership transition that affects these expectations can shift public support for the government and the violent opposition even before the new government implements policy changes.

Key sources of government legitimacy include democratic or process legitimacy, which is accumulated when the processes of state decision making correspond to widely held notions of appropriateness, and output or performance legitimacy, which accrues to the government when it provides salient public goods and services (see, e.g., François and Sud 2006, Lipset 1959, 91).[2] A major political event in the civil war country can win over hearts and minds of an aggrieved population by improving the government's democratic or performance legitimacy or both. The observable implication of an increase in democratic legitimacy consists of a rise in the perceived ability of citizens to participate in political decision making following the event. An increase in performance

---

[1]While the notion of winning "hearts and minds" has been used in various ways, hearts and minds as a theoretical model rests on three propositions: First, the behavior of warring factions influences civilian attitudes. Second, civilian attitudes affect civilian actions (e.g., intelligence sharing). Third, civilian actions influence the course of the conflict. This study tests the first proposition.

[2]A government is viewed as legitimate when it is believed to have the right to rule.

legitimacy manifests itself in a surge in popular expectations of future public goods and service provision by the government. The hearts and minds model implies that either of these changes in the attitudes of aggrieved parts of the population will be associated with a decline in support for armed opposition groups.

The civil war in Iraq is a hard case for testing the argument that the government can win over the hearts and minds of the uncommitted middle of the population the violent opposition claims to represent, because this conflict is fought along sectarian lines. This implies that it is more difficult to shift the allegiance of civilians than it is in ideology-based civil conflicts (Isaac et al. 2008). If we find evidence in support of our argument even in the Iraqi context, we thus have reason to believe that the relationship between public goods, governance, and popular support for warring factions is even stronger in civil wars that revolve around ideology.

Context of the Iraqi Prime Minister's Resignation

The political developments that surrounded al-Maliki's resignation are summarized in the supporting information (SI; pp. 1–9) and briefly outlined here due to space constraints. Al-Maliki became prime minister after the 2005 elections. The alliance that included his party had its stronghold in Iraq's predominantly Shiite south. After 2011, al-Maliki gradually marginalized Sunni Arab members of his cabinet, tried to arrest the Sunni Arab vice president, and neglected to provide Sunni Arabs with basic public services such as electricity. Protests in predominantly Sunni Arab areas erupted in 2012. During the first half of 2014, ISIS capitalized on widespread Sunni Arab frustration when it conquered towns and villages in Nineveh and other Iraqi provinces with initial support from Iraqi Sunni Arab tribal groups. In the words of a former U.S. intelligence officer in Iraq, "the vanguard is ISIS. The breadth and depth of this is basic Sunnis who are fed up" (Sullivan and Jaffe 2014). In late June, the government's battlefield losses led to calls for leadership change in Iraq. Under intense pressure from the United States, Iran, Saudi Arabia, and domestic sources, al-Maliki agreed to resign on August 14, 2014. His announced successor, Haider al-Abadi, was viewed more favorably by Sunni Arabs even though he was also a Shia Arab who belonged to al-Maliki's party, and Sunni Arab political parties, clerics, and tribal leaders publicly voiced support of the leadership transition. Thus, Prime Minister al-Maliki's resignation can be seen as a credible signal that the new Iraqi government was going to address the grievances of Sunni Arabs. If this is the case, the hearts and minds model suggests that Iraqi Sunni Arabs should become less likely to support violent opposition groups in the wake of the resignation, and that they should also become more optimistic about future government policies.

Research Design

This study relies on design-based causal inference to estimate the effect of the leadership transition on Iraqi Sunni Arabs, the country's main displeased minority. In turn, we summarize the identification strategy, data, measurement, and model specifications.

Identification Strategy and Data

We leverage a unique research design opportunity that stems from the abrupt resignation of the Iraqi prime minister while a national survey on civic attitudes and conflict was being administered across Iraq. Respondents who were interviewed before the announcement of al-Maliki's resignation on August 14 form part of the control group, whereas respondents interviewed after that date are in the treatment group. The treatment is being aware of al-Maliki's announced resignation. As the timing of this critical event was not influenced by the administration of the survey, respondents who fell on either side of this date should not be systematically different, in expectation, because the order in which the survey was administered across Iraqi provinces was as-if randomly determined long before anyone knew whether and when the prime minister would resign. Figure 1 displays the proportion of respondents in each governorate who were interviewed before and after the resignation was announced. Covariate balance analyses reported in the robustness section confirm that respondents who were interviewed shortly before the resignation was announced were not systematically different from those interviewed soon after this event on key determinants of political attitudes, such as age and education level. Therefore, we can estimate the effect of al-Maliki's resignation by investigating differences in attitudes between the two sets of respondents who were interviewed shortly before or soon after the resignation was announced.

The survey was administered by 4points, a private Iraqi survey company, for the humanitarian organization Mercy Corps. This paper-based survey was administered in Arabic and Kurdish to a sample that is representative of 17 of Iraq's 18 governorates; it could not be conducted

FIGURE 1 Composition of Sample and Assignment to Treatment Condition by Governorate

Treatment Status by Governorate

Sample Size by Governorate
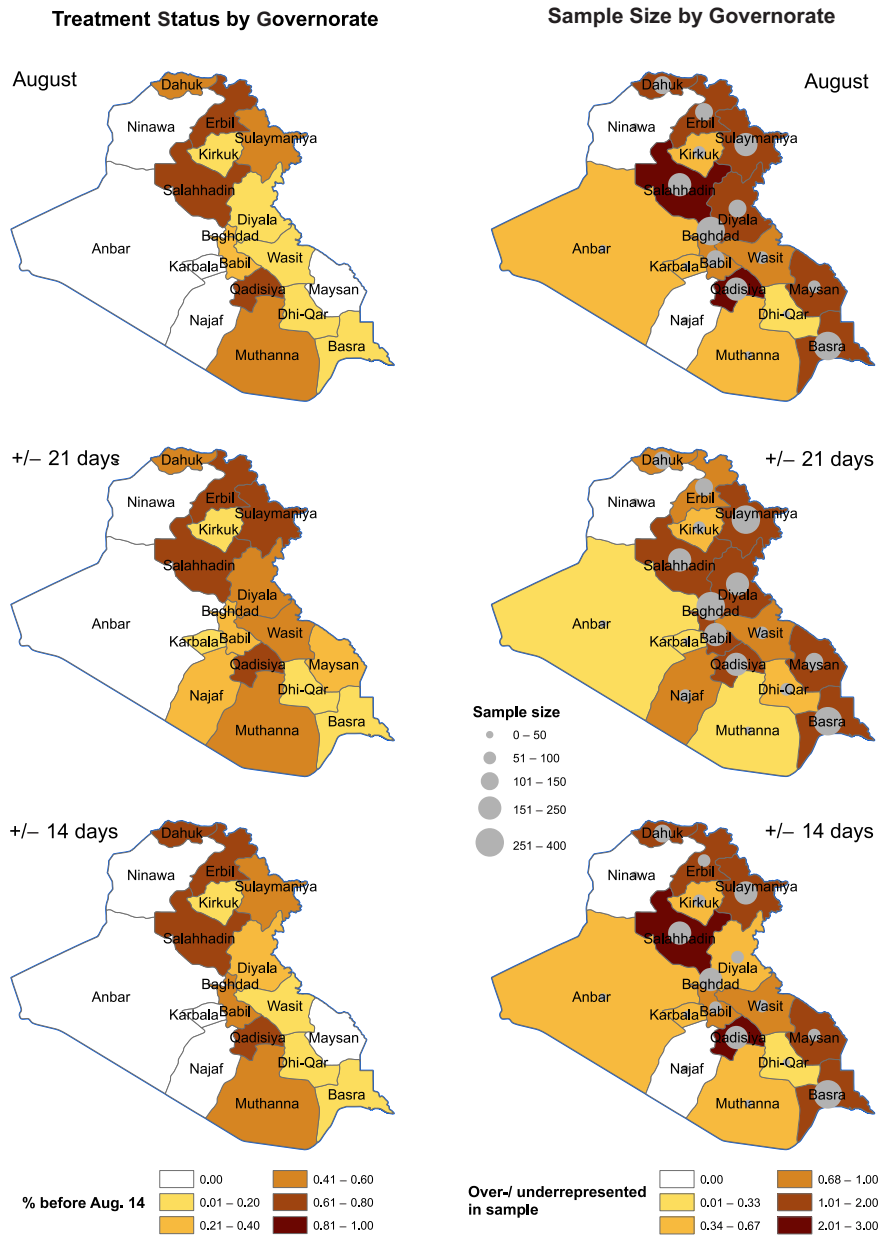
Note: The panels on the left display the proportion of respondents in three samples that were interviewed before the prime minister's resignation was announced; the remaining responses were gathered after that date. The panels on the right show the number of respondents by governorate (gray circles) and the share of respondents in each governorate divided by the proportion of the Iraqi population that lives in this governorate (shade depicts over-/underrepresentation).

in Nineveh due to the conquest of the province by ISIS.[3] The sample size was 5,232, and respondents were chosen through a multistage cluster sampling method. Samples were allocated to governorates and districts based on the

[3]SI Tables 58– 59 provide details on the survey.

probability proportional to size (PPS) approach. Subdistricts were then randomly selected within districts. The KISH grid method was used to select respondents within a household.

For the main analyses, we focus solely on the 1,894 survey responses that were collected in August (i.e., about

2 weeks before and after the resignation announcement) to mitigate the risk that other events confound the estimation of the impact of this event on public attitudes.[4] Covariate balance tests show that respondents interviewed in August were not systematically different on any pretreatment covariates from respondents who took the survey in the same governorate during other months. The results are generally robust to including all responses provided within 3 weeks from the date on which the resignation was announced (increasing the sample by 43%) and to restricting the analysis to respondents who took the survey within 2 weeks from that date (shrinking the number of observations by 10%). Figure 1 displays the distribution of these three samples by governorate. It indicates that neither of these samples is nationally representative because they were generated through the as-if randomly assigned timing of each interview. Figure 1 also shows that the composition of the three samples varies considerably, making it all the more remarkable that they support similar results. These results also hold in weighted ordinary least squares (OLS) models summarized below.

Recent studies use survey experiments (Blair et al. 2013, Fair, Malhotra, and Shapiro 2014) or field experiments (Beath, Christia, and Enikolopov 2012) to investigate the determinants of public attitudes toward violence and militant groups. Though such research designs have yielded many valuable insights, they cannot easily estimate the effect of major political events on civilian attitudes. Seminal events rarely unfold in the context of randomized experiments, and survey experiments administered after salient events cannot directly measure changes in public attitudes that are triggered by those events because these changes materialize across all treatment conditions. Relying on the research design opportunity that stems from the unanticipated timing of the event and the as-if randomly determined scheduling of each interview before or after this event provides an attractive alternative identification strategy.

This research design allows us to address three distinct challenges for public opinion research in conflict theaters that often lead researchers to conduct survey experiments: safety, social desirability bias, and nonrandom refusal to participate (Blair et al. 2013, Bullock, Imai, and Shapiro 2011, Lyall, Blair, and Imai 2013, 682). First, to ensure the safety of enumerators and respondents, the survey was not administered in Nineveh, which was con-

trolled by ISIS.[5] Second, the risk of social desirability bias arises particularly when individuals in conflict theaters are surveyed in public settings (Lyall, Blair, and Imai 2013, 682). Therefore, enumerators interviewed respondents at their homes unless interviewees preferred a different location; 88% of the interviews were conducted at respondents' homes, and 54% of the respondents were alone with the enumerators during the interview. The results are robust to omitting all interviews that were conducted outside the respondent's home or with others present (see SI Tables 54– 57). To avoid a situation in which respondents believe that future aid receipts depend on their responses, enumerators were asked not to disclose that the survey was conducted for Mercy Corps. The robustness section summarizes numerous tests that probe and rule out bias from social desirability effects. Third, there is a concern that respondents who refused to answer or replied that they "don't know" introduce bias. Those who chose not to give an informative answer could be systematically different from those who revealed an attitude. Nonresponses would only bias the estimated effect of the prime minister's resignation if respondents' choice to answer or to refuse to do so systematically changed after the resignation was announced. However, the incidence of "don't know" or "refused to answer" replies was not significantly different before and after August 14. Moreover, the probability of nonresponse was associated with very few pretreatment covariates.[6] Consequently, nonresponses should not confound the estimate of the effect of the prime minister's resignation.

The announcement of al-Maliki's resignation would have the hypothesized impact on Iraqi public attitudes if two conditions hold. First, the resignation should not be widely anticipated to occur on or close to August 14.

---

[4]Mutz (2011, 88–89) recommends dropping responses that were provided at an unreasonable speed. Twenty-seven responses were discarded since these respondents completed the survey in 12 minutes or less (median duration = 35 minutes, mean = 36 minutes), which makes it inconceivable that they expressed genuine attitudes.

[5]Direct questions about sensitive subjects in conflict settings may pose risks to respondents and enumerators. To conduct the survey in an ethical manner, Mercy Corps took several steps to mitigate these risks: It piloted sensitive questions (e.g., on attitudes toward violent groups) by conducting interviews in two cities, and none of the interviewees indicated discomfort about answering these questions. Survey respondents could select the "don't know" answer option if they felt uncomfortable expressing an opinion, and they could choose to "refuse an answer" if they preferred not to express that they did not have a view. Respondents could also end the survey at any time. Moreover, the questions on the survey did not ask respondents to reveal any identifying information. Enumerators emphasized from the beginning that participation was voluntary, and they were instructed to conduct interviews in the privacy of respondents' homes unless the latter preferred different settings. Most respondents were alone with enumerators during the interview (see below). Enumerators were chosen based on prior survey experience, vetted, and trained to ask sensitive questions. The supporting information (pp. 97–99) provides further details.

[6]See SI Table 49. All models control for the measures that are significantly associated with respondents' choice to express their attitudes.

Second, Iraqis should not expect al-Maliki's successor, al-Abadi, to continue his predecessor's divisive policies. News reports written shortly before and after the resignation suggest that both conditions were satisfied. If the resignation had been anticipated, then Iraqis would have adjusted their attitudes prior to August 14; in this case, our analyses would underestimate the effect of the resignation on public attitudes. However, the resignation was not a fait accompli, as al-Maliki remained defiant against calls for him to stand down even a day before he announced his resignation (AFP 2014).

Although al-Maliki's successor, al-Abadi, was also a Shia Arab and a member of the same political party as al-Maliki, he enjoyed much broader support among Sunni Arabs when al-Maliki's resignation was announced (Taylor 2014; see SI, pp. 1–9). Thus, the sudden announcement of al-Maliki's resignation would be associated with the expectation of substantial changes in government policies vis-à-vis Iraq's largest minority.

Measurement

Our primary measure of sympathy for the violent opposition is based on the following survey question: "Thinking about the reasons that armed opposition groups (militia, terrorist groups) used violence during the past year, would you say that you in general have a lot of sympathy, a little sympathy, or no sympathy at all for these armed opposition groups?" Responses to this direct question were measured on a 3-point ordinal scale ranging from "no sympathy at all" to "a little sympathy" to "a lot of sympathy" (in addition to the answer options "don't know" and "refused to answer"). Given that relatively few people expressed "a lot of sympathy," we collapsed "a little sympathy" and "a lot of sympathy" into a single category, but the results are robust to using a 3-point measure (see SI Table 3). Supplementary analyses investigate an alternative measure based on respondents' attitudes toward violence by citizens against the Iraqi government (see SI Table 8).

To investigate whether a decrease in sympathy for armed opposition groups coincided with an improvement in attitudes vis-à-vis the Iraqi government and a rise in expectations of future security and public service provision (performance legitimacy), we analyze four additional dependent variables. The first one is based on the following question: "How would you rate each of the following institutions; very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable?" where one institution is the federal government. Four options were arranged on a scale ranging from "very unfavorable"

to "somewhat unfavorable" to "somewhat favorable" to "very favorable" (in addition to "don't know" and "refused to answer"). Three questions (collapsed here for convenience) on performance legitimacy probe expectations of future security and public service provision:[7] "In your opinion, how likely is it that the government will improve conditions in your province in terms of [security/jobs/electricity]?" The answer options were "Not at all likely," "not very likely," "somewhat likely," "very likely," "don't know," and "refused to answer."

Two questions measured the government's democratic legitimacy: "In your personal opinion, how likely is it that you can influence government decisions?" and "How would you describe the current situation of democracy in Iraq?" Answer options were arranged on 4-point scales.[8] Supplementary analyses investigate alternative measures of democratic legitimacy based on the respondents' self-reported ability to sign petitions, contact government officials, and run for office without fear.

Control variables include respondents' self-reported age, gender, education, employment status, economic situation, and size of hometown. Since insurgent tactics could affect respondents' opinions, we also control for violence in the interviewee's governorate. We verified that our results are robust to using seven alternative measures (see SI Tables 26–33): casualties and fatalities from terrorist attacks (National Consortium for the Study of Terrorism and Responses to Terrorism 2017), insurgent fatalities, civilian deaths, and fatalities on the government side (Uppsala Conflict Data Program 2017). The main models control for violence in the respondent's governorate on the day of the interview or the previous day, but the results are robust to controlling for violence over a 4 week period. SI Table 1 reports descriptive statistics.

Model

The main models have the following OLS specification:

$$DV_i = \beta_0 + \beta_1 T_i + \beta_2 X_i + \beta_3 Z_i$$
$$+ \beta_4 T_i * Z_i + \beta_5 FE_i + \epsilon. \quad (1)$$

The subscript i refers to the respondent. The DV_i measures her political attitudes. The binary treatment

---

[7]Sixty-nine percent of the respondents identified security, employment, or electricity as Iraq's biggest problems. Therefore, these were the most salient public goods and services the Iraqi government could provide.

[8]The first scale ranged from "not at all likely" to "not very likely" to "somewhat likely" to "very likely." The second scale ranged from "very bad" to "somewhat bad" to "somewhat good" to "very good." The other response options were "don't know" and "refused to answer."

variable, T_i, indicates whether the respondent was surveyed before or after August 14. If the respondent was interviewed after August 14, then $T_i = 1$. The variables contained in X_i describe individual-level socioeconomic characteristics and the local security situation, and the measures contained in Z_i designate respondents' sectarian and ethnic group affiliation. We interact T_i with these sectarian/ethnic variables in order to investigate heterogeneity in the treatment effect across Iraq's different communities. We also include governorate fixed effects (FE_i). For our main specifications, the standard errors are clustered by governorate, and a wild bootstrap procedure with 10 million bootstrap replicates is used to account for the relatively small number of clusters (Cameron, Gelbach, and Miller 2008). The results hold in a robustness check with standard errors clustered by district (see SI Tables 6–7). We use OLS models for easier interpretation; however, the results from logit and ordered logit models are consistent with those obtained from linear models (see SI Tables 10–11).

Results

As shown below, the announcement of the resignation of the divisive prime minister al-Maliki decreased support for violent opposition groups among Iraq's Sunni Arab minority. At the same time, Sunni Arabs assigned more favorable ratings to the government after the resignation than they did before, and they revised their expectation of future security and public goods provision by the government upward. The finding that a major political event that improves the perception of the government's ability and willingness to address popular grievances decreases support for armed opposition groups is consistent with our theoretical expectations derived from the hearts and minds model.

Support for Armed Opposition and Government's Performance Legitimacy

During the first half of August (i.e., before the resignation was announced) 52% of Sunni Arab respondents indicated some or a lot of sympathy for armed opposition groups. During the second half of August (i.e., immediately after the announcement of the resignation) the corresponding share dropped sharply to 27%. Bivariate models in SI Table 2 indicate that this shift in attitudes is statistically significant. This result holds when governorate fixed effects and controls for respondent charac-

teristics and for the local security situation at the time of the interview are included in the model (see Model 1 in Table 1). To glean from this model whether Sunni Arab attitudes changed after al-Maliki announced his resignation, we sum the coefficients for the resignation measure and its interaction with Sunni Arab sectarian affiliation. Using the estimates from Model 1, Figure 2 illustrates how sympathy for armed opposition groups among Sunni Arab respondents dropped by almost 20 percentage points after the resignation was announced. Sunni Arabs also became less favorable of the use of violence against the government in the wake of this event (see SI Table 8). We find support for the proposition that the effect of al-Maliki's announced resignation on Sunni Arabs' sympathy for violent opposition groups was tied to the impact of the same event on Sunni Arab attitudes vis-à-vis the government. As can be seen in Figure 2, after mid-August, Iraq's largest displaced minority rated the government higher and felt more optimistic about the future provision of security, jobs, and electricity by the government. These changes in Sunni Arab attitudes were substantively and statistically significant. Sunni Arab support for the government improved by about a quarter of a standard deviation of the dependent variable, and the jump in Sunni Arab expectations of electricity, jobs, and security provision amounted to more than half, almost four-tenths, and one-third of a standard deviation, respectively.

Our argument implies that the same Sunni Arabs whose sympathy for armed opposition groups declined in the wake of the announced resignation also improved their rating of the government and their expectations of future public service and security provision. Since every respondent was only interviewed once, individual-level data on change in attitudes are unavailable. Causal mediation analyses cannot be conducted since the sequential ignorability assumption is implausible in the context of this study (Imai et al. 2011). The next best approach is to analyze changes in the attitudes of subsets of Iraqi Sunni Arabs to probe whether sympathy for the armed opposition in each subset moved in the opposite direction as government ratings and expectations of future public service and security provision. We divided Sunni Arab respondents into eight subsets that vary by educational attainment and employment status. In five subsets, change in all or three of the four measures of the government's performance legitimacy has the opposite sign as change in sympathy for armed opposition groups, as expected (see SI Table 4). In all but one subset, at least half of the measures of change in performance legitimacy tended in the opposite direction as change in sympathy for armed groups, as expected. For both subsets whose

TABLE 1 Effect of al-Maliki's Resignation on Attitudes vis-à-vis Armed Opposition and Government's Performance Legitimacy: Results from Governorate Fixed-Effects OLS Models

Dependent Variable	(1) Sympathy with Armed Opp.	(2) Rating of Government	(3) Security Improves	(4) Jobs Improve	(5) Electricity Improves
Resign	0.073*	−0.116	−0.103	−0.057	0.013
	(0.035)	(0.189)	(0.143)	(0.103)	(0.072)
Sunni	0.225**	−0.175	−0.507**	−0.290**	−0.328**
	(0.079)	(0.127)	(0.099)	(0.049)	(0.078)
Kurd	0.033	0.080	−0.162	0.098	0.216
	(0.068)	(0.317)	(0.206)	(0.141)	(0.177)
Other	0.043	−0.086	−0.057	0.137	−0.060
	(0.103)	(0.259)	(0.132)	(0.163)	(0.175)
Resign × Sunni	−0.270**	0.377*	0.441**	0.371**	0.443**
	(0.051)	(0.161)	(0.114)	(0.087)	(0.145)
Resign × Kurd	−0.142**	0.382	0.130	0.225	−0.063
	(0.048)	(0.222)	(0.164)	(0.149)	(0.208)
Resign × Other	−0.141	0.022	−0.003	−0.046	0.324
	(0.097)	(0.277)	(0.146)	(0.206)	(0.182)
Casualties	−0.004	0.006	0.002	−0.001*	−0.001*
	(0.001)	(0.001)	(0.001)	(0.003)	(0.002)
Female	−0.035	−0.136*	0.034	0.012	0.019
	(0.025)	(0.060)	(0.058)	(0.060)	(0.067)
Education: junior high	0.011	0.185*	−0.104	0.171	0.153*
	(0.042)	(0.072)	(0.082)	(0.101)	(0.076)
Education: senior high	0.005	0.245*	−0.141*	0.084	0.102
	(0.049)	(0.096)	(0.065)	(0.085)	(0.095)
Education: university	−0.056	0.017	−0.237**	0.060	0.160
	(0.031)	(0.098)	(0.074)	(0.080)	(0.105)
Urban: 50k–250k	−0.045	−0.102	−0.050	−0.088	−0.192
	(0.066)	(0.323)	(0.162)	(0.182)	(0.138)
Urban: < 50k	−0.042	−0.170	−0.069	−0.114	−0.185**
	(0.103)	(0.300)	(0.194)	(0.156)	(0.056)
Rural	−0.009	−0.009	0.023	−0.038	−0.058
	(0.079)	(0.337)	(0.111)	(0.142)	(0.069)
Unemployed	−0.093	−0.242	−0.118	−0.130*	−0.009
	(0.056)	(0.177)	(0.067)	(0.060)	(0.095)
Not gainfully empl.	−0.087*	−0.105	−0.064	−0.127	−0.056
	(0.044)	(0.088)	(0.042)	(0.068)	(0.053)
Good econ. situation	0.001	−0.098	0.152*	0.064	0.034
	(0.041)	(0.083)	(0.063)	(0.107)	(0.083)
Constant	0.317**	2.39**	2.33**	2.31**	2.82**
	(0.112)	(0.315)	(0.234)	(0.215)	(0.137)
Governorate fixed effects	Yes	Yes	Yes	Yes	Yes
Four age controls	Yes	Yes	Yes	Yes	Yes
Observations	1,302	1,216	1,396	1,406	1,430
R-squared	0.131	0.198	0.335	0.084	0.216

Note: Standard errors obtained from wild bootstraps and clustered by governorate are in parentheses. *N* varies across models due to missing values on dependent variables. ** $p < .01$, * $p < .05$.

FIGURE 2 Estimated Change in Sunni Arab and Shia Arab Attitudes after al-Maliki's Announced Resignation
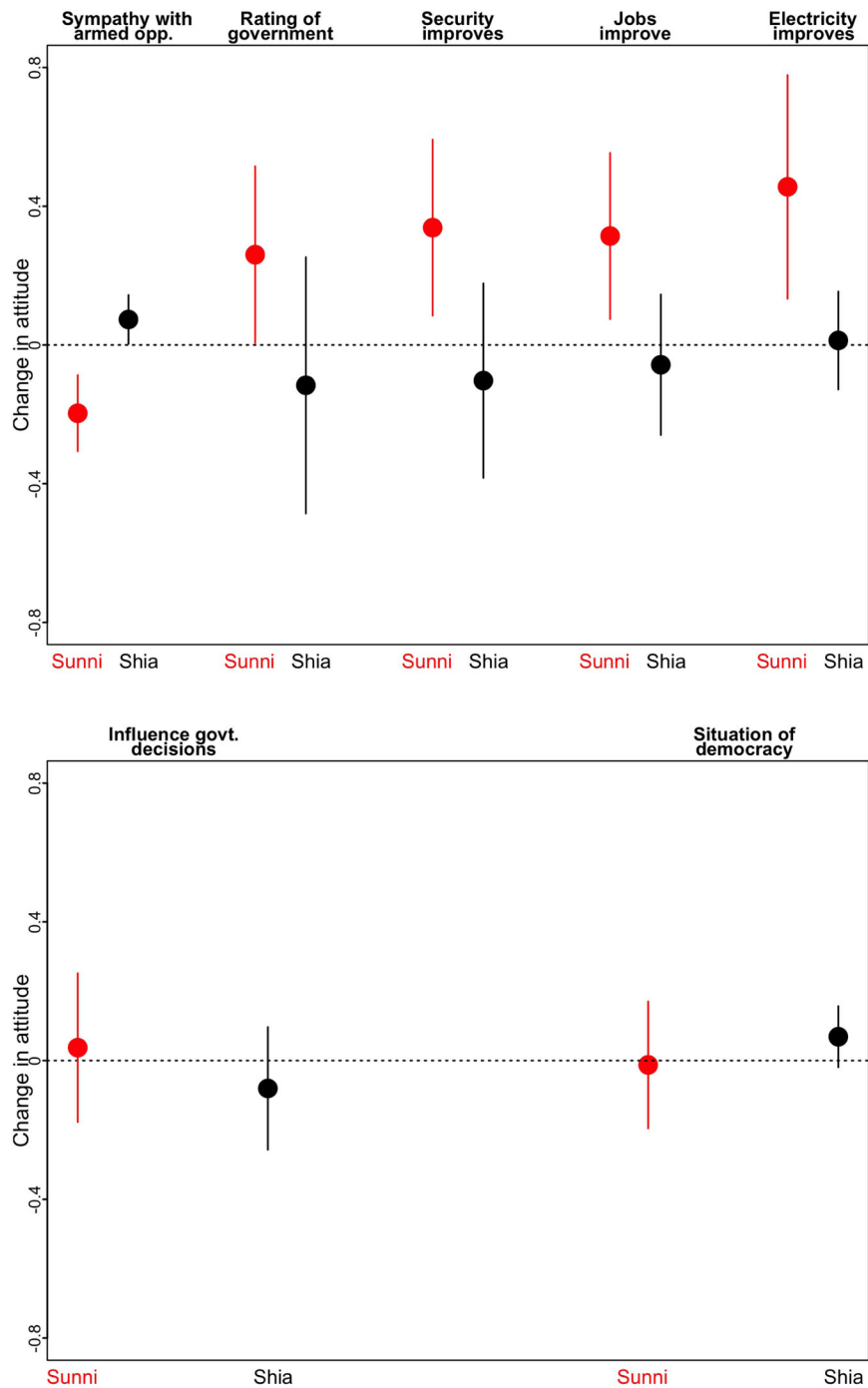
Note: The figure displays the estimated change in Sunni Arab and Shia Arab attitudes derived from Models 1–7 (with 95% confidence intervals). The upper panel shows that Sunni Arab sympathy for armed opposition groups declined, whereas Sunni Arab ratings of the government and Sunni Arab expectations of future public service delivery improved; in contrast, most Shia Arab attitudes did not significantly change. The estimated change in sympathy with armed opposition groups appears smaller than the other attitudinal shifts due to different scales. SI Figure 1 displays all results on a common scale. The lower panel indicates that the announced resignation did not significantly alter Sunni Arab and Shia Arab perceptions of the government's process legitimacy.

sympathy for the armed opposition tended to increase after the prime minister's resignation was announced, the estimated change in government ratings is negatively signed, as expected. Overall, the same subsets of Sunni Arabs whose attitudes vis-à-vis armed opposition groups deteriorated also tended to improve their ratings of the government and their expectations of future public service delivery.

We examine Shia Arab and Kurdish respondents' attitudes in order to rule out that the changes in Sunni Arab attitudes also materialized among other ethnic and sectarian groups. A change across all communities would be more consistent with alternative explanations such as a honeymoon effect than with our argument. Importantly, we do not detect differences between trends in Sunni Arab, Shia Arab, and Kurdish attitudes during the 3 months *before* the prime minister's resignation was announced (see SI Table 35). In line with our argument, we find that the decline in sympathy with violent opposition groups *after* this event only unfolded among members of the displeased Sunni Arab minority that improved its expectations of future public goods and service provision by the government as well as its opinion about the government. The announced resignation did not strongly affect the attitudes of the Shia Arab majority, which was the main constituency of the outgoing and the incoming prime ministers. The coefficient of the resignation measure, which indicates whether the respondent was interviewed before or after August 14, indicates the effect of the announced resignation among Shia Arabs, who form the baseline group. It shows that the announcement of the resignation potentially led to an increase in Shia Arab sympathies with armed opposition groups, which is estimated at 7 percentage points in Model 1 but is insignificant in several robustness checks reported below. At the same time, Shia Arab attitudes vis-à-vis the government and their expectations of future security and public service provision did not significantly change (Models 2–5).

The announced resignation also did not greatly affect Kurdish attitudes. Kurdish respondents rated the federal government higher but did not significantly change their attitudes on the other four outcome measures. These findings are consistent with our understanding of the Iraqi Kurdish ethnic group and its relationship to the federal government. Ninety-two percent of the Kurdish respondents in our main sample live in areas administered by the Kurdish Regional Government (KRG), which provides electricity and public sector jobs in Iraqi Kurdistan and has its own security forces. Therefore, we would not expect a change in the Iraqi prime minister to transform Kurdish perceptions of public goods provision by the government, as Kurdish respondents view the KRG as the primary provider of public services and security.

Government's Democratic Legitimacy

So far, we have provided evidence to show that the change in attitude of Sunni Arabs toward violent opposition groups in the wake of al-Maliki's announced resignation was related to the government's improved *performance* legitimacy in the eyes of Iraqi Sunni Arabs, which stems from their expectation of improved provision of security and public services by the government. The results do not imply that Sunni Arab perceptions of *process* legitimacy, which reflects a change in the expected processes of government decision making, also improved. Table 2 indicates the results of analyses of the effect of the prime minister's announced resignation on perceptions of the situation of democracy and the ability to influence government decisions. Before al-Maliki announced his resignation, Sunni Arabs assessed the situation of democracy in bleaker terms than Shia Arabs. As Figure 2 shows, after al-Maliki announced his resignation, neither Sunni Arabs nor Shia Arabs significantly changed their attitudes on this topic, nor did they revise their assessment of the ability to influence government decisions. This is not surprising considering that al-Maliki's successor, al-Abadi, was also a Shia Arab from the same party. SI Table 9 presents results from three models with alternative measures of process legitimacy based on citizens' ability to sign petitions, contact government officials, and run for office without fear, which are consistent with those reported here. Overall, these results do not support the argument that al-Maliki's announced resignation improved popular perceptions of democratic legitimacy. Along with the results in Table 1, our findings suggest that Sunni Arabs did not expect the emergence of a new system of governance, but instead believed that the new government would only better address their grievances by more effectively providing public goods and services.

Alternative Explanations

Although the empirical evidence is consistent with the argument derived from the hearts and minds model, it does not support three plausible alternative explanations of the observed shift in public attitudes. First, the results do not merely reflect a transitory "honeymoon effect" that is often observed when a new leader is elected. This effect can be explained by favorable media coverage due to temporary deference to the new leader's democratic

TABLE 2 **Effect of al-Maliki's Resignation on Democratic Legitimacy: Results from Governorate Fixed Effects OLS Models**

Dependent Variable	(6) Influence Govt. Decisions	(7) Situation of Democracy
Resign	−0.080	0.068
	(0.090)	(0.045)
Sunni	−0.188	−0.196*
	(0.123)	(0.091)
Kurd	0.036	−0.091
	(0.181)	(0.247)
Other	−0.316	−0.275
	(0.163)	(0.145)
Resign × Sunni	0.117	−0.081
	(0.095)	(0.105)
Resign × Kurd	0.015	−0.177*
	(0.125)	(0.090)
Resign × Other	0.111	−0.188
	(0.216)	(0.337)
Casualties	0.001	−0.008
	(0.001)	(0.001)
Female	−0.112	−0.017
	(0.078)	(0.055)
Education: junior high	0.060	0.033
	(0.070)	(0.120)
Education: senior high	0.056	0.082
	(0.147)	(0.124)
Education: university	−0.007	−0.108
	(0.127)	(0.159)
Urban: 50k–250k	−0.050	0.027
	(0.158)	(0.153)
Urban: < 50k	−0.335*	−0.056
	(0.134)	(0.094)
Rural	−0.086	0.012
	(0.170)	(0.112)
Unemployed	−0.166	−0.038
	(0.125)	(0.092)
Not gainfully empl.	−0.235**	−0.079
	(0.065)	(0.071)
Good econ. situation	0.013	0.041
	(0.100)	(0.045)
Constant	2.32**	2.42**
	(0.121)	(0.219)
Governorate fixed effects	Yes	Yes
Four age controls	Yes	Yes
Observations	1,301	1,337
R-squared	0.177	0.150

Note: Standard errors obtained from wild bootstraps and clustered by governorate are in parentheses. N varies across models due to missing values on dependent variables. $^{**}p < .01$; $^{*}p < .05$.

election (Brody 1991, 28–30). Therefore, we would not expect a new leader to benefit from this effect if he is not elected. If the effect materialized even in the absence of a democratic election, it should affect the attitudes of all Iraqi news media consumers—and not just those of Sunni Arabs. Moreover, to the extent to which a honeymoon effect influences not just government ratings but also other political attitudes, it would likely be captured in measures of the government's performance and process legitimacy, and yet the latter did not change in the wake of the announced resignation. Finally, the "honeymoon effect" is inherently fleeting (Brody 1991, 32), but al-Abadi's approval rating among Sunni Arabs remained consistently high in national polls conducted between 2014 and 2018 (see SI Table 34).

Second, it is implausible that the realignment of Sunni Arab attitudes during the month of August occurred due to a shift in expectations of who would win the civil war, which might stem from renewed U.S. support to the incoming government. In hindsight, the leadership transition marked the beginning of a gradual U.S. reengagement, which eventually helped the Iraqi government turn the tide in the civil war against ISIS in 2015 and 2016. However, in the late summer of 2014, this was far from obvious. In the second half of August, the war was viewed as steadily tipping in the militants' favor, and Iraq's political elite feared that the United States would not try to prevent the fall of Baghdad (Chulov and Hawramy 2014), even after President Barack Obama authorized limited U.S. airstrikes to protect American diplomats and military advisers in Erbil and Baghdad on August 7. ISIS continued a series of victories against the government in September and October (Roggio and Adaki 2014). Evidence from the survey confirms that Sunni Arab assessments of the security situation did not improve after the announcement of U.S. strikes (see SI Table 12); consequently, they cannot explain the shift in Sunni Arab attitudes vis-à-vis the government and the armed opposition. Moreover, we show below and in the supporting information (pp. 95–96) that the major event that shifted Sunni Arab attitudes occurred in mid-August—that is, at the time when al-Maliki announced his resignation and not in early August when the United States announced limited airstrikes. Although the airstrikes by themselves cannot explain the change in Sunni Arab attitudes toward armed opposition groups, Sunni Arabs may still have updated their beliefs based on the airstrikes in a way that might reinforce the effect stemming from al-Maliki's announced resignation.

Finally, while the results are consistent with the hearts and minds model, they do not support an alternative explanation based on zero-sum sectarianism. Sectarianism in the contemporary Middle East is sometimes described as a zero-sum game, in which each sectarian group views a gain for the other as a loss for itself (Matthiesen 2014). Zero-sum sectarianism would imply that a major political event shifts the attitudes of Iraqi Shia Arabs and Sunni Arabs in opposite directions. Contrary to this expectation, Sunni Arab and Shia Arab attitudes did not significantly move in opposite directions on six of the seven measures examined above.

Robustness
Date of the Critical Event

Although the announcement of al-Maliki's resignation was a seminal event, many notable developments took place in Iraq in August 2014. In order to verify that al-Maliki's resignation—and not some other event—triggered the shift in Sunni Arab attitudes, we estimated 40 OLS models with different samples composed of responses gathered between July and September. For each regression, T_i was redefined so that a different day delimits treatment and control groups. Each model includes all interviews that were conducted within a 30-day time period; the responses collected during the first 15 days serve as the control group, and the remainder constitutes the treatment group. For instance, the sample for the model where the cutoff corresponds to August 1 includes all responses gathered between July 17 and July 31 (control group) and responses provided between August 1 and August 15 (treatment group). If Iraqi attitudes changed in response to an event on August 14, then the effect size and the precision of the estimate should be relatively high when this date marks the cutoff.

The change in Sunni Arab attitudes estimated from all 40 models is presented in Figure 3. For the first few regressions, the samples do not contain any respondents from the actual treatment group (i.e., those interviewed after the resignation was announced), and therefore it is not surprising that no significant change in attitudes is found. As the samples move forward, parts of the actual treatment group start to be included in the treatment group in the regressions, and the estimates start to become negative and significant. In the model where T_i indicates whether an interview was conducted before or after August 14, the estimated coefficient and its significance are relatively high, as expected. However, after August 14, the effect slowly moves back to being indistinguishable from zero as the actual treatment group starts to populate both the treatment and control groups in the regressions. The most significant coefficients are thus placed symmetrically around August 14. These results increase our confidence that our main analyses capture the effect of an

FIGURE 3   Results from 40 OLS Models of the Date on which Sunni Arab Attitudes Changed
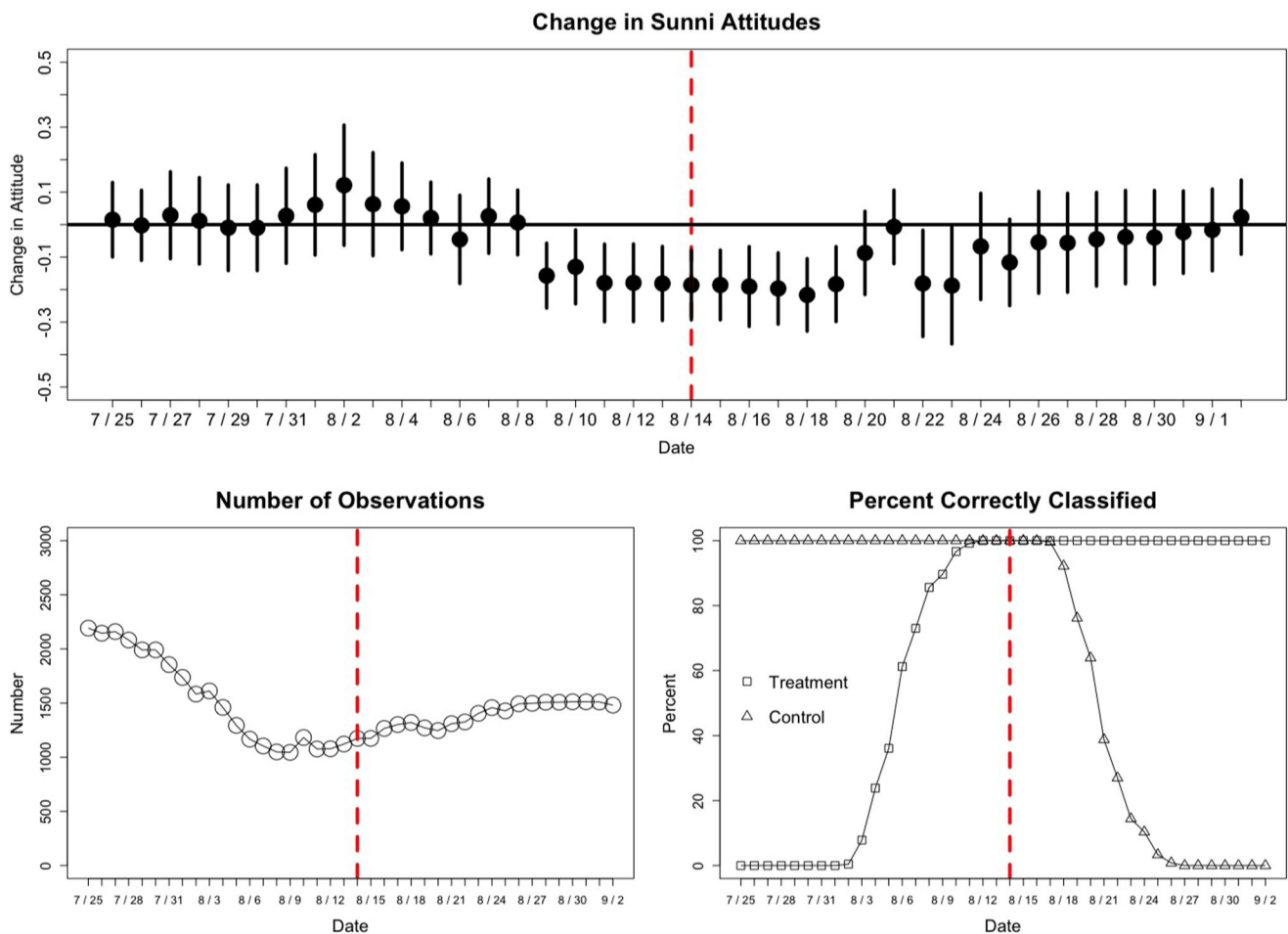
Note: The upper panel depicts the point estimates (with 95% confidence intervals) of the treatment effect for Sunni Arabs in 40 OLS models with the same specifications as Model 1. The x-axis indicates the day that constitutes the cutoff between treatment and control group in each model. The relatively high significance of the coefficient in the model where August 14 (designated by a dashed line) is the cutoff indicates that a critical event that strongly influenced Sunni Arab attitudes vis-à-vis armed opposition groups occurred in mid-August, when al-Maliki announced his resignation. The lower left panel displays the sample sizes for the 40 models. It shows that the coefficient is highly significant in mid-August even though the sample size and statistical power are relatively small at that point. The bottom right panel indicates the shares of respondents in each sample's treatment and control groups who are correctly classified into these treatment conditions if the critical event occurred on August 14. The higher these proportions are, the larger and the more significant is the estimated change in Sunni attitudes shown in the upper panel. This supports the conclusion that the change in Sunni Arab attitudes occurred on or in close temporal proximity to August 14.

important event that occurred in mid-August—such as the announced resignation of a divisive prime minister.

Larger and Smaller Samples

As a robustness check, we replicate the main models with a sample that includes all responses that were gathered within 3 weeks before or after the prime minister's resignation was announced on August 14. This sample includes 43% more observations than the main sample. Even so, the results on the difference between the effect of al-

Maliki's announced resignation on Shia Arab and Sunni Arab attitudes hold (see SI Tables 13–14). Another robustness check only includes responses that were gathered within 2 weeks from the day when the prime minister's resignation was announced. This sample is 10% smaller than the main sample, but it yields substantively the same results (see SI Tables 16–17).

In order to show that our results are not being driven by the varying nonresponse rates for each question that was used to construct the five dependent variables, we replicate the analyses on a sample of respondents who

answered all five questions. SI Table 19 shows that we obtain similar results.

Covariate Balance

While the as-if random assignment of respondents to the treatment or control group ensures that the characteristics of these groups are equal in expectation, a regression of the treatment status on all covariates in the main models confirms that these groups are not systematically different on determinants of political attitudes such as education level and age, conditional on governorate fixed effects. The only imbalances on control variables consist in a slightly smaller share of women, unemployed, and residents of midsize towns in the treatment group than in the control group (see SI Table 48). Therefore, all models control for gender, employment status, and size of hometown. Moreover, the sample with all responses gathered within ±21 days is fully balanced on all control variables; therefore, covariate imbalance is an implausible explanation of the findings.

The characteristics of respondents who were interviewed in August (i.e., respondents in the main sample) are not systematically different from those who took the survey during other months. We regressed a binary indicator of whether a respondent was interviewed in August on all covariates; as expected, the coefficients of all covariates from our survey are insignificant (see SI Table 48).

Potential Bias from Nonresponses and Direct Questions

Respondents effectively selected into the sample by choosing informative answer options rather than declining to indicate an attitude. Moreover, the direct question technique may introduce social desirability bias if it made some respondents reluctant to honestly reveal their attitudes. As long as respondents in the treatment and control groups did not use different logics of self-selection, nonresponses did not confound the estimate of the resignation's effect. Similarly, social desirability bias would only invalidate our estimate of the effect of the resignation if the likelihood that respondents misrepresented their attitudes systematically changed after this event. A series of tests examine these potential biases. First, the rate at which respondents refused to answer or stated that they "don't know" did not systematically change after the resignation was announced (see SI Tables 49–50). Second, respondents who declined to indicate their attitudes before August 14 had similar characteristics as those who did so at a later date (see SI Tables 51–52). Third, the announced resignation did not change Shia Arab or Sunni Arab respondents' choices to conduct the interview inside their home and to be alone with the enumerators during the interview (see SI Table 53). Fourth, the same enumerators administered interviews before and after the resignation was announced, and we do not find enumerator gender effects before or after that event (see SI Tables 61–63). In conclusion, we do not detect any evidence of a systematic change in social desirability bias after the announcement of the prime minister's resignation, which would bias our estimate of the effect of that event. Finally, we replicate our analyses on two subsets of respondents who are least likely to exhibit social desirability bias. Our results hold when we drop respondents who took the survey outside their home where others might overhear the interview (see SI Tables 54–55) and when we exclude those who were not alone with enumerators during the interview (see SI Tables 56–57).

Persistence of Effects over Time

By analyzing Iraqi attitudes in August, the main models only capture a short-term effect of the prime minister's resignation. In order to verify whether the effects last beyond August, we included the responses gathered in September in the analyses and added a binary measure to the regressions that indicates whether a respondent was interviewed in August or September. The results from the main models hold for these augmented regressions, and furthermore, Sunni Arab attitudes did not change between late August (after the resignation) and September (see SI Table 20). Thus, the change in attitudes lasted at least until September. We cannot use our survey to investigate whether the effect persisted after data gathering was completed in September. However, evidence from national polls conducted between 2014 and 2018 shows that al-Abadi's job approval among Sunni Arabs remained high throughout this period (see SI Table 34).

Weighted OLS Regressions

The investigated samples are not representative because their composition is a function of the as-if randomly determined timing of the interviews. Although reestimating our main models with survey weights cannot entirely resolve the lack of representativeness (because a few governorates are absent from all three samples), it helps demonstrate that the results are not being driven by the idiosyncratic composition of the samples. We reestimate the main models with observations weighted by

governorate and by district, respectively. The results from the main models hold (see SI Tables 22–25).

Discussion and Conclusion

The hearts and minds model of combating rebellions indicates that a population is less likely to support violent opposition groups if it is satisfied with the provision of public goods and services by the government. It implies that a large exogenous shock that alters perceptions of future public service and security provision by the government also changes both popular perceptions of the government and support of violent groups. The announcement of the resignation of the divisive Iraqi prime minister al-Maliki on August 14, 2014, was such an event. Data from an original survey administered in 17 of Iraq's 18 governorates during the summer of 2014 enable us to test the proposition that this seminal event influenced Iraqi Sunni Arab attitudes vis-à-vis the government and armed opposition groups. By comparing responses provided immediately before and after the resignation was announced, we find that Sunni Arabs became less sympathetic to violent opposition groups after this event. At the same time, the announcement of the resignation rendered Sunni Arabs more optimistic about future public service and security provision by the government. Moreover, Sunni Arabs assigned more favorable ratings to the government in the wake of this event. These results indicate that a counterinsurgent can win over the hearts and minds of members of a displeased group if it credibly signals to the group that it will improve on delivering the most salient public goods and services.

Iraqi Shia Arabs became slightly more sympathetic to violent opposition groups (although this result is not robust across several specifications) after al-Maliki's resignation, whereas their opinion about the government and their expectations of future public service provision by the government did not change. This gives us further confidence that the observed shift in attitudes is due to the dynamic described by the hearts and minds model and is not simply a function of zero-sum sectarian politics, which would imply that Shia Arab and Sunni Arab attitudes move in opposite directions on more than just one dimension.

The findings show that neither side of the policy debate in mid-2014 on whether al-Maliki should resign correctly anticipated the consequences of such leadership change. While some experts doubted that it would win over Sunni Arab hearts and minds (e.g., Hanna 2014), proponents of the resignation emphasized that increased process legitimacy could turn Sunni Arab support away from ISIS and toward the government (Duefler, quoted in PBS 2014). In contrast, we show that Sunni Arab assessments of the government's representativeness did not improve after al-Maliki announced his resignation. Our results indicate that the shift in Sunni Arab attitudes is consistent with rising perceptions of performance legitimacy and not process legitimacy among this minority in the wake of the announced leadership transition.

These findings shed new light on the question of whether civilians in civil war theaters alter their opinion about warring factions based on retrospective or prospective assessments of the parties' conduct. The literature on the effect of civilian casualties on public attitudes leaves open the question of whether the effect stems from the disapproval of past harm or from an update of expectations of future casualties. Studies on the effect of development programs on popular support for militants specify conflicting expectations: Khanna and Zimmermann (2015, 3) reason that "actual and especially the expected future benefits" from a public works program incite civilian collaboration with the counterinsurgency, whereas Crost, Felter, and Johnston (2014, 1852) argue that insurgents sabotage a development program because "successful implementation would increase popular support for the government." Although a lack of data on civilian attitudes or behavior prevents a direct test of these conflicting hypotheses in these earlier studies, this study shows that a signal about future public service and security provision by the government can change civilian attitudes in the conflict theater even before government policy changes.

One caveat is that this study only examines the short-term effect of the announcement of al-Maliki's resignation. The design of this study does not enable us to measure whether the departure of the divisive prime minister led to a lasting or transient change in Sunni Arab attitudes. Indeed, our argument implies that the shift in attitudes does not persist if the new government fails to satisfy the displeased minorities' expectations of improved public service and security delivery. Even so, it is remarkable that during an ongoing civil war, the nomination of a new prime minister for a still Shia Arab-dominated government caused a sharp decline in Sunni Arab support for armed opposition groups in Iraq. Moreover, subsequent surveys indicate that the increase in Sunni Arab support for the government in the wake of the leadership transition persisted for several years (see SI Table 34).

The main policy implication from the findings for the Iraqi government is that it can impair the ability of armed groups to win the hearts and minds of Sunni Arabs by improving the provision of the most salient public goods (especially security) and services to them. The results suggest that many Sunni Arabs are not supporting

violent groups (e.g., ISIS) for ideological reasons and are willing to switch their support away from such groups if a Shia Arab-led government effectively signals that it will respond to their grievances. The primary implication for Iraq's development assistance providers is that aid that improves the government's willingness or ability to provide public services and security and that renders Sunni Arabs more optimistic about future public goods provision by the state can reduce popular support for armed opposition groups in Iraq.

References

AFP. 2014. "Iraq's Maliki Says Will Not Quit without Court Ruling." *AFP*, August 13.

Balcells, Laia. 2010. "Rivalry and Revenge: Violence against Civilians in Conventional Civil Wars." *International Studies Quarterly* 54(2): 291–313.

Beath, Andrew, Fotini Christia, and Ruben Enikolopov. 2012. "Winning Hearts and Minds through Development? Evidence from a Field Experiment in Afghanistan." World Bank Policy Research Working Paper 6129. http://doi.org/10.1596/1813-9450-6129.

Berman, Eli, and Aila Matanock. 2015. "The Empiricists' Insurgency." *Annual Review of Political Science* 18: 443–64.

Berman, Eli, Jacob Shapiro, and Joseph Felter. 2011. "Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq." *Journal of Political Economy* 119(4): 766–819.

Blair, Graeme, C. Christine Fair, Neil Malhotra, and Jacob Shapiro. 2013. "Poverty and Support for Militant Politics: Evidence from Pakistan." *American Journal of Political Science* 57(1): 30–48.

Brody, Richard. 1991. *Assessing the President: The Media, Elite Opinion, and Public Support*. Stanford, CA: Stanford University Press.

Bullock, Will, Kosuke Imai, and Jacob Shapiro. 2011. "Statistical Analysis of Endorsement Experiments: Measuring Support for Militant Groups in Pakistan." *Political Analysis* 19(4): 363–84.

Burgess, Robin, Remi Jedwab, Edward Miguel, Ameet Morjaria, and Gerard Padró i Miquel. 2015. "The Value of Democracy: Evidence from Road-Building in Kenya." *American Economic Review* 105(6): 1817–51.

Cameron, Colin, Jonah Gelbach, and Douglas Miller. 2008. "Bootstrap-Based Improvements for Inference with Clustered Errors." *Review of Economics and Statistics* 90(3): 414–27.

Chulov, Martin, and Fazel Hawramy. 2014. "Fears Grow in Baghdad That U.S. Is Abandoning the City to Its Fate." *The Guardian*, August 16. https://www.theguardian.com/world/2014/aug/16/iraq-anger-us-air-force-defends-irbil-not-iraq-kurds-maliki.

Crost, Benjamin, Joseph Felter, and Patrick Johnston. 2014. "Aid under Fire: Development Projects and Civil Conflict." *American Economic Review* 104(6): 1833–56.

Crost, Benjamin, Joseph Felter, and Patrick Johnston. 2016. "Conditional Cash Transfers, Civil Conflict and Insurgent Influence: Experimental Evidence from the Philippines." *Journal of Development Economics* 118: 171–82.

Dube, Oeindrila, and Juan Vargas. 2013. "Commodity Price Shocks and Civil Conflict: Evidence from Colombia." *Review of Economic Studies* 80(4): 1384–1421.

Fair, C. Christine, Neil Malhotra, and Jacob Shapiro. 2014. "Democratic Values and Support for Militant Politics: Evidence from a National Survey of Pakistan." *Journal of Conflict Resolution* 58(5): 743–70.

François, Monika, and Inder Sud. 2006. "Promoting Stability and Development in Fragile and Failed States." *Development Policy Review* 24(2): 141–60.

Hanna, Michael. 2014. "Why Maliki's Ouster Is No Magic Bullet for Iraq." *Al Jazeera*, August 17. http://america.aljazeera.com/articles/2014/8/18/maliki-ouster-iraq.html.

Hodler, Roland, and Paul Raschky. 2014. "Regional Favoritism." *Quarterly Journal of Economics* 129(2): 995–1033.

Humphreys, Macartan, and Jeremy Weinstein. 2008. "Who Fights? The Determinants of Participation in Civil War." *American Journal of Political Science* 52(2): 436–55.

Imai, Kosuke, Luke Keele, Dustin Tingley, and Teppei Yamamoto. 2011. "Unpacking the Black Box of Causality: Learning about Causal Mechanisms from Experimental and Observational Studies." *American Political Science Review* 105(4): 765–89.

Isaac, Jeffrey, Stephen Biddle, Stathis Kalyvas, Wendy Brown, and Douglas Ollivant. 2008. "Review Symposium: The New U.S. Army/Marine Corps Field Manual as Political Science and Political Praxis." *Perspectives on Politics* 6(2): 347–60.

Jaeger, David, Esteban Klor, Sami Miaari, and M. Daniele Paserman. 2012. "The Struggle for Palestinian Hearts and Minds: Violence and Public Opinion in the Second Intifada." *Journal of Public Economics* 96(3–4): 354–68.

Kalyvas, Stathis. 2006. *The Logic of Violence in Civil War*. Cambridge: Cambridge University Press.

Khanna, Gaurav, and Laura Zimmermann. 2015. "Guns and Butter? Fighting Violence with the Promise of Development." IZA Discussion Paper 9160. http://ftp.iza.org/dp9160.pdf.

Lipset, Seymour. 1959. "Some Social Requisites of Democracy: Economic Development and Political Legitimacy." *American Political Science Review* 53(1): 69–105.

Lyall, Jason, Graeme Blair, and Kosuke Imai. 2013. "Explaining Support for Combatants during Wartime: A Survey Experiment in Afghanistan." *American Political Science Review* 107(4): 679–705.

Lyall, Jason, and Isaiah Wilson. 2009. "Rage against the Machines: Explaining Outcomes in Counterinsurgency Wars." *International Organization* 63(1): 67–106.

Malkasian, Carter. 2006. "The Role of Perceptions and Political Reform in Counterinsurgency: The Case of Western Iraq, 2004–05." *Small Wars & Insurgencies* 17(3): 367–94.

Mao, Tsedung. 1937. *On Guerrilla Warfare*. Urbana: University of Illinois Press.

Matthiesen, Toby. 2014. *Sectarianism in the Middle East*. New York: Henry Luce Foundation.

Mikulaschek, Christoph, and Jacob Shapiro. 2018. "Lessons on Political Violence from America's Post-9/11 Wars." *Journal of Conflict Resolution* 62(1): 174–202.

Mutz, Diana. 2011. *Population-Based Survey Experiments.* Princeton, NJ: Princeton University Press.

National Consortium for the Study of Terrorism and Responses to Terrorism. 2017. *Global Terrorism Database.* College Park, University of Maryland.

PBS. 2014. "Can Iraq Be United under Maliki?" June 19. https://www.pbs.org/newshour/show/iraq2-2.

Roggio, Bill, and Oren Adaki. 2014. "Islamic State Seizes Hit, Assaults Iraqi Military Headquarters in Anbar." *Long War Journal*, October 2. https://www.longwarjournal.org/archives/2014/10/islamic_state_seizes.php.

Shapiro, Jacob, and C. Christine Fair. 2010. "Understanding Support for Islamist Militancy in Pakistan." *International Security* 34(3): 79–118.

Shaver, Andrew, and Jacob Shapiro. 2016. "The Effect of Civilian Casualties on Wartime Informing: Evidence from the Iraq War." HiCN Working Paper 210. http://www.hicn.org/wordpress/wp-content/uploads/2012/06/HiCN-WP-210.pdf.

Sullivan, Kevin, and Greg Jaffe. 2014. "Collapse of Iraqi Army a Failure for Nation's Premier and for U.S. Military." *Washington Post*, June 12. https://www.washingtonpost.com/world/national-security/collapse-of-iraqi-army-a-failure-for-nations-premier-and-for-us-military/2014/06/12/25191bc0-f24f-11e3-914c-1fbd0614e2d4_story.html.

Taylor, Adam. 2014. "Meet Haider al-Abadi, the Man Named Iraq's New Prime Minister." *Washington Post*, August 11. https://www.washingtonpost.com/news/worldviews/wp/2014/08/11/meet-haider-al-abadi-the-man-named-iraqs-new-prime-minister/.

Thompson, Robert. 1966. *Defeating Communist Insurgency: Experiences from Malaya and Vietnam.* New York: Praeger.

Uppsala Conflict Data Program. 2017. *UCDP Georeferenced Event Dataset Version 17.1.* Uppsala, Sweden: Uppsala University.

U.S. Army and Marine Corps. 2006. *Counterinsurgency: Field Manual 3–24.* Washington, DC: U.S. Army and Marine Corps.

Wood, Elisabeth. 2003. *Insurgent Collective Action and Civil War in El Salvador.* Cambridge: Cambridge University Press.

Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Appendix A: Qualitative evidence
Appendix B: Descriptive statistics, robustness checks, and additional results
Appendix C: Covariate balance tests and analyses of potential bias from nonresponses and direct questions
Appendix D: Survey administration