Ghosts of the Black Decade: How legacies of violence shaped Algeria's Hirak protests

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Abstract

Episodes of mass political violence, such as genocide and civil war, have been thought to both encourage and discourage future political mobilization. We square these competing hypotheses by disaggregating between protest onset and resilience. We argue that exposure to mass violence decades ago should on average decrease protest onset, by heightening fears of repression and retribution. However, conditional on protesting, prior exposure to violence should increase protest longevity, by generating greater political grievances that fuel commitment to the cause. We find evidence of both effects in Algeria during the 2019-2020 *Hirak* protests that toppled President Abdelaziz Bouteflika. Pairing an original dataset on massacres during the 1990s civil war with a rolling online survey of 18,000 Algerians in 2019-2020, we find that areas exposed to greater violence in the 1990s had on average fewer, but more committed, protesters in 2019-2020.

Keywords: legacies of violence, protest, revolution, Algeria, survey

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Introduction

Episodes of mass political violence, such as genocide and civil war, can have legacies that span decades (Bellows & Miguel, 2009; Blattman, 2009; Finkel, 2015; Walden & Zhukov, 2020). Citizens exposed to such violence often develop distinct political attitudes, which in turn may be passed down to their descendants (Balcells, 2012; Lawrence, 2017; Lupu & Peisakhin, 2017). As a result, violence from decades past may continue to shape political developments well into the future.

However, scholars are divided over whether exposure to such violence encourages or discourages future political mobilization. On the one hand, widespread violence may signal the regime's resolve to repress protests in the future (Zhukov & Talibova, 2018; Wang, 2021). By heightening fears of repression, indiscriminate violence may induce obedience and deter dissent (Young, 2019). On the other hand, exposure to violence may also generate political grievances against the perpetrators of such violence. In turn, these grievances may fuel moral outrage and thus mobilization (Lawrence, 2017; Rozenas, Schutte & Zhukov, 2017).

Initial attempts to square these two competing hypotheses emphasize the political opportunity structure. Where the regime remains strong, both willing and able to repress, the 'coercive effect' should be dominant, producing "silent dissidents" (Wang, 2021): no mobilization despite strong grievances. By contrast, when the regime collapses or is defeated in war, the threat of repression should fade, and the 'grievance effect' should become dominant, producing mass dissent (Rozenas & Zhukov, 2019).

In between, however, is a wide range of cases in which the threat of repression might weaken but still remain salient. In these middle cases, we argue, *both* the coercive and grievance effects of prior violence should structure the pattern of mobilization. In particular, both effects should be evident in shaping two distinct protest outcomes: onset and resilience. We hypothesize that prior exposure to mass political violence should on average decrease protest onset, by heightening fears of repression and retribution. However, conditional on protesting, prior exposure to violence should increase protest resilience, by generating greater

political grievances that fuel commitment to the cause. In other words, areas exposed to mass violence decades ago should on average see fewer but more committed protesters.

We explore these hypotheses in the case of Algeria, which was rocked by a brutal civil war in the 1990s claiming at least 100,000 lives. The trauma of that 'Black Decade' deterred future mobilization, with the 2011 Arab Spring uprisings largely bypassing Algeria (Pearlman, 2013; Khalil, 2014). However, a spark in February 2019 – President Abdelaziz Bouteflika's pursuit of a fifth term in office – finally broke the barrier of fear. Massive and long-lasting peaceful protests known as the *Hirak* toppled Bouteflika by April 2019 and then continued on for nearly a year demanding deeper political reforms.

To measure the legacies of violence in Algeria, we exploit spatial variation in exposure to violence during the Black Decade, leveraging an original dataset on massacres in the 1990s. We then trace the legacies of these killings onto protest participation in the 2019-2020 *Hirak* protests. We field a massive, online survey of over 18,000 Algerians on a rolling basis between April 2019 and February 2020, allowing us to measure self-reported protest participation, grievances, and expectations of repression over time.

We find that areas exposed to more violence in the 1990s saw significantly lower rates of protest participation during the 2019-20 protests. In line with our first hypothesis, this negative correlation between violence and protest participation was mediated through heightened expectations of repression. Two decades later, areas that had experienced more killings showed greater fear of repression and therefore fewer protests.

However, we also find that the effect of massacres flipped over time. Six months into the protests, the regime began to shift gears, no longer granting concessions and instead beginning a campaign of targeted repression. Protest participation accordingly shrank. At this stage, we find that the committed protesters who continued on in the face of targeted repression were significantly *more* likely to come from areas exposed to violence in the 1990s. In line with our second hypothesis, this positive correlation between violence and protest participation in the later stages of the *Hirak* was mediated through greater grievances

towards the regime, including by having personally lost a family member during the war.

While the data is correlational, they suggest that exposure to violence might have competing, long-term legacies: on the one hand decreasing protest onset, but conditional on protesting, increasing protest resilience. The areas exposed to violence in Algeria in the 1990s saw fewer, but more committed, protesters in 2019, who continued on for months, stopping only in March 2020 with the outbreak of the Coronavirus pandemic.

This study thus provides both substantive and methodological contributions to the literature on the legacies of political violence. Theoretically, we show how the competing legacies of violence fit together, differentially shaping protest onset and longevity. Methodologically, we leverage a unique, large-scale survey that allows us to tease out the precise mechanisms through which these competing effects occur. Overall, the results suggest that a regime's use of indiscriminate repression and violence may be a double-edged sword, fueling inter-generational grievances that come back to haunt the regime decades later.

Political violence and its legacies

Episodes of mass political violence, whether civil war, genocide, or indiscriminate repression, often produce traumatic long-term legacies that shape political attitudes and behavior for decades. One strain of thought emphasizes that political violence induces fear of future violence, deterring mobilization. Even generations later, when the leader that perpetrated the violence is no longer in power, these communities may still carry heightened fear of repression. Zhukov & Talibova (2018), for instance, find that 'communities more heavily repressed under Stalin are less likely to vote today' under Putin, due to Stalin's terror having 'raised the expected costs of even seemingly benign political participation' (p. 268). Wang (2021) likewise finds that areas more exposed to terror under China's Cultural Revolution are less likely to protest today, 'fearing that the same tragedy might happen again' (p. 469).

On the other hand, other scholars contend that political violence instead encourages

future mobilization, in particular by generating grievances towards the perpetrators. Balcells (2012) and Villamil (2021), for instance, find that victimization during the Spanish Civil War and under Franco led to a rejection of the perpetrator's identity and ideology. Studying mass deportations under Stalin, Lupu & Peisakhin (2017) find that Crimean Tatars who 'suffered more intensely [...] hold more hostile attitudes towards Russia and participate more in politics,' while Rozenas, Schutte & Zhukov (2017) likewise find that Ukrainian communities that suffered more deportations 'in the 1940s are now significantly less likely to vote for "pro-Russian" parties.' In line with theories of backlash protests, political violence may generate grievances that in turn encourage future mobilization (Aytaç, Schiumerini & Stokes, 2018), including across generations (Lawrence, 2017).

Recent literature has attempted to square these two competing legacies by focusing on the political opportunity structure. When the threat of repression remains credible, the coercive effect should be dominant, and violence should thus produce 'silent dissidents': 'citizens who resent the regime but do not act on this sentiment' (Wang, 2021: p. 464). However, when the threat of repression fades, the grievance effect should become dominant, and violence-affected dissidents should be more likely to mobilize. Rozenas & Zhukov (2019) thus exploit variation in the threat emanating from the Soviet Union in Ukraine, showing that communities affected by Stalin's terror by hunger were generally hesitant to express their dissent, but mobilized into action when the Soviet threat was weak – when Germany occupied Ukraine during World War II, and when the Soviet Union collapsed.

In this article, we both build off of and qualify these attempts to integrate the coercive and grievance legacies of violence. We first observe that many of the political opportunity structures that produce mass mobilization do not entail the threat of repression fading away entirely, as perhaps occurred when the Soviet Union collapsed or Germany occupied Ukraine, but instead entail simply weakening enough to facilitate mobilization. In these cases of mobilization, where some threat of repression remains, we argue that both the coercive and grievance-based legacies of violence will operate. In particular, we argue that each legacy

will be evident in shaping a different mobilizational outcome: the former shaping protest onset, and the latter, protest resilience.

Fear and protest onset

We first examine protest onset, or an individual's decision to take to the streets. Among the many factors shaping this decision is one's expectations of repression and retribution (Ritter & Conrad, 2016; Young, 2019). If individuals anticipate being arrested, tortured, or killed by the security forces or other armed groups, they are less likely to turn out.

Although there may be one universal, objective measure of the likelihood of repression, each individual perceives it differently (Kurzman, 1996). Each person differs in how likely they think repression is, what form they think it might take, and how much importance they place on it in their calculations about whether to protest. As Kuran (1991) puts it, each person's 'revolutionary threshold' is different. Accordingly, even when the so-called 'barrier of fear' has been broken, and thousands of protesters take to the streets, others may still be hesitant, deterred by their higher 'revolutionary threshold.'

We contend that legacies of violence shape these thresholds. Individuals who have been exposed to violence in the past should be more likely to believe that today, repression is not just possible but likely, and having personally seen its consequences, they should be more averse to actions that might trigger its recurrence. Therefore, even when mass mobilization has emerged, they will on average be more hesitant to join.

We argue that this fear of retribution may also pass down from one generation to the next. Children who grow up in families affected by violence should be more likely to hear about this violence and personally know of its consequences, in turn shaping their revolutionary thresholds as well. While the extent of fear may dissipate slightly by generation, new generations in violence-affected areas should on average still exhibit higher fear than those generations in non-affected areas.

Finally, this mechanism of fear should operate whether the violence they were exposed

to was one-sided repression or civil war. Either way, they should be more likely to fear that such an outcome might reoccur if they were to mobilize. Their exposure to violence should make them more risk-averse, shying away from actions that might trigger renewed violence.

Hypothesis 1: Exposure to political violence should decrease protest onset by heightening fears of repression and retribution.

Grievance and protest resilience

Once protesters take to the streets, they then face a second decision: should they continue protesting, or give up? This decision depends in part on factors endogenous to the uprising, for instance, whether the regime responds to the initial protests with concessions or repression (i.e., Rasler, 1996). However, it is also shaped by one's *a priori* level of grievances heading in to the protests (Finkel & Muller, 1998). Protesters with more grievances towards the regime are likely to be more resilient even in the face of repression.

We argue that legacies of violence shape these initial grievances, and by doing so, increase protest resilience. Individuals exposed to violence, and particularly those who have lost loved ones in the violence, are likely to feel aggrieved by the regime. Assuming they begin to protest, those grievances should then fuel greater commitment to the cause, making their protests more resilient.

These grievances as well should transfer across generations. Children from violence-affected families are likely to learn from their parents about their family's loss, regularly commemorate victims of violence, and thus maintain these grievances against the perpetrators across generations.

Finally, these grievances should fuel protest resilience even in cases where it is unclear whether the state committed the violence. Governments are increasingly 'out-sourcing' their repression to pro-government militias or plainclothes officers to limit their accountability (Carey, Colaresi & Mitchell, 2015). Likewise, in civil war scenarios, civilians may be victimized by the rebel groups, and not just the government. While victims in these cases may

blame the militia or rebel group, they are likely to also blame the government for not fulfilling the state's most basic task: the provision of security. Worse, they may blame the state for triggering the civil war in the first place by meeting opposition demands with repression. In short, even when civilian victimization is not attributable directly to the state, populations are likely to still harbor grievances towards the state that in turn fuel the resilience of their anti-regime protests.

Hypothesis 2: Conditional on protesting, exposure to political violence should increase protest resilience by heightening grievances.

Algeria: The *Black Decade* and the *Hirak* uprising

We explore these hypotheses in the case of Algeria. An oil-rich country with a politicized military, Algeria has been ruled by dictators since independence. Yet, Algeria also experienced one of the first experiments with democracy in the region. Following protests in late 1988, the Algerian regime initiated a brief, democratic transition. The country experienced its first-ever free and fair local and legislative elections in 1990 and 1991, respectively. In both, the newly-founded *Front Islamique du Salut* (FIS) won by significant margins. After the FIS won the first round of the legislative elections and appeared set to win a majority through the run-offs, the army stepped in with a coup d'état, canceling the elections and ending the democratic experiment (Aït-Aoudia, 2015).

The subsequent years turned into some of the most traumatic episodes in Algerian history. Splinter groups from the FIS began an insurgency against the state, triggering an almost a decade-long civil war. The real death toll of the war is still unknown due to the plethora of forced disappearances (Collectif des Familles de Disparus en Algérie, 2016) and conflicting accounts; however, it is estimated at more than 100,000 deaths (Ait-Larbi et al., 1999). While there were significant casualties among both the insurgents and the army, tens of thousands of civilians were also killed in indiscriminate attacks by both sides. As a result

of this devastating armed conflict, the 1990s is dubbed in Algeria as *the Black Decade*, and remains a traumatic memory in the nation's psyche (Ghanem, 2021).

In the wake of the civil war, the new president, Abdelaziz Bouteflika (r. 1999-2019), initiated a *Civil Concord* that granted an amnesty to all sides (Tlemçani, 2008). In the absence of any transitional justice or reconciliation program, the grievances from the war never healed. Although the massacres were a taboo topic not discussed publicly or in schools (Ghanem, 2021), their memories were passed down within families. As Algerian scholar Faouzia Zeraoulia (2020: p. 4, 10-11) observes:

> 'The new generation does not remember the details of the civil war, but every family has a victim to tell the story of the civil war. Among the younger generation, people lost their fathers, mothers, neighbors, and cousins, and hence, the civil war is not a part of their country's history, rather a part of their family reality. [...] Most of the victims' families that I visited and interviewed put up a big picture at their home of a son, brother, daughter, or a father. [...] They did not forget, even if they do not talk much in the public arena.'

This inter-generational trauma from the *Black Decade* is one reason why the 2011 Arab Spring uprisings largely bypassed Algeria (Pearlman, 2013; Volpi, 2017). While some activists took to the streets, these small protests did not escalate into the sweeping revolutionary movements of Algeria's neighbors. As Andrea Khalil (2014: p. 92) observed: 'the widespread formation of political crowds has been inhibited by memories of the massacres that have marked the country's history since the 1990s. These memories are a recurrent theme in interviews and literature and they form an integral part of the consciousness of several generations of Algerians.' A critical mass of Algerians were afraid of re-living the scenario of the 1990s and stayed home, wary of starting another revolution.

Yet the underlying grievances continued to escalate throughout the 2010s. The political reforms Bouteflika and his government implemented in the wake of the Arab Spring fell far short of their promises (Kilavuz, 2017). For his part, Bouteflika had suffered a stroke in

2013 which left him nearly paralyzed, physically unable to run the country. At the same time, the global collapse in oil prices beginning in 2014 slowed economic growth and fueled perceptions of corruption (Zoubir, 2019; Boubekeur, 2020).

The country entered 2019 with debates over who would succeed Bouteflika in the scheduled April 2019 elections. As discussions between different regime factions ended inconclusively (Bendaoudi, 2018), the ailing Bouteflika was instead nominated for a fifth term. That would prove to be a step too far. Several localized protests broke out after the announcement, and the next Friday, 22 February hosted what would become the first of many massive, nation-wide protests (Kilavuz, 2019). Each week the protests, known as *the Hirak*, grew significantly, eventually bringing millions into the streets.

The legacies of the civil war, however, continued to pattern this mobilization. The regime explicitly invoked these memories to try to deter further protests. On 28 February Prime Minister Ahmed Ouyahia warned Algerians: 'I remember 1991, it was like today. I read today that there is a call to strike, I remember the strike of 1991.'[1] This fear seemed to scare some Algerians away from the protests. One woman said 'for us, [the war] was real life and I do not wish the same life for my children.'[2] Zeraoulia (2020: p. 10) observes that 'today, the effect of trauma manifests in a collective fear from losing one's life, stability, relatives and friends... Algerians learned... lessons from these traumatic events, namely: Dominant factions, either political or military, try hard to keep their grip on power and natural resources for a long time.'

Even those who did choose to protest were still shaped by this fear, remaining peaceful to avoid any potential trigger for repression. As Zeraoulia (2020: p. 18) continues: 'the fear of violence still exists but it is expressed differently. [...] The slogans of the protesters also are a powerful indicator that the trauma memory is still present and that people are trying to avoid another violent turning point in their history. Among the remarkable slogans we can cite: [...the] "Army and people are brothers," "No destruction, yes for change," "The black

[1]Quoted in Saadoun (2019).
[2]Quoted in Zeraoulia (2020: p. 11).

decade ended and we build a white decade," and "Do not fight the power by the weapons, fight them by your new ideas."' While these protesters might have had a lower revolutionary threshold and therefore took to the streets, the fear of repression had not entirely faded.

At the same time, we also see evidence of the grievance mechanism at work in these protests. Even after the *Hirak* succeeded in toppling Bouteflika on 2 April (Grewal, 2019b), the peaceful protests continued every Friday for almost another year, with demands of more systemic change. The protesters wanted to 'get rid of them all' ('*yetnahaw ga''*), not just the figurehead, Bouteflika. Present in many of these protests were the victimized families from the civil war, in particular the Collective of Families of the Disappeared in Algeria (CFDA), a grouping that had brought together victims' associations like *Somoud* and *SOS Disparus*. These groups held profound grievances against the system, not just Bouteflika. 'The trauma of witnessing mass death produced deep political problems, wounds, and mistrust [...] of a political system that was implicated in the violence' (Khalil, 2014: p. 71). Indeed, a common chant became: 'You don't scare us with the 'black decade,' because we grew up in misery.'[3]

At first, the remnants of Bouteflika's regime appeared to comply with these continued, grievance-fueled protests. The interim government in May and June 2019 arrested a number of businessmen and politicians suspected of corruption, and then agreed to delay the presidential elections, originally scheduled for July. But these concessions failed to satisfy the protesters, who were demanding a complete change in the political system (Grewal, Kilavuz & Kubinec, 2019). By mid-summer 2019, the regime shifted gears, beginning instead a campaign of targeted repression. Several opposition figures and protesters were arrested in late July, and localized protests were stopped by the security forces in August. Then, important opposition figures were arrested in September. These events showed that around six months into the protests (August 2019), the regime was attempting to curtail the *Hirak* through targeted repression. While the protests continued in large numbers, this targeted repression resulted in a decline in protest participation, leaving only the more committed protesters by

[3]See, e.g., https://twitter.com/rahim_bellem/status/1205089592510222338.

fall 2019 (Grewal, 2019a).

As general protest participation shrank, the victimized families from the civil war became even more prominent. Observers noted that the remaining protesters were increasingly adopting the chants of the CFDA, calling for justice for war victims. Algerian journalist Daikha Dridi (2020) observed that 'While for the past year the overwhelming majority of Algerians who have taken part in demonstrations against the system in place have unanimously demanded the release of Hirak detainees [...] a new slogan has been added, in the course of the last few months, that of groups of demonstrators who demand the "release of the political detainees of the 1990s."' The committed protesters that continued on into late fall 2019 appeared to disproportionately harbor grievances from the war.

The regime, for its part, began in fall 2019 to complement its targeted repression with cooptation, attempting to lure parts of the opposition into a political roadmap that began with presidential elections in December 2019. The *Hirak* protesters that remained in fall 2019 decided to boycott, succeeding in driving down turnout in these elections to a paltry 39.9%. Yet, several figures, including some from the established opposition, submitted their candidacies. The regime approved only five candidates and then succeeded in coopting and/or frightening those who did vote into voting for their preferred candidate, former prime minister Abdelmadjid Tebboune, who won with 58% of the vote. The *Hirak*, meanwhile, continued to reject the system, viewing Tebboune as part and parcel of the regime (Kilavuz & Grewal, 2020). They persevered in their people power movement for another three months, until deciding to pause protests due to the Coronavirus pandemic in March 2020.

Research design

At a national level, the case of Algeria already accords with our theory. In line with Hypothesis 1, its traumatic civil war deterred protest onset during the 2011 Arab Spring uprisings. Yet, in line with Hypothesis 2, once the barrier of fear was finally broken in 2019,

the *Hirak* protests turned out to be incredibly resilient and long-lasting.

Our empirical strategy in this paper, however, moves the analysis to the sub-national level. We show that areas that were exposed to more violence in the 1990s produced fewer but more committed protesters in 2019-2020. In line with hypothesis 1, we find that Algerians in areas exposed to more violence in the 1990s were less likely to protest during the *Hirak*, deterred by their expectations of repression. Yet in line with hypothesis 2, we show that the protesters who did turn out from these areas were more committed to the cause, continuing on into the fall of 2019 despite the regime's targeted repression.

To test this theory, we leverage two original sources of data: 1) the Algerian Massacres dataset, recording over 1000 mass killings during the 1990s civil war, and 2) the Algerian Transition Survey, surveying over 18,000 Algerians during the 2019-2020 *Hirak* protests. We discuss each dataset in turn, before presenting the results.

Dataset of Algerian massacres

The massacres of the Black Decade are a well-known phenomenon; however, no systematic study has been carried out to understand their impact. During the conflict, thousands of civilians were murdered along with the warring factions. While the Islamist insurgents were behind some of these attacks, others were committed by the army and its intelligence branch, the *Département du Renseignement et de la Sécurité* (DRS) (Souaïdia, 2001).

To create a dataset on massacres during the 1990s, we draw upon two publicly available reports: 1) *Chronologie des massacres en Algérie*, published by the human rights association Algeria Watch (2016), and 2) *An Inquiry into the Algerian Massacres* by Ait-Larbi et al. (1999). Across the two sources, there are 1079 unique incidents of violence between 1992 and 1999. Despite the titles of the primary sources, the majority of these incidents might be better labeled as murders or killings, claiming 1-2 lives each. In order to capture the effect of more large-scale massacres, which should theoretically have a larger effect on fear

(H1) and grievances (H2), we subset the data to events that claimed at least 10 lives.[4] With that, we have 343 massacres in our dataset, 13 of which are extreme events claiming over a hundred lives in the span of a day or two. As a secondary measure, however, we also total up the number of deaths per capita across all incidents, which allows us to include the smaller killings without them inflating the number of events.[5]

The smallest administrative unit for which we have complete data for these massacres is the *wilaya* or governorate level. Figure 1 plots the number of massacres by Algeria's 48 *wilayat*.[6] As can be seen, the intensity of massacres varies significantly by location. While there are seventeen *wilayat* with no massacres, four had more than 25. We therefore log the number of massacres per *wilaya* as our primary independent variable.

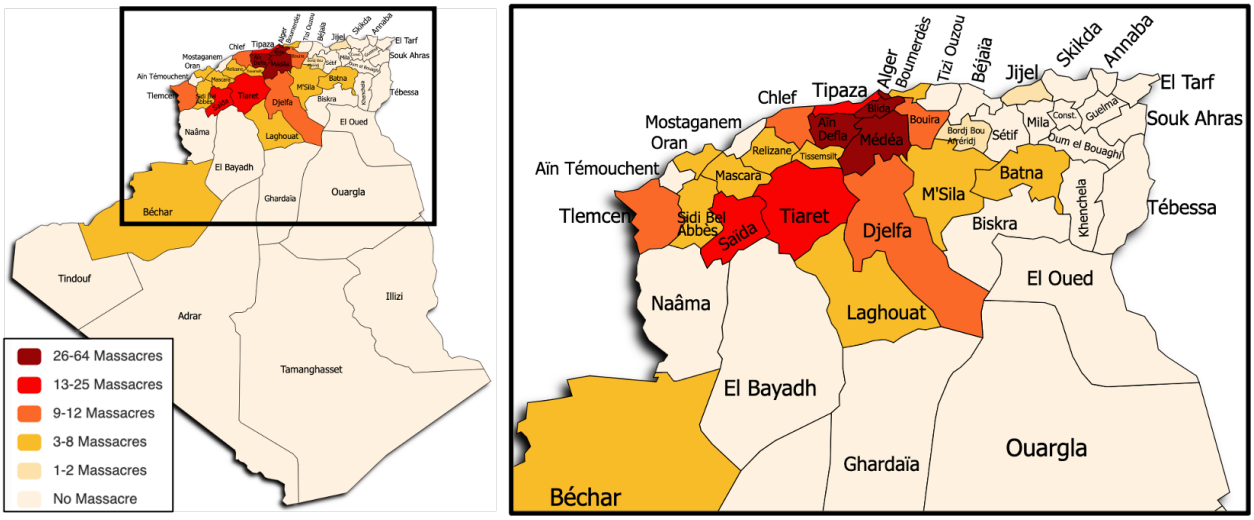

Figure 1. Distribution of massacres across Algerian *Wilayat*

There are two primary challenges to causal inference with this data. First, massacres were not random.[7] An analysis of their predictors (see Appendix, Figure A.1) reveals one major

[4]This threshold largely accords with Francisco (2004)'s study of massacres. The correlation between the subnational variation of all incidents and massacres is fairly high at 0.98. Results are therefore similar using either measure, but we prefer for theoretical reasons this higher threshold to capture massacres.

[5]The correlation between massacres and deaths per capita is 0.87.

[6]In December 2019, Algeria created ten new *wilayat*, dividing up existing provinces in the south. We stick to the original 48 to ensure consistency with the 1990s data.

[7]See Kalyvas (1999) for the Islamist insurgents' logic behind their massacres.

confounder: massacres were more likely in areas where the FIS was stronger, as measured by its vote share in the 1991 elections. If Islamists are still strong in those areas today, they might be driving the protest resilience. Moving forward, we will therefore control for FIS vote share in each wilaya in 1991, and using the survey data (described below), we will also control at the individual-level for Islamist ideology and attitudes towards the FIS. While these controls will allow us to rule out this one known confounder, there may still be unobserved confounders that inhibit our ability to infer a causal relationship between the massacres and these patterns of protest behavior.

A second difficulty with the data is that for the vast majority of killings, the perpetrator was unknown. In only 26 of the 1079 incidents (2.4%) was the government openly identified as the culprit. In another 34% the sources simply identified the perpetrators as "armed men," which could refer to either side. The rest provided no information. This makes sense, as the government devoted considerable energy to hiding its hand in massacres, with some defecting soldiers even claiming they dressed up as the Islamist rebels when killing civilians (Sergent, 1997; Souaïdia, 2001). In theory, even massacres committed by the Islamist insurgents could breed grievances towards the government, for having stepped in with a coup and triggered the civil war, and for not being able to ensure security. We therefore utilize the full massacre data for our analysis. However, in robustness checks, we show that results also hold when using the proportion of killings explicitly by the government (see Appendix, Table A.7).

Algerian transition survey

We trace the legacies of these massacres onto protest participation during the 2019-2020 *Hirak* protests. To do so, we conduct a massive, online survey of over 18,000 Algerians over the course of the protests.

Algeria is a challenging environment for survey research, with the government censoring what types of questions can be asked by polling firms. The Arab Barometer, for instance, has been unable to ask about support for the government, a question critical for capturing

the grievances mechanism of our theory. Instead, we opted for a self-administered, online survey through Qualtrics, that keep survey answers safe and would not put any enumerators at risk for asking sensitive questions.

To recruit Algerians into the Qualtrics survey, we deployed advertisements on Facebook (see Appendix) that asked Algerians to 'take an academic survey about Algerian politics.' Clicking on the advertisement took users out of Facebook and into Qualtrics, where they first saw a consent form before proceeding to the survey. Because our survey is conducted on Qualtrics, not Facebook, Facebook does not learn their answers.

Raw Facebook samples, of course, are not nationally representative. Only 45% of Algerians (19 out of 43 million) are active monthly users of Facebook. These 45% skew younger, more male, and likely also more urban, wealthy, and educated than their counterparts. We followed Zhang et al. (2020) in implementing age and gender quotas during recruitment, bringing our sample more in line with the population on observable demographics (see Appendix). Still, there are likely other unobservable differences between Facebook users and non-users, so we do not claim that our sample is nationally representative.

On the other hand, the biases in our sample are also useful for our purposes. The Facebook bias – urban, educated, connected – had the effect of oversampling protesters. 56.9% of our sample claimed to have protested at least once since 22 February. While there are no definitive figures on participation rates in the *Hirak*, it is likely that our survey oversampled protesters. That is particularly useful, since our theory speaks to the calculations that lead one to protest. Our sample therefore captures a substantively meaningful subset of the Algerian population, allowing us to better understand protester motivations.

We launched the survey online on 1 April 2019, five weeks after the beginning of the *Hirak* and one day before Bouteflika was toppled. We aimed to capture changes in Algerians' attitudes throughout the protest movement, so we continued the survey until 21 February 2020, right at the one-year anniversary of the *Hirak*. During these eleven months, we surveyed a total of 18,679 Algerians. Table I provide demographics on the survey sample.

Table I. Demographics of survey sample (N=18,679)

Demographic	**Census (%)**	**Our Survey (%)**
Female	49	48
Age <30	55	52
College-Educated	48	62
Algiers	8	17
Unemployed	12	21

The gender and age quotas helped our online survey match the population on these two demographics. However, other imbalances remain. The sample tends to over-represent the unemployed as well as the better educated. It also over-represents urban areas, though Figure A.4 (Appendix) shows that respondents still come from all around the country.[8]

There are two main strategies we follow for adjusting for biases in the survey frame. First, as our main interest in this paper is in inference, we include demographic factors in all regression analyses as doing so implicitly adjusts for sampling biases arising from them. Second, we employ multilevel regression with post-stratification (MRP) when we want to project the survey results to the population. Doing so involves employing the most recently available Algerian census data for population totals by age, gender, and district, and then re-weighting estimates to match these totals. The advantage of MRP is that it is a model-based approach which will capture our uncertainty in strata of the population for which we have less data, such as older demographics in rural areas. Furthermore, post-stratification in general is a method that works better with larger surveys, and the size of our survey ensures that we have at least some respondents at every combination of gender, age and district.

To illustrate the utility of MRP, Figure 2 shows time-varying responses to an ordinal question about how likely it was for a respondent to protest in the coming days. To create this figure, we estimated a model predicting this ordered response with varying intercepts for age, governorate and sex, and allowed these to correlate with a 3-order polynomial time trend of time (i.e. a varying effects model). For each day in the sample, we then corrected the

[8]For more on the Algeria survey and some descriptive findings, see: Grewal, Kilavuz & Kubinec (2019)

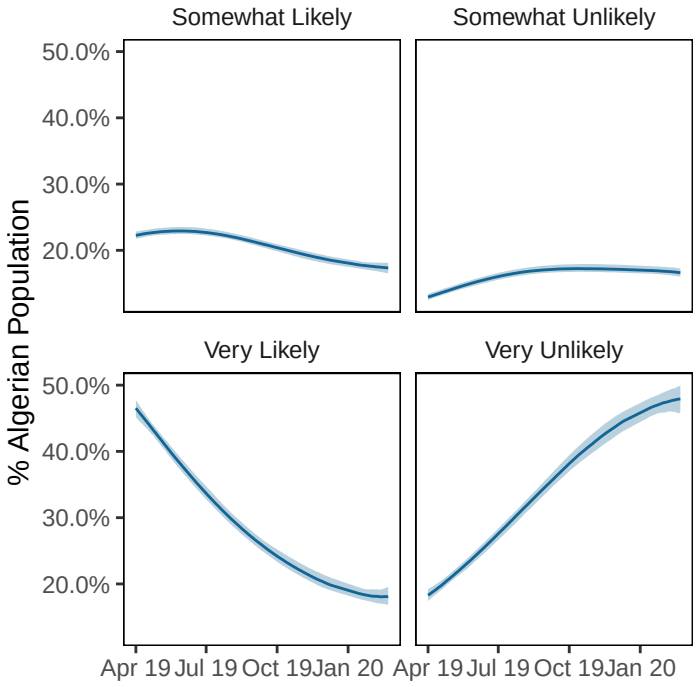

Figure 2. Algerian protest intentions over time during the Hirak

model's estimates by re-weighting according to the proportion of the population in each age, sex and governorate cell. By so doing, we can produce reasonably representative estimates.

What Figure 2 reveals is the changing nature of the protest movement over time. When we began the survey in April of 2019, almost 50% of Algerians reported that they were very likely to protest in the coming days–an extraordinarily high number. However, this initial optimism did not last, and by October only 20% of Algerians had the same interest in protests.

Models

To measure the legacies of violence on protests, we combined these two datasets in our analysis. In our survey, we asked several questions about respondents' participation in the *Hirak*. First, we asked a retrospective question: 'Have you personally participated in any of the protests since February 22?', the day the *Hirak* began. The answer set was a 5-point

scale starting from 'have not participated' to 'participated more than 10 times.' In our primary model, we dichotomize this variable into those who have protested and those who have not. In robustness checks, we use the full, cumulative 1-5 point scale. Our survey also asked about respondents' future behavior, as shown in Figure 2 above: 'how likely are you to protest in the coming days?' on a 4-point scale from very unlikely to very likely.

We anticipate that the initial effect of massacres on both survey questions (past and future protest participation) should be negative. At the start of the protests, areas that experienced more violence in the 1990s should on average see fewer protesters, deterred by their higher expectations of repression (Hypothesis 1). But, we also anticipate the effect switching over time: as the masses get fatigued, the more committed protesters that continue on into the fall of 2019 should come disproportionately from the high violence areas, fueled by their greater grievances towards the regime (Hypothesis 2). To capture this shift over time, we interact massacres with the number of weeks since the survey began (April 2019). That interaction should be positive, as massacres should shift from having a negative to positive effect on protests over time. To complement this interaction, we also exploit one additional, binary variable that we added later into the survey (in September 2019): 'Have you protested in the last month?' This supplementary variable allows us to more directly capture protest participation in the later months of the *Hirak*, but does not have a cognate in the earlier months.

In our models, we control for several demographic and political variables. We include controls for age, gender, education, income, ethnicity (Amazigh), unemployment, living in an urban area, their evaluation of the economy, and whether they are a member of the military or police. To address the potential Islamist confounder discussed earlier, we control for how well the FIS performed at the *wilaya*-level in the 1991 elections. We also control at the individual level for piety, support for sharia, support for lifting the ban on the FIS, and opposition to the 1992 coup. Finally, to capture resources that might aid in mobilization, we also control for the number of associations per 1000 citizens at the *wilaya*-level.

Results

Figure 3 shows the main results on how the marginal effect of massacres on protest participation changes over time (for full regression table, see Appendix, Table A.4). At the start of our survey in April 2019, massacres exhibited a significant negative effect on protest participation. Areas with more massacres in the 1990s initially saw fewer protesters, as measured by either variable: whether they have already protested (left) or plan to in the coming days (right). This means that at first, in *wilayat* with a high intensity of violence in the 1990s, such as Algiers, Blida, Médéa, and Aïn Defla, people were more hesitant to participate in protests in comparison to *wilayat* with lower levels of violence.

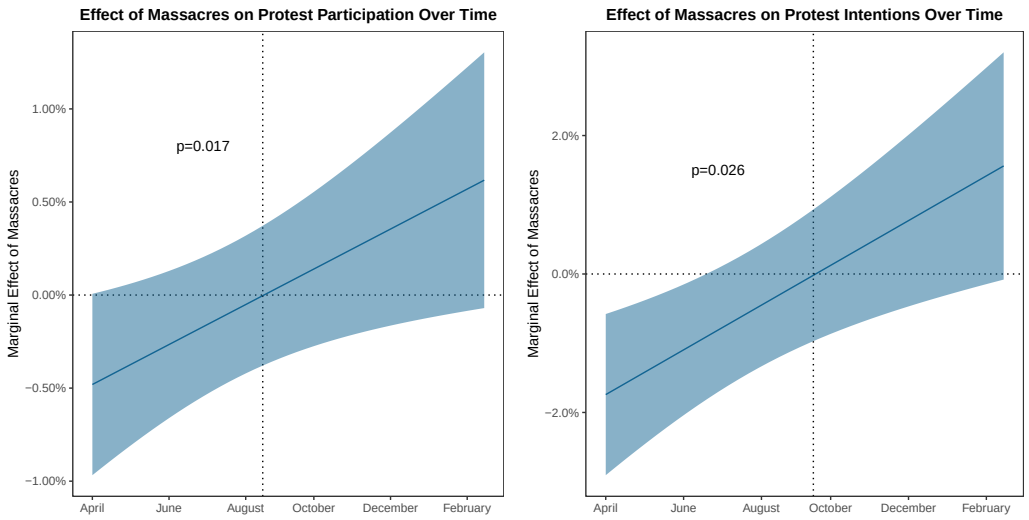

Figure 3. Effect of massacres on protest participation and intention over time

However, the sign on massacres flips over time: by late August 2019, about six months after the *Hirak* started, massacres begin to positively correlate with both protest variables. In the later phases of the campaign, areas with more massacres in the 1990s saw relatively more protests. In other words, while areas affected by massacres saw on average fewer protesters, they were more committed, continuing on at greater rates into the fall of 2019.

This interaction with time is robust to re-coding either the dependent variable (using the continuous rather than binary scale for protest participation; Appendix, Table A.4) or

the independent variable (using deaths per capita instead of logged number of massacres; Appendix, Table A.6). The timing of the shift also accords with our theoretical expectations. August 2019 represents the point at which the regime began to shift gears, initiating targeted repression against the protesters, shrinking overall participation.

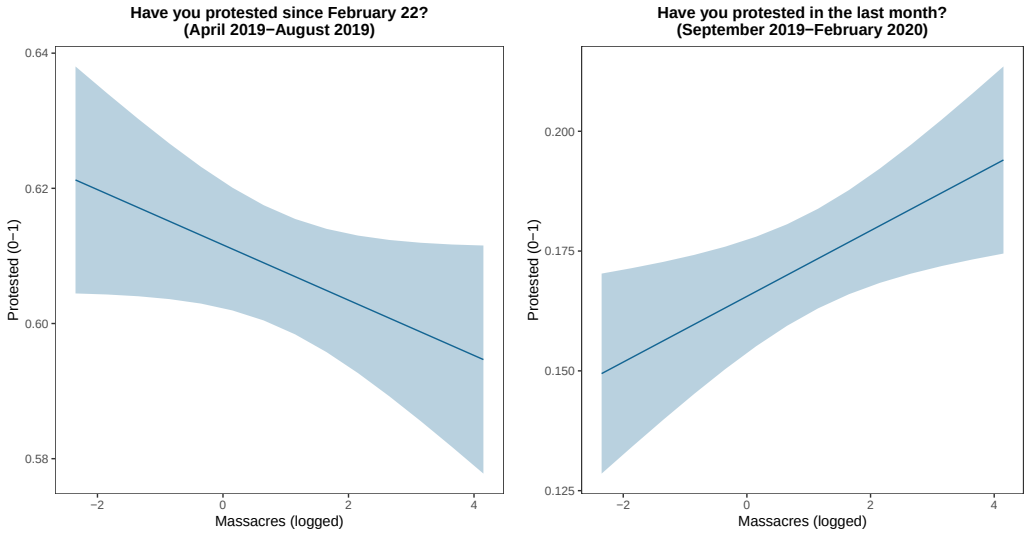

Figure 4. Effect of massacres on protest onset and resilience

Another way to present the data is to subset it by time. Figure 4 (left) shows the percentage of respondents who claimed to have protested during the *Hirak* among those who answered the survey between April and August 2019. As can be seen, at this early stage, there is a negative correlation: areas with more massacres saw lower protest onset. By contrast, Figure 4 (right) shows respondents' answers to a new question added in September 2019 which asked whether they have protested in the last month. At this stage, September 2019 to February 2020, massacres positively correlate with protests, suggesting that those who continued on into Fall 2019 came disproportionately from high-violence areas.

Substantively, the relative importance of massacres appears to increase over time. In the first six months of the *Hirak*, respondents in high-violence areas were about 2 percentage points less likely to say they have protested. Given that about 60% of respondents in this initial stage said they had protested, this deterrent effect is relatively small. In the subsequent months, however, when protest participation shrunk to just 18%, massacres

correlated with a 5 percentage point increase in participation. In other words, in these later stages, respondents in high-violence areas were about 33% more likely (15 to 20%) to say they have protested. That is substantial, given that we might expect more immediate concerns, not historical legacies, to be shaping protesters' calculations. Finally, given that only a relatively small percentage of the population needs to mobilize to effect successful regime change (Chenoweth, 2021), understanding even relatively 'small' factors can have outsized importance.

Mediation analysis

Why would massacres at first exhibit a negative correlation, but later a positive one, on protest participation? Our theory suggests that the negative correlation between massacres and protests in the early months of the *Hirak* should be driven by heightened expectations of repression, while the positive correlation in the later months should be driven by heightened grievances against the regime.

To explore these mechanisms underlying the theory, we leverage four additional questions in the survey. First, the survey asked respondents whether they think the military will repress the protests on a 5-point scale from strongly disagree (1) to strongly agree (5). That will allow us to capture their expectations of repression. If Hypothesis 1 is supported, massacres should correlate with heightened expectations of repression, which should in turn deter protests. To measure grievances (Hypothesis 2), we asked respondents how much they support the political system on a 5-point scale from strongly support (1) to strongly oppose (5). We would expect massacres to correlate with higher opposition to the regime. Finally, we also supplement this question with two more specific questions about the Black Decade. First, we ask whether respondents want 'investigations into abuses committed by the military and security forces in the 1990s.' Second, we ask a more personal question that we added into the survey in January 2020: whether respondents personally lost a family member or friend during the civil war in the 1990s.

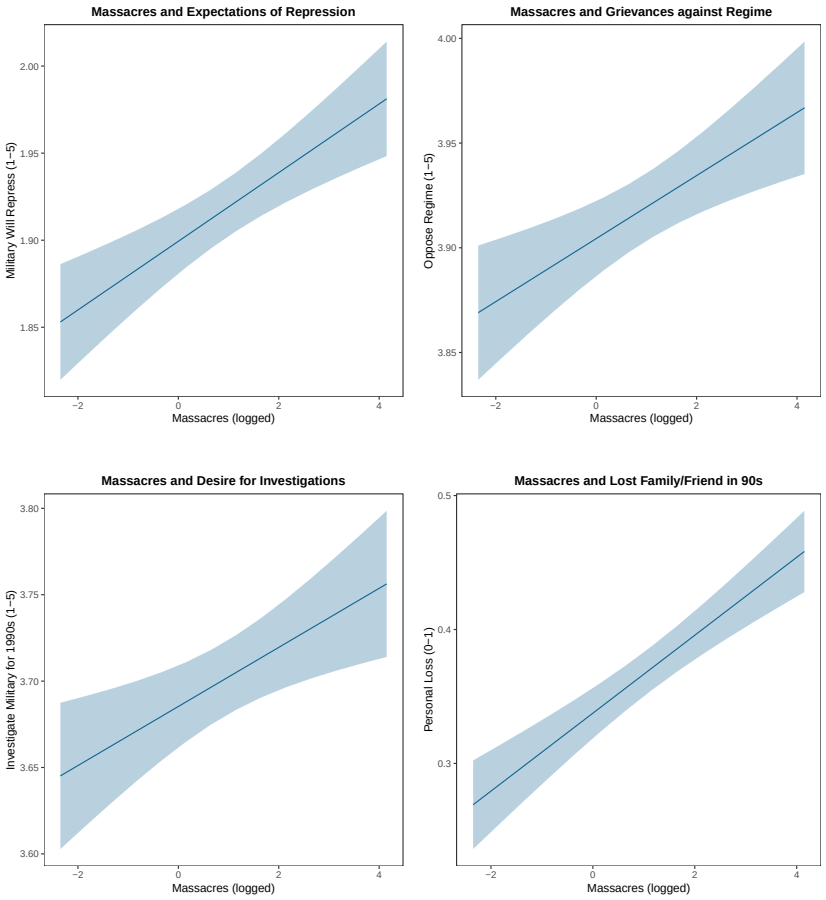

Figure 5. Massacres and mechanisms

Figure 5 shows the results for all four mechanisms (see corresponding regression table in Appendix, Table A.8). The top left plot shows that areas exposed to more violence in the 1990s saw significantly higher expectations of repression. The other three plots focus on grievances, showing that areas with more massacres showed significantly higher opposition to the regime, were significantly more likely to want investigations into the regime's abuses during the civil war, and were significantly more likely to have lost someone during the civil war. The effect size of the latter is particularly large, with high-violence areas seeing almost a doubling of the likelihood of having personally lost a family member or friend in the war.

Our contention is that the negative correlation between massacres and protests in the early stages of the campaign was driven by these heightened expectations of repression, while the positive correlation in the later stages was driven by the heightened grievances. To more

directly test these mechanisms, we conducted a series of mediation analyses. We recognize that our data is correlational, and hence do not meet the strict assumptions underlying mediation. Yet, given our theoretical expectations, and the qualitative accounts provided earlier, we pursue the mediation as a suggestive and complementary test that these mechanisms might be at work.

Table A.10 and A.11 (Appendix) present the mediation analyses for protest participation and intention, respectively. In line with the changing effects over time, these analyses divide up the survey sample into 'early protests' (the first six months), when massacres exhibited a negative correlation on protests, and 'later protests' (after six months), when massacres exhibited a positive effect. Among these subsets, it conducts several mediation analyses to determine which mechanisms are significant.

For illustration, Figure 6 presents the mediation results for the protest intentions variable. The top plot shows that the negative correlation between massacres and protest intentions in the early protests (first six months) was indeed driven in part by heightened expectations of repression. The average causally mediated effect here explained about 12% of the total effect. For the later protests (bottom plots), the mediation analysis suggests that grievances indeed mediated the positive correlation between massacres and protest intentions. Opposition towards the regime mediated about 98% of the total effect of massacres at this stage. Desires for investigations mediated about 19%, and personally losing someone in the civil war mediated about 45%. In each of these last three mediations, the direct effect – not occurring through grievances – was not significant, suggesting that the only reason massacres positively correlated with protests in the later stages of the *Hirak* was because of grievances. Given that the correlation between massacres and protest participation was substantial in these later stages, it is worth reiterating that the effect appears to be driven entirely by heightened grievances against the regime.

In short, the mediation analyses uncover suggestive support for our hypotheses, providing empirical evidence of each mechanism. These mediation results for intentions to protest are

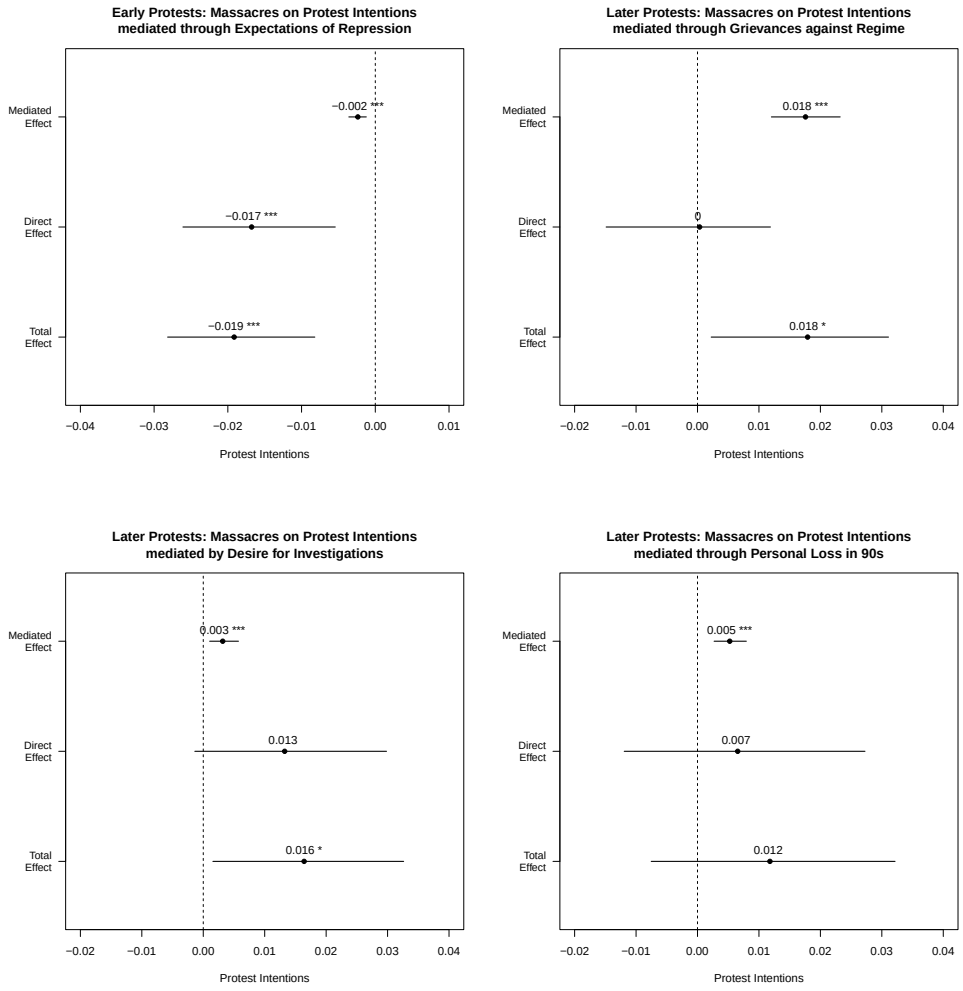

Figure 6. Mediation analysis on protest intentions

robust to using the other outcome variables: whether you have protested in the *Hirak* (see Appendix Table A.10), as well as whether you had protested in the last month (Appendix, Table A.12). Either way, the survey data tell a consistent story. In the early stages of the movement, massacres deterred protest participation, in particular by heightening expectations of repression. However, in the later stages of the movement, when the regime began to repress and protests shrank, the committed protesters who remained were more likely to come from areas affected by massacres, fueled by deeper grievances. In other words, while areas more affected by violence produced fewer protesters, the protesters they produced were more resilient, continuing on even in the face of repression.

We acknowledge that there are limitations to our survey, both in the biases of the sampling frame and in the self-reported nature of the protest questions. In the Appendix, we therefore show that the dual effects of the massacres are present also in a non-survey based analysis: the December 2019 election results. In line with Hypothesis 1, we show that high-massacre areas in general saw a higher vote share for President Abdelmadjid Tebboune, fearful of repression and retribution otherwise. However, in line with Hypothesis 2, these high-massacre areas also saw lower turnout, reflecting a higher proportion of protesters boycotting the 2019 elections. Overall, these results suggest that the findings in the previous sections were not driven by any biases in our survey sample, but instead reflect more general trends that can be captured also in electoral results.

Discussion and conclusion

Although our data are correlational, they suggest that Algeria's bloody civil war might have had two, competing long-term legacies for the 2019-2020 *Hirak* protests. First, exposure to violence during the war appeared to heighten fears of repression and retribution for decades, on average dampening protest participation in the *Hirak*. Algerians living in areas that had experienced more massacres in the 1990s were on average less likely to participate in the *Hirak* protests, and this negative effect appears to be driven by heightened expectations of repression.

However, second, the protesters that did take to the streets in these areas were on average more resilient than protesters elsewhere. Fueled by deeper grievances stemming from the war, these protesters continued to mobilize for months despite the regime's efforts to repress and coopt the protest movement. In the later stages of the *Hirak*, areas that had experienced more massacres were *more* likely to protest, an effect driven by their greater grievances towards the regime, including by having personally lost someone during the civil war and now demanding investigations into the regime's abuses during the war. Combined, the two

effects suggest that prior exposure to violence might on average produce fewer, but more committed, protesters.

These findings thus help to show how the competing legacies of violence – fear and grievance – might fit together. Fear might dominate in cases where the regime's coercive threat remains absolute, such as Algeria in 2011 or China after the Cultural Revolution (Wang, 2021), producing silent dissidents who resent the regime but do not take to the streets en masse. By contrast, grievance might dominate when the regime's coercive threat collapses, such as in Soviet Ukraine during WWII and in 1991 (Rozenas & Zhukov, 2019). But in between these extremes are a wide range of cases where the regime's coercive threat might remain salient but not dominant. Here, we argue, both the fear and grievance legacies of political violence should operate and structure the pattern of mobilization. The mechanism of fear should on average produce fewer protesters, but the mechanism of grievance should make those protesters more resilient.

For regimes, these findings reinforce the fact that repression is a double-edged sword. Scholars have long argued that indiscriminate repression can often backlash, sparking immediate protests in response. We argue that indiscriminate repression can also have long-term repercussions for the regime. Even after the particular leader who instigated the repression is gone, victimized populations might still harbor deep grievances against the regime, that one day fuel incredibly long-lasting and resilient protests like Algeria faced in 2019-2020.

At the same time, we acknowledge that the results in the case of Algeria may not generalize beyond certain scope conditions. Most importantly, Algeria's war wounds never healed. The regime after winning the war granted an amnesty to all sides, and prevented any truth and reconciliation, let alone transitional justice, that might have helped grieving families heal from the trauma. Countries with credible truth commissions or transitional justice processes, on the other hand, might succeed in healing the wounds of war and thus avoiding the long-term historical legacies of political violence (Zvobgo, 2020; Balcells, Palanza & Voytas, 2022).

A second important scope condition concerns how the memories of war were passed down to future generations. In Algeria, memory transmission occurred almost exclusively within families, as the regime made massacres a taboo topic, not discussed publicly or taught in schools. Had they been, we may not observe the same spatial dynamics uncovered in Algeria's *Hirak*. While family transmissions keep the memories local, more general public exposure to the massacres through national-level discussions and memorials might have lessened the geographic variation.

The Algerian case also raises two propositions that we hope future scholars might test more systematically. The first is that after episodes of mass violence, it may take a generation or two for populations to overcome their fears and traumas and mobilize a mass uprising. For instance, a commonly heard argument for Algeria's *Hirak* was that the younger generations, having not experienced the civil war firsthand, were the ones who pushed for revolution. In our survey, we find mixed evidence of this proposition: on the one hand, massacres do appear to have less of an effect for the youth on our main outcomes of interest, protest participation and interest. However, we do not see any difference by generation in terms of the mechanisms: massacres appear to shape the youth's expectations of repression and their grievances to the same degree as they shape the older generations'.[9] One tentative conclusion is that while secondhand exposure to violence might create similar levels of fears and grievances, they are not as salient in shaping calculations over protest behavior.

Finally, a second proposition emerging from Algeria is that legacies of violence might not just shape protest onset and resilience, but also the tactics of future mobilization. Algeria's *Hirak* uprising was entirely peaceful, as protesters seemingly learned from the *Black Decade* not to provoke the regime into repression or risk any recurrence of civil war. While we could not test this proposition in the quantitative analysis, since there was no variation to explore (no protesters used violent tactics in 2019-2020), future studies might find it profitable to explore the legacies of violence not just for onset and resilience, but tactics as well.

[9]Results available from authors.

Replication data: The datasets, codebooks, and R code for replicating the analyses in this article can be found at: http://www.prio.org/jpr/datasets.

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Ghosts of the Black Decade: How Legacies of Violence Shaped Algeria's Hirak Protests

Online Appendix

Contents

A Predictors of mass killings

To shed light on why some *wilayat* experienced more mass killings in the 1990s than others, we examine whether killings correlate with a variety of census and electoral data. We include measures for the FIS's vote share in the 1991 elections, the population (logged), the percent single, percent illiterate, percent university educated, and the percent of the country's industrial, construction, service, and administrative entities located in that *wilaya*. Figure A.1 shows that for either the logged number of mass killings or deaths per capita, FIS vote share emerges as the only significant predictor. We accordingly control for FIS vote share in all regression models.

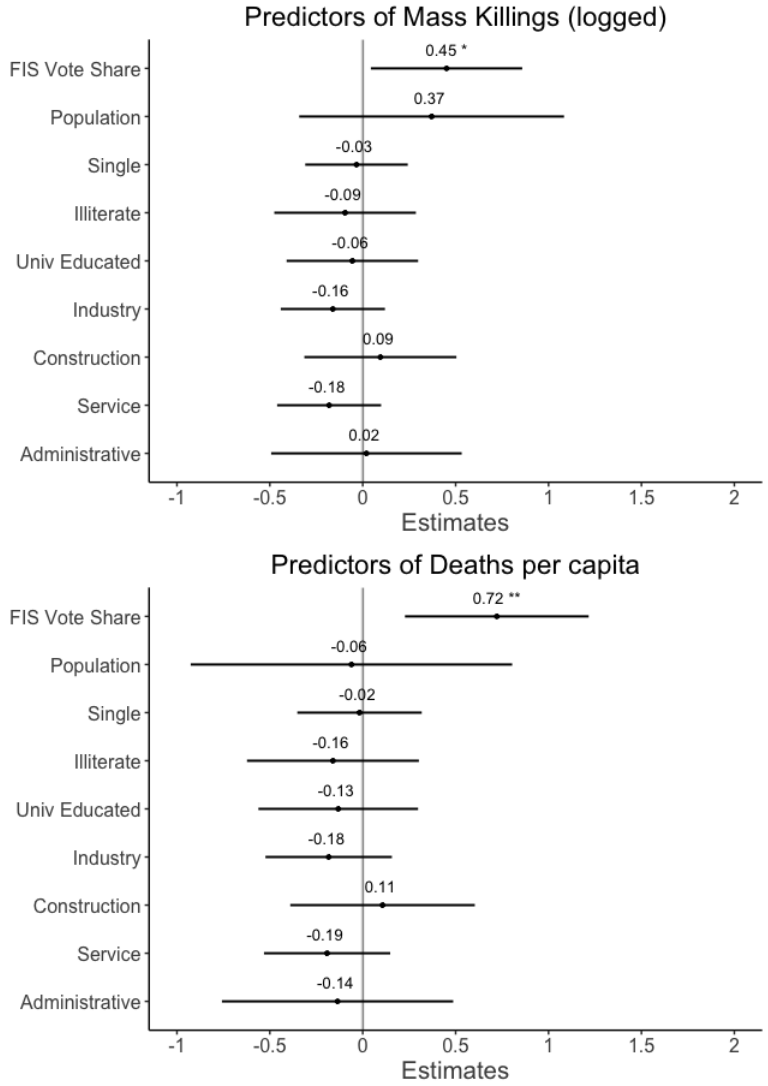


Figure A.1. Predictors of Mass Killings (logged) and Deaths per capita

B Algerian transition survey

B.1 Survey recruitment

The survey in Algeria was fielded on a rolling basis between 1 April 2019 and 21 February 2020. Respondents were recruited into the survey through advertisements on Facebook that were shown to all 19 million adult Algerian Facebook users. The Facebook advertisement (Figure A.2) featured a picture of the Algerian flag with the title: "Algeria Politics Survey." The text says "Take this academic survey from Princeton University about Algerian politics." Clicking the advertisement took users out of Facebook and into Qualtrics, a survey platform. Once in Qualtrics, respondents were presented with a consent form, and then allowed to proceed to the survey.

Figure A.2. Facebook advertisement

Our motivation for recruiting respondents through Facebook, rather than face-to-face, was driven by ethical considerations. When Algeria's protests erupted in February 2019 and we began to consider survey options, we learned that the partner of the most recent Arab Barometer survey, conducted right before the protests, was placed under house arrest. We accordingly decided not to place any enumerator or survey team at risk by instead pursuing an online approach that we could implement ourselves.

Yet while online surveys eliminate risks for enumerators, there may still be risk for respondents. Algerians have, for instance, been prosecuted for Facebook posts deemed critical of the regime. However, our survey does not involve any respondent posting anything on Facebook: just to click on a Facebook advertisement and then fill out an anonymous survey in Qualtrics. Replication files, once posted, would likewise not contain any personally identifying information that the regime could use to prosecute individuals. Any risks to respondents from the regime, therefore, are minimal.

There are also important ethical considerations regarding the data Facebook collects on its users. However, since our survey was conducted on Qualtrics, not Facebook, all Facebook learns is whether a user clicked on an advertisement: not their answers to the survey. Likewise, Qualtrics does not gain access to a user's Facebook profile and only records which advertisement brought them to the survey.

B.2 Survey procedure

Once in Qualtrics, users could choose to take the survey in Arabic, French, or English. Over 93% chose to take the survey in Arabic, with the remainder in French. In the interests of transparency, a banner featuring the Princeton University Qualtrics logo headed every page.

Figure A.3. First page of Qualtrics survey

On the first page, respondents answered three eligibility questions (age over 18, Algerian nationality, and currently living in Algeria). We later verified that they were living in Algeria using the geolocation of IP addresses; we exclude any survey completed outside of Algeria. After answering the eligibility questions, eligible users then proceeded to the consent form, which described all risks and benefits to the users. If they clicked agree, they could proceed to the survey, knowing they could terminate the survey at any time. The survey itself featured nearly 100 questions, including demographics, attitudes toward the protests, attitudes toward the military and toward democracy, and intended voting behavior. The questionnaire featured randomization in question order as well as answer order.

To incentivize Algerians to complete the entire survey, we offered cell phone credit as a reward for completion. In the consent form, respondents were informed that if they completed the survey, they would receive 100DZD (<$1) of mobile phone credit. At the end of the survey, respondents who wished to claim their reward were taken to a separate platform, a Google form, where they could enter their mobile phone number separate from their survey answers. We subsequently sent phone credit remotely using the Swiss company CY.SEND, which partners with the three largest mobile phone companies in Algeria: Mobilis, Djezzy, and Ooredoo. In total, only one-third of survey takers chose to enter their phone numbers and receive credit.

B.3 Representativeness

Cognizant of the biases in an online, Facebook population, we followed Zhang et al. (2020) in setting age and gender quotas to attempt to generate a more representative sample. We created multiple advertisements (each with the same ad) and targeted each to a specific age-gender group: Algerian women aged 35-44, for instance. We then altered how much we would spend on each advertisement each day (the "quota"): we set the minimum, $1/day, for groups

over-represented on Facebook, such as men aged 18-24 and 25-34. We spent progressively larger amounts on under-represented groups, up to $10/day on Algerian women over 65 years old. The amount spent affects how long each day the ad would be shown to the targeted demographic.

These quotas created a slightly more balanced sample. Table A.1 presents the age and gender demographics for the overall Algerian population (from the 2015 census), for the total Algerian Facebook population (from April 2019), and for our survey sample (2019-2020). The table suggests that although Algerians on Facebook tend to skew younger and more male, our quotas slightly countered these biases. About 48% of our survey sample was female, compared to 36% of the overall Algerian Facebook population. About 71% of our sample were under 35, compared to 76% of the Facebook population.

Table A.1. Representativeness of Algeria Survey Sample

	Census 2015		**Facebook Population**		**Survey Sample**	
Age	*Men*	*Women*	*Men*	*Women*	*Men*	*Women*
0-17	14.8	14.0	3.8	3.7	0	0
18-24	8.5	8.2	18.0	13.2	17.3	18.5
25-34	9.4	9.2	24.9	12.7	18.9	16.9
35-44	6.9	6.9	10.6	3.9	10.2	8.3
45-54	4.9	4.9	4.1	1.5	4.0	3.3
55-64	3.3	3.2	1.5	0.5	1.7	0.1
65+	2.9	3.0	1.1	0.5	0.2	0.01
Total	**50.6**	**49.4**	**64**	**36**	**52.2**	**47.8**

B.4 Verification and validation

We perform a series of checks to verify that respondents are indeed Algerians living in Algeria and taking the survey seriously. First, the geo-coordinates linked to IP addresses reveal the rough location of survey respondents (country and city, nothing that compromises anonymity). We filtered out the few respondents who took the survey outside of Algeria:

Second, Qualtrics prevents the same IP address from taking the survey more than once, and we can verify that there are no duplicate IP addresses. In addition, we can verify that there are no duplicate phone numbers. Both tests suggest that survey respondents did not attempt to take the survey multiple times to maximize phone credit.

Third, we can examine respondents' time to completion, to verify that respondents were taking the survey seriously, and were not zipping through the survey to receive phone credit. Our median time to completion was 24 minutes (see Figure A.5a), with only 4% completing the survey in less than 10 minutes.

Finally, following Kuriakose & Robbins (2016), we test for duplicate and near-duplicate surveys, which might indicate the same individual attempting to take the survey more than once. However, we had no perfect duplicates, and only 2% of the surveys were even 85% the same (Figure A.5b).[1]

[1]R code to detect duplicates obtained from https://github.com/andrewflowers/survey-fraud/blob/

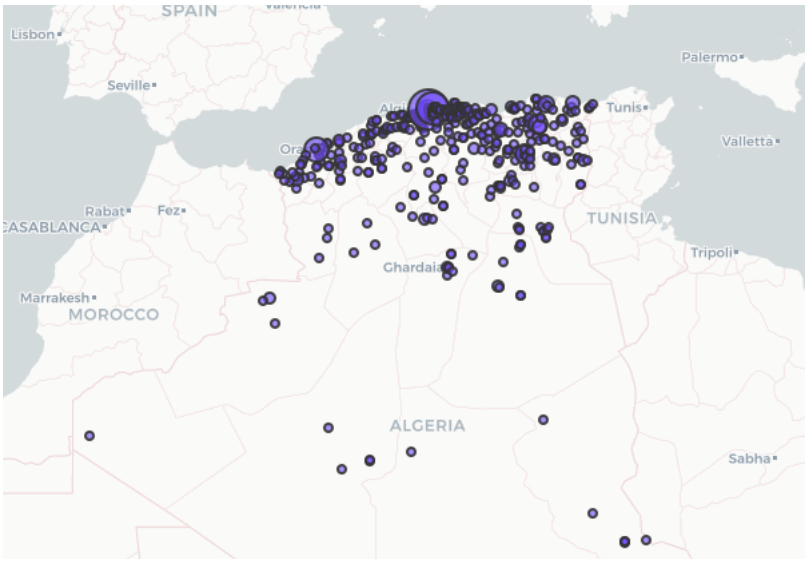


Figure A.4. Map of Survey Respondents

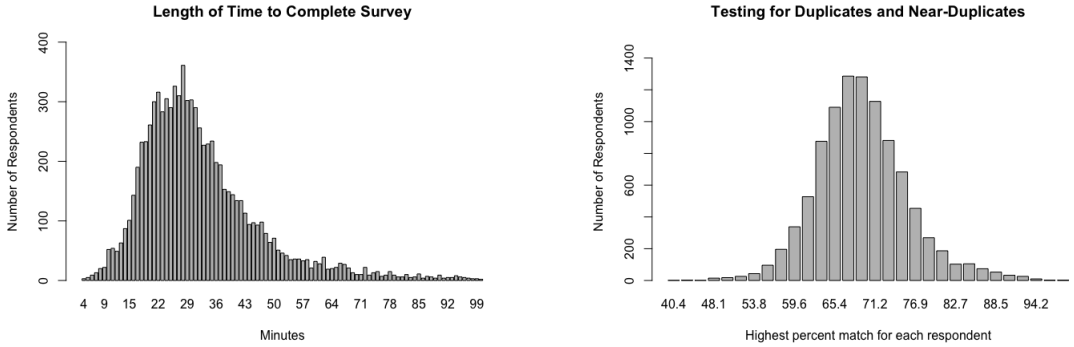


Figure A.5. Verification Checks: (a) Time to Completion and (b) Duplicates

B.5 Demographics over time

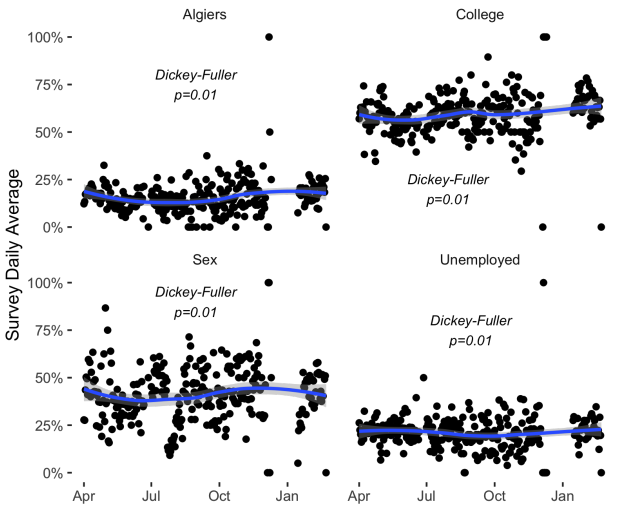
Table A.2 shows the number of respondents surveyed each month. Figure A.6 shows that key demographics are stable over time, with Dickey-Fuller tests rejecting non-stationarity, or the presence of time-varying processes in the proportion recruited by day. In other words, while the exact proportion recruited on a given day shows sampling error, the probability of selection for unemployment, college education, sex and residence in Algiers appears to be constant over time.

master/r_scripts/percentmatch.R.

Table A.2. **Distribution of Respondents over Time**

Month	**Respondents (N)**
April	5657
May	2796
June	1352
July	2180
August	1080
September	789
October	728
November	666
December	39
January	2010
February	1381

Figure A.6. Stability of Sample Selection Over Time by Key Demographics



Plot shows daily averages for different demographics, along with a LOESS smooth regression line. Dickey-Fuller non-stationarity test p-values are shown in the title of each plot, showing that the null of non-stationarity is a relatively unlikely explanation of the data (i.e., little detectable evidence of a time-varying process). Series are not homoskedastic due to varying numbers of responses recorded by day.

B.6 Questionnaire

Table A.3. **Survey Questions Used in the Analysis**

Variable	Wording
Protest Participation	Have you personally participated in any of the protests since February 22? (Five-point scale)
Protest Last Month	Have you protested in the last month? (yes / no)
Protest Intentions	How likely are you to protest in the coming days? (Very likely to very unlikely)
Expectations of Repression	Suppose, hypothetically, that military personnel are ordered to repress the protesters. How likely would it be for the military to refuse to repress? (Very likely to refuse - Very likely to agree)
Support for Regime	How much do you support the following institutions? The Political System (strongly support - strongly oppose)
Investigations	Would you support or oppose the following actions? Investigations into abuses committed by the military and security forces in the 1990s.
Loss	Did you personally lose a family member or close friend during the violence of the 1990s?
Economic Satisfaction	Generally speaking, how satisfied or dissatisfied are you with the economic situation in the country? (very dissatisfied - very satisfied)
FIS Ban	Do you support or oppose lifting the ban on the Islamic Salvation Front (FIS) to become a legal political party today? (strongly oppose to strongly support)
Support for 1992 Coup	Did you support or oppose the suspension of the legislative elections by the army in 1992? (strongly oppose to strongly support)
Religiosity	How often do you pray?
Support for Sharia	Do you believe that the government and parliament should enact laws in accordance with Islamic law (sharia)? (strongly disagree to strongly agree)
Urban	How would you describe the city or village you live in?
Unemployed	What is your current occupational status?
Education	What is your level of education?
Age	What is your age?
Income	What is the total monthly income for all members of your household?
Amazigh	Which language is your mother tongue? (Arabic/Tamazight/French)

C Regression tables and robustness checks

C.1 Main regression tables

Table A.4 provides the main analysis from which Figure 3 was created. It shows that massacres have a negative correlation with protest participation, whether measured as a binary variable (Model 1), continuous variable (Model 2), or as their future intentions to protest (Model 3). However, the interaction shows that this negative correlation flips over time, eventually turning into a positive correlation.

Table A.4. Massacres on Protest Participation Over Time

	Dependent variable:		
	Protested (0-1)	Protested (1-5)	Will Protest (1-4)
	(1)	(2)	(3)
Massacres (log)	-0.005^{*} (0.002)	-0.02^{***} (0.01)	-0.02^{***} (0.01)
Weeks Since	0.0003 (0.0003)	0.005^{***} (0.001)	-0.02^{***} (0.001)
Massacres (log)*Weeks Since	0.0002^{**} (0.0001)	0.001^{**} (0.0003)	0.001^{***} (0.0002)
Targeted Attacks (pct)	0.004 (0.01)	0.04 (0.03)	-0.02 (0.03)
Age	-0.04^{***} (0.002)	-0.10^{***} (0.01)	-0.03^{***} (0.01)
Female	-0.22^{***} (0.01)	-0.80^{***} (0.02)	-0.14^{***} (0.02)
Education	0.01^{***} (0.004)	0.05^{***} (0.01)	-0.002 (0.01)
Income	0.01^{***} (0.002)	0.02^{***} (0.005)	0.01^{**} (0.004)
Unemployed	-0.06^{***} (0.01)	-0.10^{***} (0.03)	-0.01 (0.02)
Military	-0.01 (0.01)	0.04 (0.03)	-0.02 (0.02)
Police	0.01 (0.01)	0.10^{***} (0.04)	0.06^{**} (0.03)
Urban	0.07^{***} (0.01)	0.24^{***} (0.02)	0.06^{***} (0.02)
Amazigh	0.08^{***} (0.01)	0.38^{***} (0.04)	0.35^{***} (0.03)
Prayer	-0.01^{***} (0.004)	-0.03^{***} (0.01)	-0.002 (0.01)
Sharia	-0.02^{***} (0.003)	-0.08^{***} (0.01)	-0.08^{***} (0.01)
FIS Vote 1991	-0.09^{**} (0.04)	-0.17 (0.13)	-0.23^{**} (0.10)
Support FIS Ban	0.01^{***} (0.003)	0.07^{***} (0.01)	0.12^{***} (0.01)
Support 1992 Coup	-0.05^{***} (0.004)	-0.19^{***} (0.01)	-0.13^{***} (0.01)
Economy Good	-0.07^{***} (0.004)	-0.19^{***} (0.01)	-0.31^{***} (0.01)
April 1	-0.03^{*} (0.02)	-0.22^{***} (0.05)	0.14^{***} (0.04)
Associations	-0.001 (0.002)	-0.003 (0.01)	0.0005 (0.01)
Constant	1.11^{***} (0.04)	3.79^{***} (0.12)	3.90^{***} (0.10)
Observations	16,694	16,694	16,693
R^2	0.10	0.14	0.19
Adjusted R^2	0.10	0.14	0.19

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Table A.5 shows the regressions from which Figure 4 was created. Model 1 shows that respondents in areas with more massacres were less likely to say they have protested during the *Hirak*, among those who answered between April-August 2019. Model 2 then shows protest longevity, examining among those in September 2019-February 2020 whether they have protested in the last month.

Table A.5. Effect of Massacres on Protest Onset and Longevity

	Dependent variable (0-1):	
	Protested in *Hirak* April-August 2019	Protested in last month Sept 2019-Feb 2020
	(1)	(2)
Massacres (log)	-0.004^{*} (0.002)	0.01^{**} (0.003)
Targeted Attacks (pct)	0.01 (0.01)	-0.02 (0.02)
Age	-0.04^{***} (0.003)	-0.002 (0.004)
Female	-0.22^{***} (0.01)	-0.06^{***} (0.01)
Education	0.02^{***} (0.004)	-0.01 (0.01)
Income	0.01^{***} (0.002)	0.01^{**} (0.002)
Unemployed	-0.08^{***} (0.01)	0.02 (0.01)
Military	-0.01 (0.01)	0.01 (0.02)
Police	0.01 (0.01)	0.02 (0.02)
Urban	0.07^{***} (0.01)	0.02^{*} (0.01)
Amazigh	0.07^{***} (0.01)	0.22^{***} (0.02)
Prayer	-0.01^{**} (0.005)	-0.01 (0.01)
Sharia	-0.02^{***} (0.004)	-0.04^{***} (0.005)
FIS Vote 1991	-0.06 (0.05)	-0.21^{***} (0.06)
Support FIS Ban	0.01^{*} (0.004)	0.05^{***} (0.005)
Support 1992 Coup	-0.05^{***} (0.005)	-0.03^{***} (0.01)
Economy Good	-0.07^{***} (0.01)	-0.06^{***} (0.01)
April 1	-0.03^{*} (0.02)	
Associations	-0.003 (0.003)	-0.002 (0.003)
Weeks Since	0.001 (0.001)	-0.002^{**} (0.001)
Constant	1.09^{***} (0.05)	0.58^{***} (0.07)
Observations	11,505	4,371
R^2	0.10	0.15
Adjusted R^2	0.10	0.14

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

C.2 Alternative independent variables

Table A.6 shows that results are robust to using the alternative measure of massacre severity: deaths per 1000 residents. As seen in Figure A.7, the deaths per capita are distributed across Algerian *wilayat* in a similar fashion as the massacres (correlation is 0.87). Using this variable as an alternative to massacres, Model 1 in Table A.6 shows that in the early phase of the protests, deaths per capita negatively correlate with protest onset. Model 2 uses protest intentions, and shows the significant interaction with time, with the sign on deaths per capita flipping from negative to positive.

Figure A.7. Distribution of Massacres across Algerian *Wilayat* (Deaths per 1000)

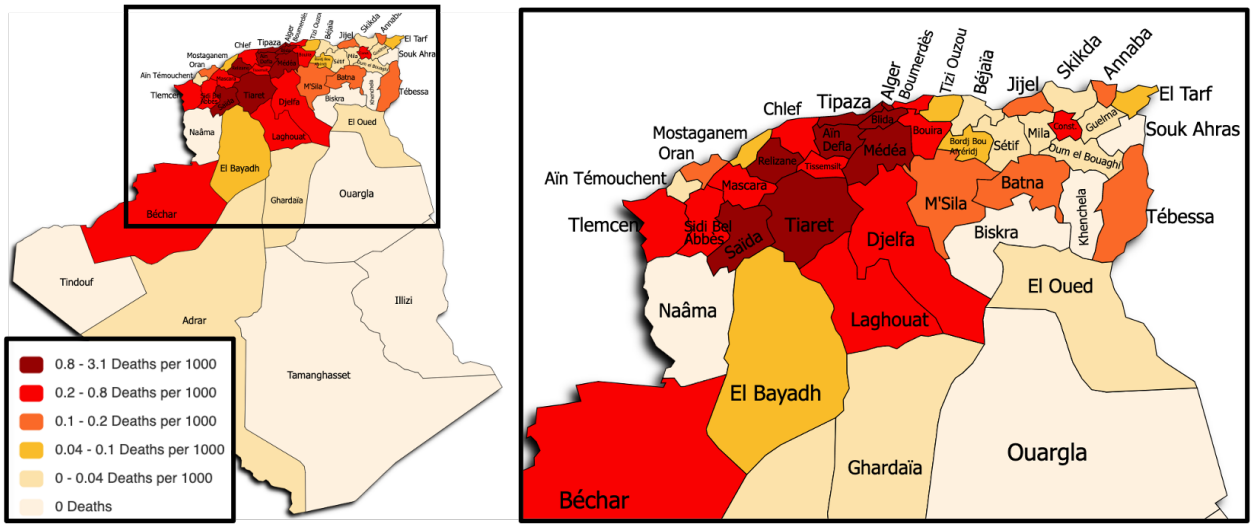


Table A.6. Robustness Check: Deaths per capita

	Dependent variable:	
	Protested in *Hirak* (0-1)	Protest Intentions (1-4)
	April-August 2019	Full Sample
	(1)	(2)
Deaths per 1000	-0.02^{***} (0.01)	-0.05^{***} (0.02)
Weeks Since	0.001 (0.001)	-0.02^{***} (0.001)
Deaths*Weeks Since		0.002^{*} (0.001)
Targeted Attacks (pct)	0.004 (0.01)	-0.03 (0.03)
Age	-0.04^{***} (0.003)	-0.03^{***} (0.01)
Female	-0.22^{***} (0.01)	-0.14^{***} (0.02)
Education	0.02^{***} (0.004)	-0.002 (0.01)
Income	0.01^{***} (0.002)	0.01^{**} (0.004)
Unemployed	-0.08^{***} (0.01)	-0.01 (0.02)
Military	-0.01 (0.01)	-0.02 (0.02)
Police	0.02 (0.01)	0.06^{**} (0.03)
Urban	0.07^{***} (0.01)	0.06^{***} (0.02)
Amazigh	0.07^{***} (0.01)	0.35^{***} (0.03)
Prayer	-0.01^{**} (0.005)	-0.002 (0.01)
Sharia	-0.02^{***} (0.004)	-0.08^{***} (0.01)
FIS Vote 1991	-0.06 (0.05)	-0.24^{**} (0.09)
Support FIS Ban	0.01^{*} (0.004)	0.12^{***} (0.01)
Support 1992 Coup	-0.05^{***} (0.005)	-0.13^{***} (0.01)
Economy Good	-0.07^{***} (0.01)	-0.31^{***} (0.01)
April 1	-0.03^{*} (0.02)	0.14^{***} (0.04)
Associations	-0.004 (0.003)	-0.0001 (0.01)
Constant	1.10^{***} (0.05)	3.92^{***} (0.09)
Observations	11,505	16,693
R^2	0.10	0.19
Adjusted R^2	0.10	0.19

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

The perpetrators of most of the massacres in the dataset were unknown. As a robustness check, we code the proportion of massacres in a *wilaya* attributed to the government. Table A.7, Model 1 shows that government massacres likewise exhibit an interaction with time, at first negatively but then positively correlating with intentions to protest. Model 2 then shows that in the later stages of the protests, government massacres exhibit a positive correlation with respondents having protested in the last month.

Table A.7. Robustness Check: Government Massacres

	Dependent variable:	
	Protest Intentions (1-4)	Protested Last Month (0-1)
	Full Sample	Sept 2019-Feb 2020
	(1)	(2)
Government Massacres	-0.21^{**} (0.10)	0.12^{***} (0.04)
Weeks Since	-0.02^{***} (0.001)	-0.002^{**} (0.001)
Government Massacres*Weeks Since	0.01^{***} (0.004)	
Targeted Attacks (pct)	-0.05 (0.04)	-0.03 (0.02)
Age	-0.02^{***} (0.01)	0.0001 (0.004)
Female	-0.15^{***} (0.02)	-0.08^{***} (0.01)
Education	0.0001 (0.01)	-0.01^{*} (0.01)
Income	0.01^{**} (0.005)	0.01^{**} (0.003)
Unemployed	-0.003 (0.02)	0.01 (0.01)
Military	-0.02 (0.03)	0.01 (0.02)
Police	0.04 (0.03)	0.01 (0.02)
Urban	0.06^{***} (0.02)	0.03^{***} (0.01)
Amazigh	0.33^{***} (0.03)	0.20^{***} (0.02)
Prayer	-0.0004 (0.01)	-0.002 (0.01)
Sharia	-0.08^{***} (0.01)	-0.04^{***} (0.01)
FIS Vote 1991	-0.31^{***} (0.10)	-0.18^{***} (0.06)
Support FIS Ban	0.12^{***} (0.01)	0.05^{***} (0.01)
Support 1992 Coup	-0.12^{***} (0.01)	-0.02^{***} (0.01)
Economy Good	-0.32^{***} (0.01)	-0.06^{***} (0.01)
April 1	0.15^{***} (0.05)	
Associations	0.02^{**} (0.01)	0.005 (0.01)
Constant	3.86^{***} (0.11)	0.54^{***} (0.08)
Observations	13,087	3,509
R^2	0.19	0.16
Adjusted R^2	0.19	0.15

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

C.3 Mechanisms

Table A.8, from which we create Figure 5, shows the correlation between massacres and the four mechanisms: expectations of repression (Model 1), opposition towards the regime (Model 2), desire to investigate military/security force abuses in the civil war (Model 3), and personally losing someone in the civil war (Model 4).

Table A.8. Massacres on Mechanisms

	Dependent variable:			
	Exp Repression (1-5)	Oppose Regime (1-5)	Investigate 1990s (1-5)	Personal Loss (1-5)
	(1)	(2)	(3)	(4)
Massacres (log)	0.02*** (0.004)	0.02*** (0.004)	0.02*** (0.01)	0.03*** (0.004)
Targeted Attacks (pct)	−0.02 (0.03)	−0.05** (0.03)	−0.02 (0.03)	−0.04 (0.03)
Age	0.02*** (0.01)	0.003 (0.01)	−0.06*** (0.01)	0.06*** (0.01)
Female	0.04** (0.02)	0.01 (0.02)	0.08*** (0.03)	−0.05** (0.02)
Education	0.002 (0.01)	0.01 (0.01)	−0.03*** (0.01)	−0.02* (0.01)
Income	0.003 (0.004)	0.01*** (0.004)	0.001 (0.01)	−0.0004 (0.004)
Unemployed	0.03 (0.02)	0.02 (0.02)	0.09*** (0.03)	0.002 (0.02)
Military	−0.04 (0.03)	−0.05** (0.02)	−0.19*** (0.03)	0.10*** (0.03)
Police	0.03 (0.03)	−0.10*** (0.03)	−0.07* (0.04)	0.14*** (0.03)
Urban	−0.07*** (0.02)	−0.06*** (0.02)	−0.05* (0.02)	−0.002 (0.02)
Amazigh	0.23*** (0.03)	0.34*** (0.03)	0.09** (0.04)	0.03 (0.03)
Prayer	−0.08*** (0.01)	−0.07*** (0.01)	−0.02* (0.01)	0.01 (0.01)
Sharia	−0.09*** (0.01)	−0.01 (0.01)	0.02** (0.01)	0.005 (0.01)
FIS Vote 1991	0.07 (0.10)	−0.04 (0.10)	−0.44*** (0.13)	−0.08 (0.10)
Support FIS Ban	0.05*** (0.01)	0.06*** (0.01)	0.07*** (0.01)	0.001 (0.01)
Support 1992 Coup	0.02** (0.01)	−0.14*** (0.01)	−0.25*** (0.01)	−0.03*** (0.01)
Economy Good	0.05*** (0.01)	−0.44*** (0.01)	−0.28*** (0.01)	−0.01 (0.01)
Associations	0.01 (0.01)	−0.01 (0.01)	−0.02** (0.01)	−0.01 (0.01)
April 1	0.04 (0.04)	−0.01 (0.04)		
Weeks Since	0.01*** (0.001)	−0.02*** (0.001)	0.01*** (0.001)	0.003 (0.005)
Regime will ask Military	0.60*** (0.02)			
Constant	1.80*** (0.10)	5.33*** (0.09)	5.00*** (0.12)	0.14 (0.23)
Observations	16,693	16,196	12,799	3,028
R^2	0.10	0.23	0.13	0.09
Adjusted R^2	0.10	0.23	0.13	0.09

Note: *p<0.1; **p<0.05; ***p<0.01. Model 1 also controls for a priming experiment.

Table A.9 shows two additional mechanisms in support of hypothesis 1: that areas with more massacres were more likely to expect the regime to ask the military to repress protests, and were more likely to expect the uprising to descend into civil war.

Table A.9. Robustness Check: Additional Mechanisms

	Dependent variable (0-1):	
	Regime will ask Military	Civil War is Likely
	(1)	(2)
Massacres	0.01^{***} (0.002)	0.003^{***} (0.001)
Targeted Attacks (pct)	-0.03^{***} (0.01)	0.004 (0.01)
Age	-0.02^{***} (0.002)	-0.004^{***} (0.001)
Female	0.07^{***} (0.01)	-0.01^{**} (0.004)
Education	-0.01^{***} (0.003)	-0.002 (0.002)
Income	0.001 (0.002)	-0.001 (0.001)
Unemployed	0.02^{**} (0.01)	0.01^{*} (0.005)
Military	-0.02^{*} (0.01)	0.003 (0.01)
Police	0.01 (0.01)	0.03^{***} (0.01)
Urban	-0.01 (0.01)	0.0004 (0.004)
Amazigh	0.08^{***} (0.01)	-0.004 (0.01)
Prayer	-0.02^{***} (0.004)	-0.01^{***} (0.002)
Sharia	-0.01^{***} (0.003)	0.003^{*} (0.002)
FIS Vote 1991	-0.13^{***} (0.04)	-0.07^{***} (0.02)
Support FIS Ban	0.02^{***} (0.003)	-0.01^{***} (0.002)
Support 1992 Coup	-0.03^{***} (0.004)	-0.001 (0.002)
Economy Good	-0.07^{***} (0.004)	0.02^{***} (0.002)
April 1	-0.07^{***} (0.02)	0.02^{**} (0.01)
Associations	-0.001 (0.002)	-0.002^{*} (0.001)
Weeks Since	-0.002^{***} (0.0002)	0.002^{***} (0.0001)
Constant	0.75^{***} (0.04)	0.13^{***} (0.02)
Observations	16,693	16,486
R^2	0.06	0.02
Adjusted R^2	0.06	0.02

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

C.4 Mediation analyses

Tables A.10, A.11, and A.12 present the mediation analysis for whether respondents have protested at all, intend to protest, and have protested in the last month, respectively. All three show that massacres have a significant mediated effect through expectations of repression for the early protests, and through grievances for the later protests. Figure 6 is based on Table A.11, Models 1, 4, 5 and 6.

Table A.10. Mediation Analysis: Massacres on Protest Participation

	DV: Have Protested (0-1)					
	Early Protests		Later Protests			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Total Effect	−0.0042*	−0.0044	0.0044	0.0056	0.0053·	0.0068
Direct Effect	−0.0035	−0.0042	0.0046	0.0025	0.0042	0.0041
Mediated Effect						
Expectation of Repression	−0.0007***		−0.0001			
Opposition to the Regime		−0.0001		0.0032***		
Investigate abuses from 1990s					0.0011***	
Lost Someone in 1990s						0.0027***
Proportion Mediated	0.162*	0.029	−0.027	0.564	0.212·	0.394
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
N	11,503	11,173	5,189	5,021	5,189	3,028

* p<0.05; ** p<0.01; *** p<0.001

Table A.11. Mediation Analysis: Massacres on Protest Intentions

	DV: Protest in the Coming Days					
	Early Protests		Later Protests			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Total Effect	−0.0191***	−0.0183***	0.0095	0.0179*	0.0164·	0.0118
Direct Effect	−0.0168***	−0.0178***	0.0098	0.0003	0.0132	0.0065
Mediated Effect						
Expectation of Repression	−0.0024***		−0.0003			
Opposition to the Regime		−0.0004		0.0176***		
Investigate Abuses from 1990s					0.0012***	
Lost Someone in 1990s						0.0053***
Proportion Mediated	0.124***	0.023	−0.031	0.981*	0.193·	0.445
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
N	11,503	11,173	5,189	5,021	5,189	3,028

* p<0.05; ** p<0.01; *** p<0.001

Table A.12. Mediation Analysis: Massacres on Protest Resilience

	DV: Protested in Last Month			
	Model 1	Model 2	Model 3	Model 4
Total Effect	0.0050	0.0076***	0.0069***	0.0051*
Direct Effect	0.0050	0.0032	0.0063***	0.0029
Mediated Effect				
Expectation of Repression	−0.0000			
Opposition to the Regime		0.0044***		
Investigate Abuses from 1990s			0.0006***	
Lost Someone in 1990s				0.0022***
Proportion Mediated	0.000	0.576***	0.087***	0.438*
Covariates	Yes	Yes	Yes	Yes
N	3,028	4,238	4,371	3,028

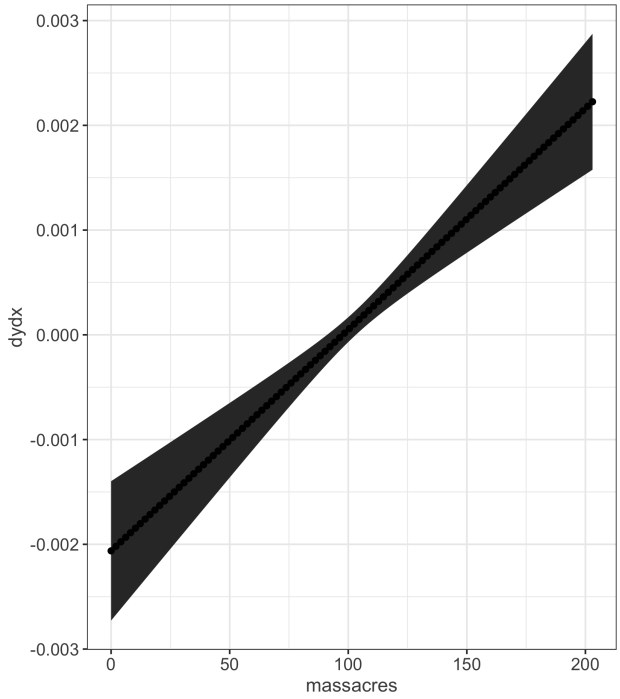
* p<0.05; ** p<0.01; *** p<0.001

D Additional analyses

D.1 Quadratic effects of massacres

A third way of assessing the severity of massacres, beyond the logged number of massacres or the total deaths per capita, it is to calculate a quadratic relationship between the total number of mass killings and protest behavior. To do so, we lump together all surveys from the entire time period, and calculate an interaction between the number of mass killings and its square, with the same set of controls as before. Because the main effect is an interaction, we present the results as a marginal effects plot in Figure A.8.

Figure A.8. Quadratic Effect of Mass Killings on Protest Participation



Similar to the interaction of protests and massacres over time, the plot shows strongly conditional associations. When pooling the data across time, there is a cross-sectional association which suggests that at high levels of massacres, the effect of additional massacres results in increased protest activity, while the opposite holds for districts with low massacres. This association provides further evidence of our theory that massacres appear to affect protest activity through multiple pathways. Cross-sectionally, it would seem that the repression effect dominates where massacres were relatively few and the grievance effect where massacres were relatively high. At some point, the number of massacres will create stronger grievances without resulting in an offsetting level of fear of repression.

D.2 2019 elections

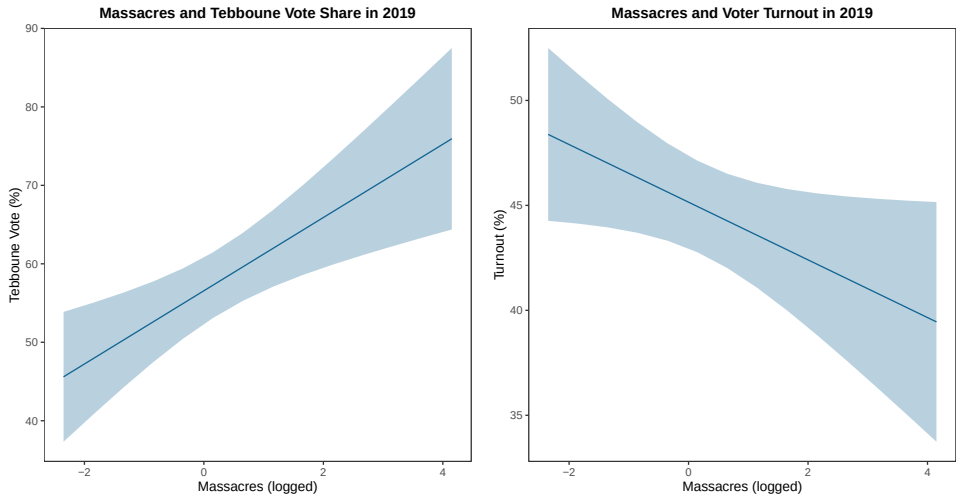
In this final section, we present one non-survey based exploration of our hypotheses: the December 2019 election results. Having begun to repress the protests, the regime embarked on its roadmap, holding presidential elections in December to find a replacement for Bouteflika. The elections were boycotted by the remaining *Hirak* protesters, who wished to see a complete change in the system, not simply a reshuffling of the deck. Indeed, almost all of the candidates permitted to run in the December elections were either regime insiders or co-opted opposition elites, and none came from the *Hirak*.

In these elections, the military's preferred candidate, Abdelmadjid Tebboune, a former prime minister, was elected as president with 58% of the vote. Turnout, however, was a mere 39.9%, having been boycotted by the protesters. The elections therefore did not solve the crisis, and the *Hirak* continued protesting after Tebboune's election.

Our hypotheses suggest that massacres should impact the 2019 elections in two ways. First, in line with Hypothesis 1, high-massacre areas should in general see higher compliance with the regime's roadmap, fearful of repression and retribution otherwise. They should therefore see a higher vote share for the regime's candidate, Tebboune. However, based on Hypothesis 2, high-massacre areas should at this point also see a higher proportion of protesters committed to the *Hirak* and thus ready to boycott the 2019 elections, due to their stronger grievances. In short, massacres should correlate with both a higher vote share for Tebboune but also a higher boycott (lower turnout) in the elections.

Figure A.4 and Table A.13 present the results. The left plot shows that massacres in the 1990s strongly predict Tebboune's vote share. Among those who chose to vote, those living in *wilayat* that experienced high intensity violence were almost twice as likely to vote for Tebboune. However, the right plot shows that these high-violence areas were also more likely to boycott the elections entirely. Though they produced fewer protesters, those protesters remained committed to the *Hirak* as late as December 2019, boycotting the elections at greater rates.

Figure A.9. Predicted Probability of Tebboune Vote Share by Massacres



In this analysis, we include a number of *wilaya*-level controls. We control for popula-

tion, the number of polling stations, the percent of the nation's commerce, construction, industry, and administrative entities, the rate of illiteracy, the percent with a high school education, the percent with a university education, the percent female, percent single, number of associations, the FIS' vote share in 1991, and the number of government offices.

Table A.13. Massacres and the December 2019 Elections

	Dependent variable:	
	Tebboune Vote Share	Turnout
	(1)	(2)
Massacres (logged)	4.67*** (1.35)	−1.37** (0.66)
Turnout	0.45 (0.34)	
Population	0.0000 (0.0000)	−0.0000 (0.0000)
Polling Stations	−0.01 (0.02)	0.01 (0.01)
Entities-Commerce	−0.74 (0.81)	0.79* (0.40)
Entities-Construction	4.56 (6.85)	5.93* (3.42)
Entities-Industry	1.36 (2.32)	0.78 (1.20)
Entities-Administrative	−16.08 (12.46)	−10.85* (6.21)
Illiteracy	0.96 (0.69)	0.45 (0.35)
High School Education	−1.86 (2.12)	1.05 (1.09)
University Education	0.11 (2.85)	−2.41 (1.42)
Percent Female	5.99 (5.81)	5.15* (2.89)
Percent Single	−1.39 (1.14)	−1.03* (0.57)
Associations	1.16 (1.51)	0.83 (0.78)
FIS 1991 Vote Share	−8.56 (37.46)	73.52*** (14.60)
Government Offices	0.04 (0.06)	0.06** (0.03)
Constant	−156.73 (272.73)	−258.20* (134.82)
Observations	48	48
R^2	0.49	0.77
Adjusted R^2	0.22	0.66

*Note: *p<0.1; **p<0.05; ***p<0.01*