Making Sense, Making Choices:
How Civilians Choose Survival Strategies during Violence [*]

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Abstract

How do ordinary people choose survival strategies during intense, surprising political violence? Why do some flee violence, while others fight back, adapt, or hide? Individual decision-making during violence has vast political consequences, but remains poorly understood. I develop a decision-making theory focused on individual appraisals of how controllable and predictable violent environments are. I apply my theory, situational appraisal theory, to explain the choices of Indian Sikhs during the 1980s–1990s Punjab crisis and 1984 anti-Sikh pogroms. In original interviews plus qualitative and machine learning analysis of 509 oral histories, I show that control and predictability appraisals influence strategy selection. People who perceive "low" control over threats often avoid threats rather than approach them. People who perceive "low" predictability in threat evolution prefer more-disruptive strategies over moderate, risk-monitoring options. Appraisals explain behavior variation even after accounting for individual demographics and conflict characteristics, and also account for survival strategy changes over time.

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Introduction

In the 96 hours after Prime Minister Indira Gandhi was assassinated in Delhi on October 31, 1984, a wave of pogroms against India's Sikh religious minority swept across the country. Mobs armed with lathis [staves], iron rods, and kerosene quickly claimed 3,300 lives across India, with 2,800 people dead in Delhi alone.[1] Displaced-person camps soon appeared around the capital to house thousands who had lost homes, shops, or relatives to the mobs. Up to 13% of Delhi's Sikh population permanently left the city (Kaur 2006), many resettling in Punjab (a Sikh-majority state) or emigrating to diaspora communities in Anglophone countries.

Two women, Sukhwinder and Inderpal, lost relatives in the pogroms.[2] In 1984, they lived in Sagarpur and Palam Colony respectively, two low-income neighborhoods near the Delhi Airport that mobs targeted with extreme violence. Both came face-to-face with mobs on November 1, but their stories diverge from there. In the morning, Sukhwinder's father returned home and warned that a mob was approaching, "shouting" and "hitting" people found outside. He told Sukhwinder and her husband to hide, "close the house" and not "pick up anything like lathis" to provoke the mob. When mobs reached their house, Sukhwinder's male relatives were dragged out despite raising no provocation. Her father, husband, teenage son, and brother were beaten to death. Sukhwinder was beaten but survived; she continued hiding as the pogroms went on, and still lives in Delhi today.[3]

About 3 kilometers away, Inderpal and her family chose a different course of action. As mobs attacked the neighborhood gurdwara [temple], her father and brothers joined neighbors to "take care of ourselves," raising kirpans [daggers] in a fight that lasted "hours." Afterward, Inderpal's father was taken, doused with kerosene and "white powder," probably phosphorus, and burned to death. Inderpal's neighbors quickly arranged to take the surviving family out of Palam by car, disguising Inderpal's brother in a "frock" so mobs would think he was a woman. Inderpal later migrated to Punjab.[4] Why did one family stake their survival on hiding, while the other first fought back and then left Delhi entirely?

Ordinary people often make extraordinary, wrenching choices while facing violence. In popular imagination, these unlucky people are sometimes depicted without agency: swept along in currents determined by their backgrounds, the resources they have, or patterns of violence around them. In many types of political violence, though, there is substantial variation in the paths that similar people choose. Within

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[1] Sikh activists argue that casualties (Government of India 2000) are under-counted.
[2] These are pseudonyms. See SM.C on protecting respondent privacy.
[3] 1984 Living History Project, Case 507.
[4] 1984 Living History Project, Case 489.

neighborhoods or even households, people choose different strategies of survival (Kaplan 2017; Finkel 2017). Some flee, while other purportedly similar people try to fight back, hide, or adapt to violent environments.

This paper is about how civilians like Sukhwinder and Inderpal choose survival strategies during sudden, intense political violence. I develop and test a theory—situational appraisal theory (SAT)—focused on variation in the judgments people make during violence. SAT provides a new way to explain civilians' behavior when directly exposed to relatively sudden, fast-evolving political violence. It assumes that people have no formal, modern military training, that they are able to make their own strategy decisions during violence, and that they prioritize their *own* survival when doing so. I apply SAT to explain behavior during the 1984 anti-Sikh pogroms in India and later insurgency in Punjab, different theaters of a decade-long conflict that falls within the scope conditions enumerated above. Using original interviews and systematic multi-method analysis of hundreds of oral histories, I show that people's survival strategies depend on two appraisals: a sense of how much *control* they have over threats, and a sense of how *predictable* the evolution of violence is.

Situational appraisals are a new explanation for decision-making during high-intensity, fast-evolving violence, but they reflect fundamental political science concepts: control appraisals are related, for example, to assessments of relative power (Dahl 1957). Predictability appraisals are a type of judgment about uncertainty (Jervis 1976, p. 105). These fundamental concepts help explain the choices that individuals make in pursuit of safety: High control appraisals (perceptions of relative power) lead people toward strategies that involve "approaching" the source of threat. High predictability appraisals (perceptions of un/certainty in one's environment) lead people to prefer risk monitoring strategies instead of behaviors that mitigate danger but majorly disrupt their lives. People who appraise (perceive) their situation as neither controllable nor predictable are more likely to flee violence; people are more likely to fight when they feel they have control, but perceive low predictability. People who appraise threats as un-controllable but predictable are more likely to adopt hiding strategies, and people who appraise threats as both controllable and predictable often adapt in place.

The paper makes two contributions to political science scholarship. First, SAT accounts for additional variation in civilian behavior, beyond what existing theories explain. Appraisals explain 1) behavioral differences between apparently similar people, and 2) change in behavior over time. Most previous work on forced migration, participation in violence, or adaptation focuses on the structure of communities, economies, and conflicts. These concepts are operationalized as economic status (Adhikari 2013; Blattman and Annan 2016), identity and social position (Wood 2003; Steele 2009; Schon 2020b; Shesterinina 2021), the character and

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intensity of violence (Kalyvas 2006), pre-conflict political affiliation (Balcells and Steele 2016), risk tolerance (Davenport, Moore, and Poe 2003; Mironova, Mrie, and Whitt 2019), or community structure (Petersen 2001; Arjona 2016; Finkel 2017). Adding situational appraisals to this structure-focused list helps account for overlooked variation *within* structurally-similar groups. Situational appraisals also provide leverage to explain why people change strategies over time, a process that has been relatively under-explored.

Second, the paper identifies connections between research focused on strategic, economic, and social causes of phenomena like migration and participation in violence (cited above), and other research focused on long-run social (Vinck et al. 2007; Bauer et al. 2016; Hartman and Morse 2020; Zeitzoff 2018) and political consequences (Bateson 2012; Milliff 2021) *after* violence. SAT connects these literatures by showing how civilians' efforts to interpret experiences of violence shape their behavior *during* conflict, not just after. The interpretation and meaning-making processes that catalyze post-conflict political and social change are often the same processes that shape strategy decisions during conflict.

Situational Appraisal Theory

A Typology of Behavior During Conflict

Most literature on survival strategies like migration, community resilience, collaboration, or self-defense frames survival strategies as binary choices. Only a handful of recent studies portray strategy choice as a multinomial outcome.[5] I develop a typology of survival strategies that better reflects the *range* of options people have during violence.

I identify four strategy categories available to people facing violence. Each category is almost always *available* in a literal sense, even if it appears unattractive, unlikely to succeed, or life-threatening.[6] First, people can choose aggressive, "fighting" strategies. Mobilization into formal armed groups is one widely-studied fighting strategy, but fighting also includes less organized *violent* resistance like: joining local self-defense patrols, guarding ones' dwelling, or physically resisting attackers. Second, people can choose evasive, "fleeing" strategies. The most extreme example of fleeing—international displacement—is widely studied, but fleeing also includes displacement over shorter distances. I categorize relocation to evade violence as "fleeing" unless it is explicitly limited to a period of hours or days, i.e. to avoid a single raid. Third, people can adopt avoidance-in-place strategies, which I term "hiding." Hiding receives less attention

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[5] Barter (2014), Jose and Medie (2015), Finkel (2017), Kaplan (2017), Arjona (2017), and Schon (2020b) conceptualize choice among multiple strategies. Figure SM.14 compares their typologies to mine.

[6] Following Finkel (2017), I argue that survival strategy is a choice, even if some alternatives appear unreasonable. People may describe strategies as "unavailable" as shorthand for "too dangerous to consider."

than other strategies, but hiding actions sometimes appear in concepts like "non-engagement" (Jose and Medie 2015).[7] It includes strategies to reduce threat-exposure and endure danger *in situ* like: physical sequestration, temporary evasion (e.g. going into the forest for shelter during an attack),[8] modifying travel routes, or shedding visible ethnic and religious identifiers to blend in. Finally, people can choose adaptation strategies, engaging with the sources of threat to manage danger *in situ*.[9] Adaptation is associated with concepts like community resilience-in-place (Kaplan 2017), "nonviolent engagement" (Jose and Medie 2015), "non-escalation" (Krause 2018), or "non-cooperation" (Masullo 2021). It includes behaviors like collaborating with aggressors/sources of threat, bargaining, or purposely ignoring violent threats.[10]

Table 1

		Orientation to Threat	
		Avoid	**Approach**
Disruptiveness	**Extreme**	Flee	Fight
	Moderate	Hide	Adapt

A descriptive typology comparing survival strategies.

I identify two dimensions of variation that distinguish the survival strategies: directional orientation toward threat and how disruptive the strategy is, i.e. how much it deviates from baseline, normal behavior. First, directional orientation separates strategies that entail engaging with or physically approaching threats (adapting, fighting), from strategies that decrease exposure to or physically withdraw from threats (hiding, fleeing). Second, disruptiveness distinguishes extreme strategies to permanently remove threats of violence (fighting, fleeing), from moderate attempts to persevere (adapting, hiding).[11] The resulting typology has empirically exhaustive, conceptually exclusive categories (Table 1). Any strategy fits in precisely one category, each category represents a unique orientation–disruptiveness combination. This simple typology occludes some conceptual distinctions in existing literature, and highlights other distinctions the literature largely ignores. The "fleeing" category, for instance, is agnostic about distance, even though internal and interna-

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[7] SM.J compares "non-engagement" and hiding.

[8] Going to the forest is fleeing if there is no plan to return. Marra (2013) illustrates the distinction in a novel.

[9] Some work (SM.J) argues that migration and violent resistance have *adaptive effects*. Here, adaptation means dealing with threats in-place through voluntary, non-violent, but not always collaborative interaction.

[10] Survival sex or "girlfriending"—which Utas (2005) and Jose and Medie (2015) call an expression of agency—would be adaptation: a non-violent approach strategy. The practice, though, is not mentioned by respondents in this paper.

[11] I elaborate in SM.J.

tional migration are certainly different. I combine them, assuming that differences between domestic and international destinations—including destination-specific "pull factors" (Steele 2009)—are future considerations when a person is deciding *whether* to flee physical threats. In another example, my typology separates components of civilian resilience-in-place based on whether they physically approach or avoid threats.

Situational Appraisals and Strategy Selection

What explains variation in the survival strategies people adopt during violence? Structural theories from above-cited literature explain some variation, but fall particularly short for explaining why nominally similar people often pursue different strategies. I argue: variation in the way people interpret violent environments influences everyone's decision making, and explains why people may adopt different survival strategies during a shared experience. During violence, people have to engage in interpretation—that is, make quick and sometimes subconscious estimations about the state of the world around them—in order to form judgments about the dangers they face, which in turn informs their behavior. Similar, reasonable people often disagree on how to interpret stimuli in their environment (Elster 2011). In uncertain, stressful, urgent situations during violence, disagreements are especially intense (Race 1972). I argue that people use appraisals— interpretations of their environment—to form judgments about their situation and choose a survival strategy. Different survival strategies appear more attractive/ideal to people who interpret the situation differently.

I focus on two appraisal dimensions that are well-suited to explain variation in the typology (Table 1).[12] First, I argue individual appraisals of control over a threat (judgments about individual agency to mitigate threats) influence preferences about "approach" versus "avoidance" strategies. This builds on political science intuition about relative power, and psychology findings from the appraisal-tendency framework showing that control appraisals modulate approach/withdraw behaviors (Frijda, Kuipers, and ter Schure 1989; Lerner and Keltner 2000, See SM.J). Second, appraisals of how foreseeable/predictable threat trajectory is (how uncertain the evolution of threat is) influence preferences about strategies of endurance via behavioral change versus extremely disruptive attempts to mitigate threats. This builds on political science and psychology intuition about the connection between "unexpected uncertainty" and larger-magnitude changes in behavior (Scott 1976; Yu and Dayan 2005; Mehlhorn et al. 2015) Predictability influences judgments about whether incremental behavior modifications can keep a person safe without totally upending their lives, or whether they need to take drastic, destabilizing action—guarding against

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[12] Other appraisals/dimensions like responsibility attribution, danger, or attentional activity are important parts of experiencing violence, but unlikely to shape preferences about threat orientation and tolerance for disruptive action (Smith and Ellsworth 1985; Lerner and Keltner 2000). I chose control and predictability appraisals deductively, based on psychology findings.

the worst imaginable outcomes of violence.

Control appraisals answer the question: Can I change my environment in safety-enhancing ways? They are inward-looking assessments about agency vs. specific threats.[13] People who think they have control to mitigate threats or defend themselves should prefer approaching the threat—wading deeper into danger—because they believe they are *not* powerless, and can enhance their safety by acting against the threat. In the 1984 pogroms, some people reported high control appraisals because they perceived their locality to be defensible or because they had access to basic weapons like swords—even if the swords went un-used. Others described high control appraisals from less tangible sources, like a feeling of anger, or faith in God's protection.[14] People experiencing low control appraisals, conversely, focused on things like the enemy's relative strength, and feeling powerless.

Predictability appraisals answer the question: Can I forecast how threats in my environment will evolve? These are outward-looking assessments that have implications for making plans; they reflect people's confidence in forecasting the socio-political weather. People with high predictability appraisals expect they can make behavioral modifications and stay safe without over-reacting. Identifying patterns in violence (such that threats can be "seen coming") makes moderately-disruptive, risk-managing strategies more attractive than actions that deviate immensely from normal behavior. People with high predictability appraisals talk about "rules" in violence. They use prior experience or social cues to interpret patterns in violence, and they describe contextual features (like religious demography, in the 1984 pogroms) that could be benign or helpful. People experiencing low predictability focus on how little they know about violence or how illogical it seems. Many describe developments as sudden or surprising.[15]

Appraisals do not always move together. People can experience "high" control with "low" predictability, or vice versa.[16] A person might believe threats are unpredictable, while remaining confident they can mitigate those threats if necessary. Conversely, a person could feel deeply powerless to confront threats, but simultaneously somewhat confident in their ability to predict how those threats will act. These appraisal combinations are plausible during violence, and may be common in some circumstances.

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[13] SM.J compares this to concepts like "locus of control."

[14] This respondent explained: "We are immortal....We have no fear if we would be attacked." Mr. Singh F, interviewed Delhi, March 2020.

[15] "High" predictability does not imply a benign environment. See the scope conditions.

[16] In data analyzed below, appraisals are slightly negatively correlated. In other violent contexts, we might expect feelings of agency and certainty to be positively correlated because appraisals can influence each other; they are different judgments about the same information.

I argue that control and predictability appraisals interact to make one survival strategy category appear more attractive than the rest. People who appraise "high" control and "high" predictability should prefer adaptation, a moderately-disruptive/approach strategy. They might actively engage with threats by bargaining or collaborating. People with "high" control appraisals and "low" predictability appraisals should prefer fighting. They might join neighborhood self defense, or attack the threat directly. People with "low" control appraisals and "high" predictability appraisals should prefer hiding, the moderately-disruptive/avoid category. They might minimize threat exposure by physically hiding indoors or trying to obscure their group identity. Finally, people with "low" appraisals of both dimensions should prefer extremely-disruptive/avoid strategies: fleeing. Table 2 depicts the theory.

Table 2

		Sense of Control	
		Low	**High**
Predictability	**Low**	Flee	Fight
	High	Hide	Adapt

Situational Appraisal Theory predictions for survival strategy preference.

SAT differs from other "interpretation-based" frameworks, including narrative- and risk-based theories. Schon (2020b,a) and Rosen (2017) posit that "narrative rupture," when events violate people's narratives for coping with violence, leads to migration. These explanations generally focus on past–present continuity, emphasizing the psychological importance of being able to make accurate predictions based on past events. SAT, in contrast, emphasizes predictability of violence—how well people feel they can use available information to prospectively generate forecasts about the threats they face.

Risk theories argue that decisions about migration and resistance depend, broadly, on whether a strategy's risk exceeds a person's individual tolerance level (Davenport, Moore, and Poe 2003). Mironova, Mrie, and Whitt (2019) and Young (2020), for example, both operationalize risk tolerance as "self-efficacy," a personality trait somewhat related to situation-specific "control" appraisals. They find results consistent with one dimension of SAT: control (risk tolerance) regulates avoidance/approach behavior. SAT differs in two ways. First, more narrowly-specified variables for control and predictability enables SAT to do things like predict how consequences of low control appraisals vary based on predictability levels, for example. Second, using two appraisal dimensions allows SAT to account for more real-world behavior options than

univariate theories.

Appraisals are psychological variables, but SAT is fundamentally political because of the way appraisals are formed and the effects they have. Appraisals reflect how people interpret clearly political inputs like distribution of relative power/resources, social hierarchy, and characteristics of violence. They matter because different individuals often interpret the same political "facts" differently. Second, SAT explains variation that is inherently political. Choices to fight, flee, hide, or adapt can change the course of conflict and affect post-conflict politics (Greenhill 2010; Balcells 2018; Steele 2009, p. 427). Political elites sometimes try to shape appraisals directly, encouraging behavior that fulfills their strategic aims. Finally, control and predictability appraisals correspond to important independent variables in political science research. Control appraisals are conceptually similar to relative power, which matters in many areas of political science (Moore 1966; Fearon 1995). Predictability appraisals mirror uncertainty estimates, which also feature prominently in the literature (Schedler 2013). SAT focuses on variation in how people perceive or estimate these fundamental concepts.

Sources of Situational Appraisals

How do control and predictability appraisals form? Appraisals are outputs of a dimension-reducing process for the information inputs available in a conflict environment. They aggregate information from a person's immediate surroundings, their material and social milieu, beliefs, and memories of relevant experiences. Many variables from social, economic, or environmental theories of civilian behavior shape appraisals.[17] Appraisals are not random or orthogonal to a person's circumstances. Violence intensity, resource distribution, and identity shape appraisals. Understanding the link between these variables and appraisals could help explain the mechanisms behind phenomena like sex differences in violence participation (McDermott 2015), or the connection between resource access and migration (Adhikari 2013). *How* structure matters depends on how it is interpreted.[18]

Generally speaking, a given information set will not guarantee uniform appraisals. Information needs to be interpreted to become useful (Jervis 1976), and interpretations made by similar, reasonable people can vary widely. Take resource access as an example decision-making input. Conflict scholars often focus on how resources are spent/consumed: does a family have enough liquidity to migrate suddenly? Is their dwelling

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[17] In SM.K, I use feature selection to show how structural variables contribute to appraisals. After controlling for those variables' direct effects on strategy, however, appraisals are still significantly associated with strategy.

[18] If people's interpretations of their environment are similar, SAT matches structural explanations (See Figure SM.15). If a particular situation led similar people to similar "biases" in information assimilation (Hatemi and McDermott 2016), then their appraisals would be correlated. In other situations though, similar backgrounds explain relatively little about appraisals. There are not strong reasons to expect a consistent pattern across instances of violence. Determining which characteristics of violent contexts promote "agreement" is beyond this paper's scope. It is an exciting area for future research.

secure? These are important considerations, but resources also shape decisions in other ways, like by affecting cognition: Resource deprivation impedes information processing and judgment (Mani et al. 2013). Resources also interact with other inputs, like beliefs about violence, perhaps making wealthier people expect to be targeted. In certain situations, the influence of resources might be overwhelmed by other inputs like identity. Violence intensity, another example input, likely shapes population-average control appraisals—people may have lower control appraisals during artillery attacks vs. criminal violence, for example—but even massive conventional bombardment must be *interpreted*, and some variation in control appraisals likely persists.

In analyses below, controlling for canonically important inputs—identity, violence intensity, and resource access—does not explain the association between situational appraisals and survival strategies during the 1984 anti-Sikh pogroms. Focusing on appraisals in addition to structural conditions—*outcomes* of individual interpretation in addition to *inputs*—helps explain behavior patterns that structure-only models do not capture.

Some variability in appraisals likely comes from heuristics of *availability* and *representativeness* (Tversky and Kahneman 1973, 1974). Appraisals may more strongly reflect considerations that are easier to retrieve/generate from memory. They are also shaped by the specific categories or prototypes, formed through prior experiences, that people deploy to interpret new scenarios. Availability and representativeness cause inter-personal variation in a) what information feeds into an appraisal, and b) the meaning derived from a given piece of information. I do not test these mechanisms directly, but decision heuristics are one plausible pathway for future research into why people reach different appraisals during shared experiences.

For now, I argue that measuring situational appraisals provides more explanatory leverage than either trying to model appraisals directly or continuing to assume that structural factors "speak for themselves" and are interpreted similarly by different people. Below, I use interviews with survivors of violence in India to identify context-specific indicators of control and predictability and create coding rules to measure the appraisals people express (SM.D).

Hypotheses

I derive three hypotheses from the theory. First, higher control appraisals should be associated with a higher probability of pursuing "approach" strategies—adaptation or fighting. Second, higher predictability appraisals should be associated with a higher probability of pursuing "passive" or less-disruptive strategies—hiding or adaptation. Finally, a change in both appraisals, moving from "low control, low

predictability" to "high control, high predictability" should be associated with a higher probability of adaptation, and a lower probability of fleeing. I summarize the predictions in Table 3. In total, I predict the sign of ten appraisal-strategy relationships.

H 1. *Higher (lower) control appraisals increase (decrease) the probability that a person selects approach strategies: adaptation or fighting.*

H 2. *Higher (lower) predictability appraisals increase (decrease) the probability that a person selects less-disruptive strategies: hiding or adaptation.*

H 3. *Higher (lower) control appraisals combined with higher (lower) predictability appraisals increase the probability that a person selects an adaptation (fleeing) strategy.*

Table 3

Hyp. 1 (Control level): L → H	Hyp. 2 (Predictability level): L → H	Hyp. 3 (Interaction level): LL → HH
Increased Adaptation, Defense **Decreased** Fleeing, Hiding	**Increased** Adaptation, Hiding **Decreased** Defending, Fleeing	**Increased** Adaptation **Decreased** Fleeing

Predicted directions of appraisal-survival strategy relationships. Ten coefficients in total are estimated to test SAT.

Scope Conditions

Situational appraisal theory (SAT) applies best to certain types of people and violence. First, SAT explains behavior during *direct violence exposure*. Strategies chosen by people like survey experiment participants (who face simulated/hypothetical threats) may depend on other factors. Their apraisals may also vary less without the time-pressure, uncertainty, and stress of real violence. People facing hypothetical/simulated violence might prefer mixed strategies, simultaneously laying the groundwork for defense and flight while actually pursuing neither. Actual threats makes hedging costlier, disincentivizing behaviors that SAT does not account for.

Second, SAT works better in certain types of violence. This paper focuses on sudden-onset communal violence, a type of "direct," collectively-targeted political violence (Balcells 2017), where threats come from other human actors, and where survival strategies are chosen on behalf of individuals or small groups. Here, individual interpretation and preference formation are relatively important compared to social influences because sudden changes may preclude social decision-making in the short term, and relatively informal, poorly-disciplined, or otherwise inscrutable armed actors create vast micro-level variation in the violence

environment that civilians face.[19] As violence wears on, the likely influence of social factors increases, and social influences may even change appraisals directly.

Third, SAT works best for people and with autonomy to enact their own preferences—decisional freedom—which depends on social hierarchy, culture, and the type of violence at hand.[20] Sometimes, group decision-making constrains decisional freedom. Because SAT does not specify a theory of preference aggregation, nor how altruism weighs against personal preferences, it performs worse for collective decisions than individual decisions. Culture also constrains decisional freedom. In patriarchal societies, for instance, SAT might explain men's behavior better than women's.[21] SAT also works better for adults than children. Decisional freedom is also likely higher in the types of emergent, chaotic violence described above than it would be in normal life. Fourth, SAT may not characterize the behavior of trained combatants because most armed group training aims to over-write people's natural responses to danger (Biddle 2004). Fifth, SAT assumes that people are choosing strategies in order to pursue their own survival. Many civilians prioritize their own survival during violence, but not all. If people prioritize other goals—like other people's survival (See SM.I.6 and I.8 for examples of this)—SAT may not explain their behavior.

Finally, like many social science theories, SAT's performance suffers at extreme values of the independent variables. When someone "knows" for certain that they will be killed (an extremely high predictability appraisal and extremely low control appraisal), it seems illogical to prefer hiding over fleeing or attempting to fight. Similarly, in instances when armed groups force people to choose between expulsion and execution—the ideal type of what Steele (2017) calls "political cleansing"—SAT may not apply. Violence that frequently generates this appraisal combination—potentially either direct, targeted violence (i.e. political cleansing) or indirect, indiscriminate violence (i.e. artillery barrages)—is difficult terrain for SAT.[22]

In total, SAT is most useful for understanding the behavior of 1) un-trained civilians, 2) directly exposed to 3) relatively sudden and loosely-organized violence, 4) able to make their own strategy decisions, and 5) pursuing their own survival. In the remainder of the paper, I focus on the choices of individuals who meet all five conditions, but also briefly examine situations that violate the "decisional freedom" condition to

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[19] This describes many violence types beyond pogroms. For example: Early and late stages of conventional conflicts like the war in Ukraine or the U.S. withdraw from Afghanistan are characterized by quickly-changing conditions, and disorganized or inscrutable armed actors.

[20] SAT still predicts *preferences* of people with less autonomy, but their behavior may be subject to social influence.

[21] Results below show many correct predictions for women, though.

[22] Even explusion campaigns, though, are not 100% successful. In the conclusion, I discuss how SAT could explain exceptional behavior in these cases.

describe interesting family dynamics. In the conclusion I note settings where SAT is might generalize, and speculate about how appraisals interact with structural features this study holds constant—like violence type or ethnic demography.

Testing Situational Appraisal Theory: Evidence from India

I test situational appraisal theory (SAT) using violence-survivor testimony from interviews and oral histories. Rich, multifaceted testimony from violence survivors is ideal evidence for theoretical and practical reasons. First, SAT aims to explain *why* people choose certain survival strategies. Narrative data, Pearlman (2016) argues, is useful for answering "why" questions while simultaneously "bear[ing] witness" to violence in ways that survey or administrative data do not. Second, survivor testimony about real decisions fulfills SAT's scope conditions better than alternative sources, like behavioral games or survey experiments, which facilitate causal identification but measure decisions about hypothetical or distant threats. Finally, survivor testimony is the most comprehensive data source available for many conflicts. Civilian perceptions of violence do not always appear in administrative data or contemporaneous surveys, and conflicts where civilian attitudes *are* recorded are unusual in other ways (Brenner and Han 2022).

I analyze testimony from Indian Sikhs exposed to political violence in the 1980s and 1990s during the Punjab Crisis (broadly defined), a decade-plus insurgent conflict in North India. This is a good case for testing SAT because the conflict includes a variety of civilian responses to multiple modes of violence, and has ongoing relevance for politics in and out of India. Survival strategies in all four categories appear frequently, providing substantial variation for SAT to explain. The conflict (and testimony) cover different modalities of violence including short, intense urban pogroms and long-running rural insurgency. Testing across violence modalities shows that SAT's scope is not limited to one pogrom. Finally, the Punjab Crisis is an important case, relatively under-examined in political science literature. Thirty years on, the conflict still influences Indian politics, and decades of conflict-related Sikh emigration has created politically-important diaspora communities in North America and the United Kingdom (Fair, Ashkenaze, and Batchelder 2020).

In the conflict, many different Sikh separatist insurgent groups in Punjab fought to secede from India and form Khalistan, an independent Sikh homeland. (Bakke 2015). The government fought to pacify a state that led India in pre-conflict economic activity, contributed substantially to India's food security, and occupied a critical strategic location along the border with Pakistan. The conflict ultimately caused over 10,000 deaths—mostly Hindu and Sikh civilians (A more detailed description of the conflict is available

in the APSR Dataverse).

Testimony analyzed below covers three conflict "epochs." Some covers June 1984, when the Indian army launched military operations to eject Sikh militants from Amritsar's Golden Temple and arrest militants in rural Punjab. Most respondents discuss pogrom violence that killed over 3,000 Sikh civilians in November 1984, shortly after Prime Minister Indira Gandhi was assassinated.[23] Finally, some testimony describes violence perpetrated by Khalistani militants or Punjab police during rural insurgency in the 1980s–1990s. My analysis focuses on individual decision-making, not the complex historical and political narrative of the conflict. I combine testimony from conflict theaters that are considered quite different by Punjab scholars. Differences in violence type and the backgrounds of affected communities are obviously important (SM.A and SM.B), but combining testimony from different "epochs" shows that SAT works well across different circumstances and communities.

The 1984 Living History Project Archive

I use over 500 video-taped oral histories to test SAT. The video archive, run by a U.S.-based Sikh civil society group, focuses on "1984," a metonym for both June army operations in Punjab and November pogroms centered in Delhi. Testimony was collected around the world (∼75% in India, the rest in the United States, Canada, or elsewhere) by "citizen historians," younger members of the Sikh community. Interviews follow a standard format and questionnaire (1984 Living History Project 2019).[24] Oral histories collected in the internet age are of particular value because conflict-related migration spread survivors of the Punjab Crisis across the globe. Histories come from many sites, far exceeding the number of communities a researcher could visit for original interviews. Beyond breadth, oral history archives are useful because they provide an unusually rich record of civilian experiences in 1984, which happened so quickly that relatively little contemporaneous evidence exists. Beyond oral histories and interviews, the best testimony comes from affidavits given years later to government investigatory commissions. Legal affidavits are clearly valuable, but are scoped much more narrowly than oral history interviews.

Oral histories in the archive were solicited via the networks of the group running the archive or contributed organically via instructions on the website. A very small number record the testimony of people who are otherwise notable or high-profile. Because memorializing 1984 is a priority among Sikhs who support autonomy or independence, oral history respondents may favor Sikh autonomy more than the

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[23] Following Van Dyke (2016), I describe the overwhelmingly one-sided violence as a "pogrom."
[24] http://www.1984livinghistory.org/about-this-project/

population average.[25] In original interviews, where I could ask about politics directly, I found no substantial pattern in interviewees' political attitudes.

Most testimony comes from Sikhs who were directly exposed to Punjab Crisis violence—the most-represented cities in the archive are Delhi and Amritsar—but some histories document more distant experiences of the conflict, i.e. in California but with family in India. Using transcripts I commissioned, plus archive metadata, I construct covariates like age, location in 1984, proximity-to-violence, date of exposure, etc. To code respondent gender, I use the gendered surnames adopted by some Sikhs, then double-checked by hand. Descriptive statistics are in Tables 4, 5, and SM.A.

Analyses below focus on individuals who were directly exposed to violence; a subset of the full archive. Table 4 shows that some oral history respondents do not report choosing a survival strategy. Those who were too distant from violence to choose a strategy (i.e. in California in 1984) drop from analyses of survival strategies. For analyses using hand-labeled situational appraisals I read transcripts of the entire oral history archive and use coding rules to label appraisals in 221 oral histories that transcribers flagged as "high proximity" to violence (See the section on hand-labeling). After discarding a limited number of histories that mentioned no survival strategy, the final dataset used in the analyses in Figure 2 contains 263 survival strategies observed across 182 histories.

The oral histories are public data; interviewees know their testimony is "widely available for viewing."[26] I also sought and received the archive's permission to use videos for academic research. Still, I use pseudonyms when quoting oral histories due to ethical considerations around the use of archives to study political violence (Subotic 2021).

Interview Testimony from California and Delhi

In addition to oral histories, I analyze 30 original interviews. I use interview evidence to inductively identify context-appropriate measures of control and predictability appraisals. Based on the patterns observed in those interviews, I create coding rules to label appraisals in oral histories. Interviews occurred in Delhi and in Sikh diaspora communities in California in 2019 and 2020,[27] and cover the same conflict "epochs" as oral histories. I describe sample selection, and techniques for encouraging people to plainly recount experiences rather than providing post hoc commentary in SM.B. Because interviews included direct questions about

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[25] See SM.A.1 for discussion on selection effects.
[26] http://www.1984livinghistory.org/documents/Consent%20Form_English.pdf
[27] Delhi interviews ended 13 March 2020, in anticipation of COVID-19 lockdowns.

Table 4

Variable	Complete Cases	Counts
Violence Proximity	0.93	Secondhand: 254, Witness-at-distance: 89, Firsthand: 84, Family: 48
Gender	0.99	M: 369, F: 134
Survival Strategy	0.53	Adapt: 76, Flee: 75, Hide: 70, Defend: 50

Oral history summary statistics. Respondents who do not describe a survival strategy are dropped from main analyses. Gender is measured primarily via names. Violence proximity is coded by transcribers, then harmonized with author's coding.

Table 5

Variable	Complete Cases	Mean	S.D.
Age	0.69	25.57	13.72
Language = English	1.00	0.35	0.48
Language = Punjabi	1.00	0.62	0.49
Discusses June 1984	1.00	0.80	0.40
Discusses Nov. 1984	1.00	0.88	0.33
Tag: Eyewitness to violence	1.00	0.44	0.50
Tag: Property Destruction	1.00	0.44	0.50
Tag: Loss of life	1.00	0.47	0.50
Tag: Gurdwara attacked	1.00	0.43	0.50
Tag: Forced relocation	1.00	0.26	0.44
Tag: Police/Army Experiences	1.00	0.56	0.50
Tag: Protected by Allies	1.00	0.22	0.41
Tag: Targeted by Identity	1.00	0.68	0.47
Tag: Gendered Violence	1.00	0.13	0.33
Tag: Police Harassment	1.00	0.06	0.23

Additional oral history statistics. Age is frequently missing and not used in any analyses. Additional variables come from the archive's video content tags. Some tags are included as covariates to increase precision and to control for differences in violent environment.

situational appraisals, respondents concretely and thoroughly discuss how appraisals connect to specific observable implications, beliefs about violence, and other related concepts. The resulting coding rules are described below and in SM.D. Later, I also analyze interviews directly to illustrate the mechanisms linking appraisals to strategy selection.

Using Oral Histories to Study Behavior

Oral histories provide unique advantages for studying political behavior, but despite their promise, they are infrequently analyzed at the archive-level in political science.[28] Oral histories are useful for testing many

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[28] Finkel (2017) uses oral histories, but specifically avoids quantitative analysis and only presents individual-level coding for 51 histories (p. 206). Oral histories are most often used as documentary archives (Hazelton 2017). Some scholars like Pearlman (2017) *create* oral histories rather than test theories using pre-existing collections.

social science theories even though people are imperfect narrators of their own lives (Nisbett and Wilson 1977). In some cases, oral histories may be the only viable data source for social scientists studying historical phenomena from the perspectives of non-elite individuals whose experiences are not recorded in news or documentary archives. A mixed-methods workflow to measure key variables can help political scientists use oral histories for hypothesis testing.

Testing Hypotheses with Oral Histories

I use oral histories to test situational appraisal theory (SAT) because: 1) they capture civilian experiences at a larger scale than interview-based projects, and 2) they include people that other historical data typically exclude. Situational appraisals are hard to measure systematically in other large-n sources like event data, administrative records, or news reports. Alternative sources like documentary archives often cover elites, not ordinary civilians. For many conflicts including the Punjab crisis, oral histories are among the richest sources for studying ordinary people's experiences.

All data sources have limitations. There are three important potential limitations in oral history data. I argue that each can be straightforwardly addressed because they reflect common challenges in qualitative political science. First, analyses could be threatened by post hoc re-interpretation motivated by politics or simple desire to justify one's behavior. Violent experiences are naturally subject to re-interpretation and post hoc meaning-making (Park 2010). Political entrepreneurs sometimes use this process to promote particular narratives about the causes and consequences of violence or to direct blame attribution. There is evidence of political re-writing in some oral histories I analyze. Two interview guide questions ask about blame attribution, a common subject for post-hoc re-appraisal and one that is not central to SAT. I simply drop "blame" responses in my analysis. Thereafter, re-interpretation only threatens inference if it is correlated with particular strategies and appraisal values. This would be more worrying for research focused on variables like political opinions, decision satisfaction, or other quantities more likely subject to post-hoc rationalization (Lind et al. 2017). I find no evidence that control and predictability appraisals are politicized in concerning ways. People may also re-appraise to make themselves look or feel better. This would bias results if respondents intuitively understood SAT and adjusted accordingly to justify supposedly "shameful" choices. As described in SM.B, interview respondents do not tend to justify choices or explain satisfaction/dissatisfaction in terms of situational appraisals. "Satisfaction bias" would be more concerning if certain strategies led to systematically more/less satisfaction, and people re-interpreted their experience accordingly.

Second, analysis might be threatened by faulty memory.[29] This threat also affects interviews, surveys, or any other data based on recollection. The solutions, accordingly, are similar. Psychology research suggests, reassuringly, that time is not a particularly important determinant of memory accuracy (Lind et al. 2017); oral histories collected years after an experience should not be dramatically worse than interviews conducted within days or months.[30] The most important memories for this paper—emotionally charged memories—should be relatively *easy* to retrieve (Sharot and Yonelinas 2008; Kensinger and Ford 2020).[31] While 1990s clinical literature raised concerns over "repressed" memories, more recent research suggests that "central details" of trauma form especially strong, durable memories (Levine and Edelstein 2009). [32] Life circumstances after violence could also contaminate reported memories. Appraisal reports, though, are *not* significantly correlated with a number of post-treatment variables (SM.L). Data based on recollections always includes some drift in memory and interpretation. Literature from other fields (cited above) suggests that memory drift is unlikely to be systematically related to situational appraisals and thus unlikely to bias the test of SAT, though it could add noise.

Finally, oral histories might reflect a biased sample of the target population. Survivors who are ashamed of their actions during violence, or those who cannot make sense of what they did, might participate at lower rates. Conversely, survivors whose experience was spectacular or dramatic might participate at higher rates. A bias toward "spectacularness" seems unlikely given how respondents were recruited (SM.H). Non-participation due to shame is possible. However, feeling ashamed seems more likely to correlate with whether strategy had adverse consequences, than with strategy or appraisal values themselves.[33] Non-random samples are a constant, immutable challenge for political violence research, but sampling seems unlikely to bias this specific analysis (SM.H).

Measuring Appraisals in Oral Histories

For studies where key variables are represented concretely in text, oral history analysis is straightforward. Because situational appraisals lack agreed-upon, externally validated scales or measures, they require more

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[29] If memory quality correlates with appraisals *and* strategies, this would be a source of omitted variable bias. See SM.D.1 for more discussion.

[30] Certain memory types, like qualitative judgments about previous decisions, degrade over time. These should be orthogonal to situational appraisals.

[31] Kensinger and Ford (2020) note that retrieval can cause memory malleability and socially-motivated reinterpretation, mostly when memories are challenged or perturbed in some way. Oral histories focus on active listening rather than conversation, so they should prompt *less* memory change than in-depth interviews, focus groups, or surveys. See more on "demand effects" in SM.D.1.

[32] See SM.A.2 for more detail.

[33] One potentially-shameful strategy would be hair-cutting as a disguise. This may be under-reported, though it does appear. Because hair-cutting is only one possible "hiding" strategy, people might simply report others in the same category.

complicated proxy measurement. This challenge has a familiar solution: Develop strong, theory-informed, *a priori* coding rules (Pepinsky 2007), and show robustness to different measurements. I use two separate appraisal measurement routines to show that oral history evidence supports SAT.

I apply a multi-method workflow combining quantitative full-collection analysis with qualitative study of individual histories. I first construct different situational appraisal measures—in one, a human reader applies coding rules, while another uses automated text classifiers trained to apply coding rules. I show that the relationship between appraisals and strategies is consistent with SAT hypotheses using both measurement strategies. I then present qualitative case studies of 12 histories to illustrate mechanisms and investigate cases that diverge from theoretical expectations. Both measurement routines extract the key independent and dependent variables from the text of the oral histories. I use a number of tools and features of the text to ensure that appraisals are measured consistently and separately from strategies—these assurances are demonstrated in SM.D.1 and SM.E—but because both key variables come from the same text, the analyses ultimately rest on selection-on-observables assumptions common in observational research about violence.[34]

Human Labeling

For the main analysis, I record survival strategies and label appraisals by applying coding rules to 221 high-violence-exposure histories. Pre-specified coding rules distinguish *high/low* control and predictability appraisals by codifying metaphors, utterances, descriptions, and particular actions that participants in original interviews associated with appraisals of control or predictability (SM.D).[35] Hand-labeling of appraisals and strategies covers 221 oral histories that describe *close-proximity* violence exposure.[36] Human labeling allows for recording changes in strategy over time. I record an average 1.44 strategies per history.

I use human-labeled data for main analyses because they best fit the scope conditions and provide the most appropriate, sensitive measures of strategies and appraisals. Human coders, for instance, can easily distinguish a person describing their own experiences from something they witnessed or a story they heard. Because reasonable readers could question whether coding rules were applied consistently, despite assurances in SM.D and SM.A, I use a second quantitative measurement strategy to corroborate the findings.

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[34] I also test for a number of alternative explanations *beyond* mechanical correlation in text measurement. Results of those tests are in the main results specifications, SM.G, and SM.L.

[35] Among other guardrails, coding rules use grammatical structure to avoid "contamination" between independent and dependent variables. See SM.D.1.

[36] I score some histories repeatedly to ensure my scores do not "drift" over time. Replication data includes contemporaneous justifications for each label.

Figure 1

Mr. Singh 137 Appraisals across Transcript
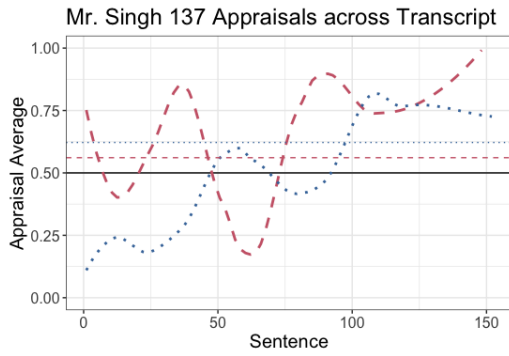
Var	mean	sd	min	med	max
Ctrl. Score	0.47	0.34	0	0.44	1
Pred. Score	0.47	0.33	0	0.47	1
Male	0.71	0.46	0	1.00	1
Punjabi	0.65	0.48	0	1.00	1
Age	25.6	14.3	0	22.0	69

	Hide	Flee	Adapt	Fight
Action (tx. coded)	60	64	63	44

(a)   (b)

(a) Moving average of MuRIL-generated appraisal scores in a transcript. The dashed red shows control, dotted blue shows predictability. Horizontal lines show respondent means. Mr. Singh 137 averages 0.56 for control, and 0.625 for predictability. In hand-labeled data, his appraisals change: first low control, high predictability, later high control, low predictability. **(b)** MuRIL labeling summary statistics. Table 1 shows distributions of MuRIL-generated labels and key covariates. Table 2 shows the distribution of strategies. See SM.E.

Text-Classifier Labeling

For the second measurement, I use the same coding rules to create training data for multiple text classifiers. I label ~2,000 randomly selected sentences out of ~29,000 total to fine-tune three classifiers—Appraisal/Other, Control, and Predictability—on top of a large, pre-trained sequence embedding model, Multilingual Representations for Indian Languages (MuRIL, Khanuja et al. 2021), which can process both English and Punjabi text. I describe model training/tuning in SM.E.

Classifiers have benefits and drawbacks compared to hand-labeling. I use both together because many of their key weaknesses are non-overlapping. One benefit is that, unlike humans, classifiers cannot inadvertently see the appraisals they "expect" given the theory. Further, classifiers cannot subconsciously up-weight sections of text that support the theory. These benefits weigh against two drawbacks. First, classifiers miss information communicated through pragmatics, and struggle with appraisals changing over time. Second, while the classifiers I train perform very well against standard benchmarks, they are not 100% accurate—classifier-labeled data are noisier than the hand-labeled data. Per Fong and Tyler (2021), this may shrink estimated effects, even satisfying classical measurement error assumptions.

Models

I use similar-as-possible model specifications for hand-labeled and MuRIL data. For hand-labeled data, models are estimated at the strategy level (individuals can change strategies, errors clustered by respondent). For MuRIL data, models are estimated at the respondent level. All models are multinomial logistic regressions, modeling choice among k strategies as shown in Equation 1:

$$f(k,i) = \beta_{0,k} + \beta_{1,k}\text{control}_i + \beta_{2,k}\text{predictability}_i + \beta_{3,k}\text{control}_i \times \text{predictability}_i + \gamma_k \mathbf{x_i} \qquad (1)$$

Where $\beta_{1,k}$, $\beta_{2,k}$, $\beta_{3,k}$ are coefficients for control, predictability, and control×predictability for the kth strategy. γ_k is a coefficient vector for covariates $\mathbf{x}$ for the kth strategy. All models include covariates for interview language,[37] gender, date of violence (November pogroms, June operations in Punjab, other), proximity to violence, and additional indicators of violence type from archive metadata. The hand-labeling model includes a covariate for whether the respondent or their immediate, nuclear family is carrying out the strategy.

Appraisals in hand-labeled data take binary high/low values. In MuRIL data, I take a respondent-level average over the high/low scores of each sentence, so appraisal values $\in [0,1]$. I present all results in terms of average partial effects (APE) of changing appraisals on the probability of choosing strategy k. The APE is the effect associated with moving from low to $high$ for binary variables, or from 25th to 75th percentile for numeric variables. SM.F shows un-transformed coefficients.[38]

Results

Across different appraisal measurements, oral history evidence strongly supports hypotheses in Table 3. Higher control appraisals are associated with preference for "approach" strategies, higher predictability appraisals correspond with "moderate" strategies, and the interaction term functions as expected: encouraging adaptation, discouraging flight.
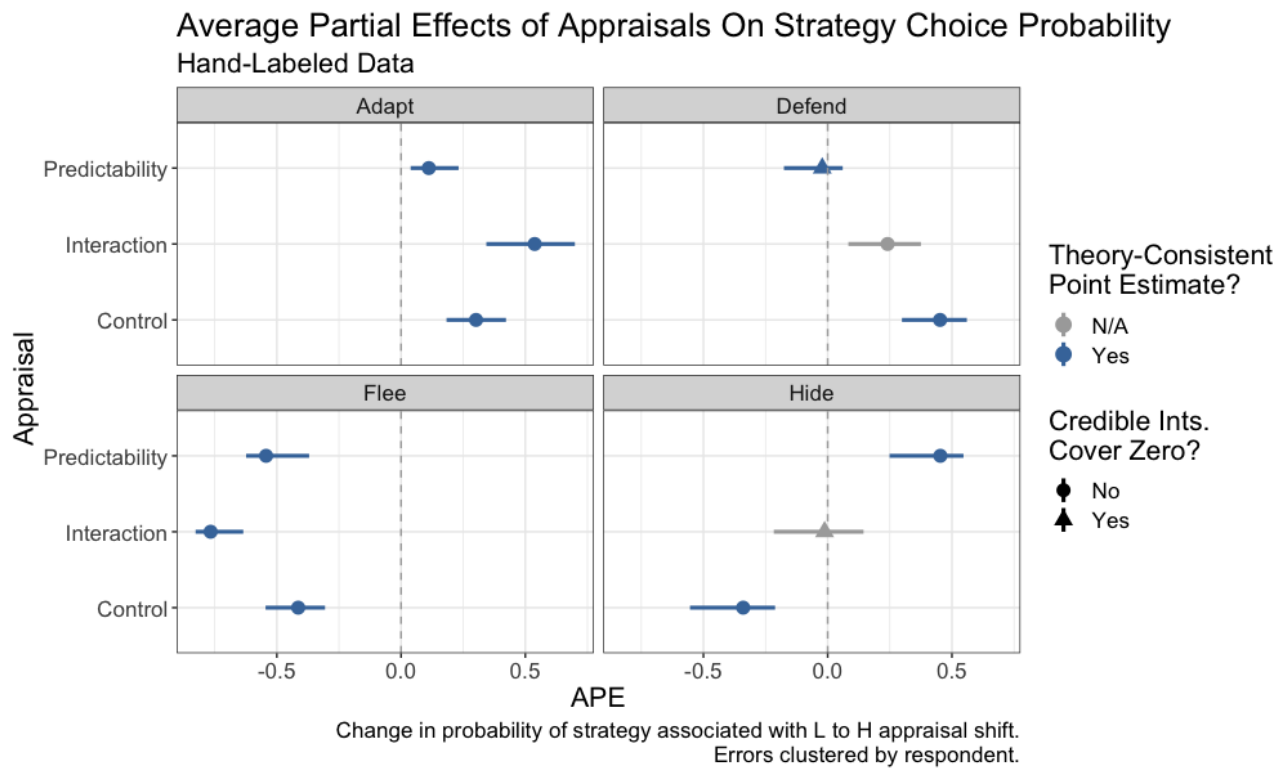
Results from Hand-labeled Appraisals

Results from hand-labeled data support the three hypotheses. First, Figure 2 shows theory-consistent results for control (H1) and predictability (H2) appraisals. Higher control appraisals are associated with choosing

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[37] This is an available, imperfect proxy for wealth. SM.G shows consistent results with a better proxy available for a subset of respondents.

[38] I use Bayesian estimation because it produces more intuitive uncertainty interpretations. Bayesian credible intervals are also typically conservative, and can be asymmetric around the posterior's central tendency; both useful properties for interpreting results beyond "significantly different from zero."

approach strategies (adaptation, defense). Higher predictability appraisals are associated with choosing moderate strategies (adaptation, hiding). The results also support H3: adaptation is attractive with high control and predictability appraisals, flight is attractive with low control and predictability appraisals. In total, nine of ten predicted associations (Table 3) are supported, after controlling for alternative explanations like gender identity, resource access, or micro-level variation in violence intensity (See SM.F). One prediction is not supported—a negative relationship between predictability and "fighting"—but results are not consistent with large effects in the opposite direction either. Perhaps "fighting", compared to other strategies, is driven by control appraisals more than predictability.

Figure 2

Average Partial Effects of Appraisals On Strategy Choice Probability
Hand-Labeled Data

Results from hand-labeled data. Point estimates show APEs for "high" versus "low" control and predictability appraisals, plus the interaction. APEs are estimated from Bayesian multinomial logistic regression with covariates. Error bars show 95% credible intervals. Points in blue support the theory. Raw coefficients shown in Table SM.17.

Results can also be expressed as a confusion matrix, comparing theory-predicted strategies (rows) to actual strategies (columns). Confusion matrices are diagonal matrices *iff* a theory accurately predicts every observed outcome. Parsimonious social science theories never achieve perfect accuracy, but the matrix shows how much variation a theory explains compared to random guessing, and identifies the common mis-predictions. Figure 3 shows a confusion matrix for hand-labeled data. Situational appraisals correctly

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Figure 3

Confusion Matrix for Hand-Coded Strategies
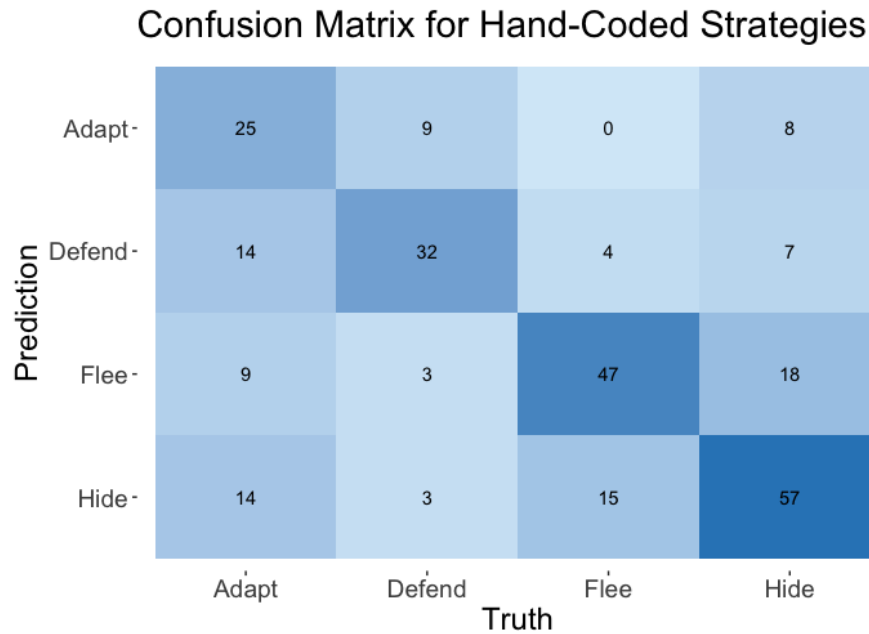
A confusion matrix for predicted strategies in hand-labeled data. On-diagonal cells count correctly predicted strategies. Off-diagonal cells count incorrectly predicted strategies. 60% of strategies are correctly predicted—nearly twice the success rate of random guessing (Table SM.19).

predict strategy selection nearly twice as well as random guessing (SM.F). Robustness checks in SM.G confirm results using a better wealth proxy, available for a subset of respondents. [39]

Results from Text Classification

MuRIL text classifier data generally support the same conclusions as above, despite additional noise/error inherent to the text classification process. Figure 4 shows results. In these data, survival strategy is recorded by transcribers who produced original-language transcripts from oral history videos. They recorded which *single* strategy (if any) the oral history respondent pursued. This differs from the hand-labeling data, which allows for respondents changing strategies over time. Transcribers were not aware of the research question or hypotheses.

Results show moderate support for Hypothesis 1: Higher control appraisals are associated with more "fighting" strategies and fewer "hiding" strategies as predicted, but not significantly associated with fleeing or adapting, and credible intervals are inconsistent with substantial effects in the hypothesized direction. Support for Hypothesis 2 is strong: Higher predictability significantly increases likelihood of "adaptation", and significantly decreases likelihood of "fleeing". The credible interval for the high predictability–"hiding"

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[39] Wealth is slightly negatively correlated with predictability, and uncorrelated with control.

association is consistent with up to a 20 percentage point effect in the hypothesized direction and inconsistent with any sizable effect in the opposite direction. The "fighting"–low predictability association is weak, as above. Results conclusively support Hypothesis 3: A 25th to 75th percentile change in the interaction term supports over a 10% increase in adaptation, and almost a 20% decrease in fleeing.

Overall, MuRIL data provides statistically significant support for the majority of predicted associations (Table 3), and shows correctly-signed coefficients for 80% of predicted associations.[40]

Figure 4

Average Partial Effect of Appraisals On Strategy Choice Probability
MuRIL Apprisal Labels

APE estimate for change from 25th percentile to 75th percentile value
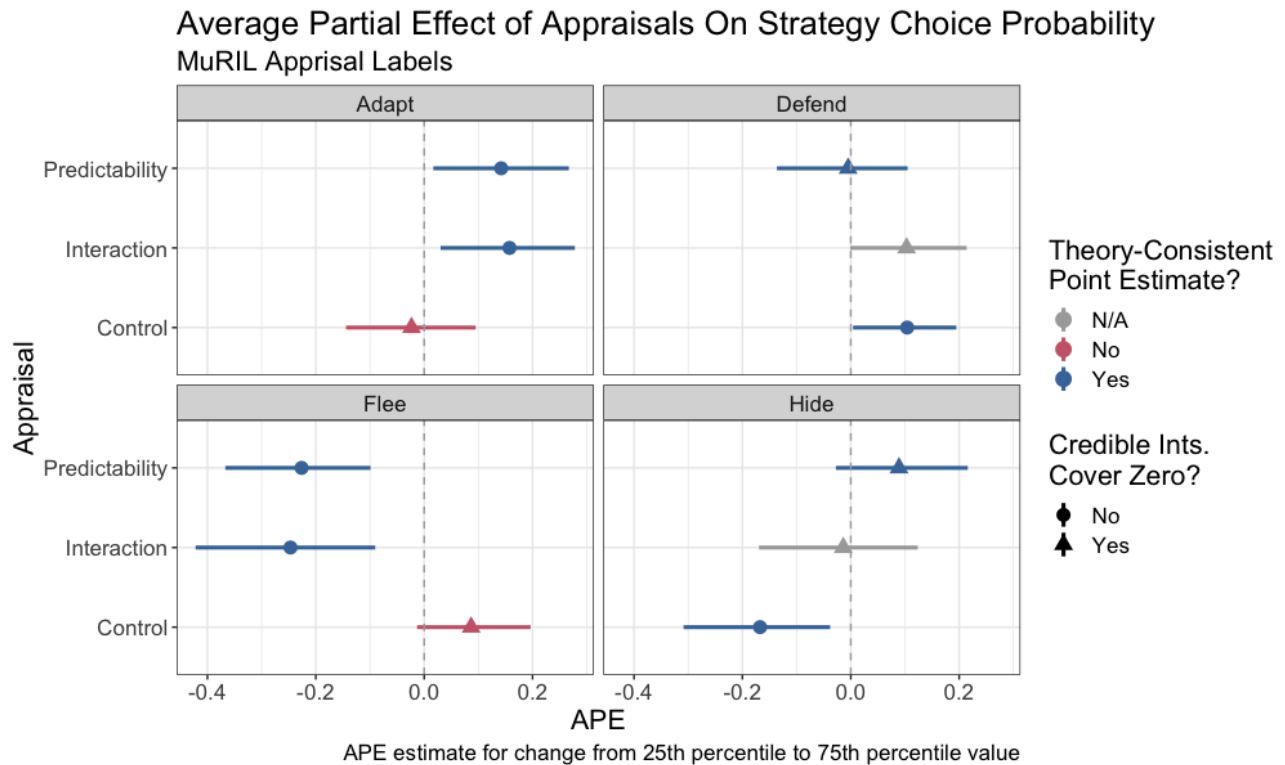
Results from MuRIL data. Point estimates show APEs for 25% to 75% shifts in control and predictability appraisals, plus an interaction term. This model uses transcriber-coded strategies as a response variable, with the same Bayesian estimation and similar controls compared to the hand-labeled data model. Points in blue are consistent with SAT. Red points are not consistent with SAT. Raw coefficients shown in Table SM.18.

Interpreting Quantitative Results

A clear picture emerges from quantitative results: analyses with both appraisal measures are consistent with SAT; the theory explains a substantial proportion of previously-unexplained variation in survival strategies.

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[40] Again, literature suggests that results from sentence-level text classification may be attenuated compared to equally-valid hand-labeling approaches. The results may be further attenuated by averaging sentence-level appraisal scores across a document. This diminishes IV variation, making MuRIL scores less "extreme" than binary hand-label scores (Figure 1b). Transcripts will likely include *both* high and low scoring sentences, even when the overall appraisal is clear. Even if the MuRIL results are the correct ones to interpret (unconscious bias in hand-labeling could occur), MuRIL results strongly support most SAT hypotheses.

These associations are not meaningfully attrited by accounting for covariates/alternative explanations like identity, violence intensity, or violence type. Material resources, the leading alternative explanation that lacks good dataset-wide proxies, is tested in SM.G with the subset of oral histories where better proxies exist. Those analyses show wealth is un-correlated with appraisals and with ultimate strategy selection. Situational appraisal theory, in other words, explains a substantial amount of variation that demographic and structural factors do not.

Qualitative Case Studies

Situational appraisals explain the survival strategies that people pursue during violence. To further investigate *how* this happens, I qualitatively analyze "on the line" and "off the line" oral histories for each strategy (Lieberman 2005). I select twelve cases non-randomly to analyze rich interviews that offer more insight into decision processes. Full narratives for each are in SM.I. Case analyses show three patterns. First, situational appraisals inform strategy selection, consistent with SAT. Second, appraisals work by providing inputs for conscious decision making.[41] Third, many "missed predictions" are caused by small-community or family influences on decisions.

Situational Appraisal Theory at Work

Case studies show that appraisals provide important decision-making inputs. In case 496, two sisters confront pogrom violence in Western Uttar Pradesh. Changing predictability appraisals lead them to change strategies. The sisters describe feeling intense vulnerability and little control—their father was away caring for an ailing relative, their home was physically exposed and marked with a khanda (Sikh symbol). They tried to barricade the house, but quickly questioned whether the barricade would keep out the approaching mob: "it seemed like [the furniture] wasn't going to stay there for too long." This re-assessment of predictability—*future* viability of staying put—informed their decision to flee, climbing away from the house, roof to roof. Appraisals are also important in other correct predictions. In case 333, Mr. Singh emphasizes low predictability (receiving disjointed information about violence) and high control in explaining why he fought back when mobs entered his train compartment. His sense of control was boosted by his compartment-mate, a Sikh paramilitary police soldier. When the mob arrived, he prepared to fight, but the soldier pled with the mob, and left Mr. Singh to fight alone. The mob beat Mr. Singh unconscious. Feeling control was critical to his decision to fight, but it also illustrates an important point about SAT:

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[41] The perfect evidence would be a statement where appraisal and action are logically connected with a phrase like "so" or "therefore" in English, and "toh" or "is laii/is kar ke" in Punjabi.

Table 6

Strategy	Respondent + Link
Adapt	Mr. Singh E (Main Text), Mr. Singh 26 (SM.I)
Defend	Mr. Singh 333 (SM.I), Mr. Singh 59 (SM.I), Mr. Singh 337 (SM.I), Mr. Singh 296 (SM.I)
Flee	Mr. Singh A (Main Text), Mr. Singh C (Main Text), Ms. Kaur 496 (SM.I), Mr. Singh 140 (SM.I), Mr. Singh 193 (SM.I), Mr. Singh 12 (SM.I), Mr. Singh 158 (SM.I)
Hide	Ms. Kaur B (Main Text), Mr. Singh 385 (SM.I), Mr. Singh 125 (SM.I)

Interview quotations and oral history case studies arranged by strategy.

appraisals do not necessarily point toward the *best* strategy. More correctly-predicted cases are in SM.I.

Deviations from the Theory

Cases that deviate from SAT fall into two groups. First, some describe circumstances that violate scope conditions: respondents' strategies are dictated by someone with higher social status, or respondents do not actually think they are threatened by violence (case 337 in SM.I). In case 12, for example, Mr. Singh's appraisals support a "hiding" strategy and he hides initially, but then chooses to flee following guidance from a neighbor (a government official) who initially helped him hide. Mr. Singh down-weights his own appraisals, deferring to someone with higher status or perceived inside information. It is unclear whether Mr. Singh flees *despite* his appraisals, or because the neighbor has *changed* his appraisals.

Other cases are clearer misses in measurement or theory. In case 125, models measure low control and predictability, predicting fleeing. Mr. Singh 125 hides at home. His situational appraisals are expressed ambiguously: On one hand, he describes feeling low control, and uncertainty that only abates when the army arrives on 3 November. On the other, he describes having weapons at home that he is willing to use, and describes proactive steps his Hindu neighbors take to mis-direct nearby mobs. Neighborly aid might account for Mr. Singh's short-term strategy, but text evidence does not clearly show appraisals to match.

Interview Evidence

Oral history evidence shows strong support for SAT but uses somewhat indirect appraisal measures. Original interviews measure appraisals more directly and further demonstrate the importance of control and predictability. Some interviews, though, portray situations outside SAT's scope conditions in which respondents' appraisals matter little, like strategies being chosen per the situational appraisals of parents or other family members. Others describe a force majeure that closes off a pathway SAT predicts they would prefer. Table 6 lists interviews quoted in this section (plus oral history cases in SM.I) by survival strategy.

Interpreting Interview Evidence

Interviews show that situational appraisals provide information for making difficult decisions. High predictability appraisals help people understand how to work within their environment to stay safe. One respondent quoted below, for instance, thought she understood why mobs targeted certain houses (Ms. Kaur B). She used this knowledge to tailor the "hiding" strategy she adopted. People with low predictability appraisals can't settle on behavioral modifications to stay safe in their environment, so they consider more drastic, disruptive alternatives (Mr. Singh A).

Control appraisals function similarly. People who evince low control appraisals when considering threats from mob violence, militant groups, or the police prioritize avoidance: They are pessimistic about the outcomes of interacting with threats, so they try to stay away. Depending on their appraisal of predictability, this either leads to hiding—planning life around predictable threats—or trying to escape their reach by fleeing.

Appraisals and Strategy Selection in Interviews

Original interviews shows three patterns that illustrate SAT at work. First, interviewees who chose to flee emphasized helplessness and unpredictability to explain their decisions. One interviewee described a situation with police and militants that prompted him to leave Punjab as a young man. Mr. Singh's low control appraisal centered around a situation where militants would "show up at your home in the middle of the night" demanding food or shelter. He noted "the men are carrying guns; you can't say no." After the militants left, police arrived to punish the people who had been coerced into aiding militants. Police "harassed and arrested a lot of people...who were in our situation." [42]

Second, interviewees who chose "adaptation" strategies often described violence as rule-bound, and believed they could take actions to diminish risk. Comparing two stories from the 1984 pogroms in Delhi, high predictability but different appraisals of control explain choices to hide versus adapt.

Ms. Kaur's family hid at home in North Delhi for days. From the outset, her control appraisal was very low, in part because her father was stranded away from the house. Meanwhile Ms. Kaur, hiding on the roof, saw a neighbor's home set on fire. She recalls the neighbor emerging from his house brandishing his kirpan. This made the mob disperse, but only briefly. Seeing the futility of her neighbor's action made her feel powerless. She remembers her mother preparing to kill her and her siblings if the mob broke in:

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[42] Mr. Singh A, interviewed California, September 2019.

"We were scared... my mom... she had made small packets of [cyanide] in her hands." She said, "if anyone tries to touch my daughters, then I will put this in my daughter's mouth."[43]

Ms. Kaur's appraisal of predictability was higher, per coding rules in SM.D. Two things boosted predictability appraisals. First, her family trusted their Hindu neighbors ("We knew ... they [would] be good to us"), unlike others who recall recognizing neighbors in the mobs.[44] Second, she describes detailed knowledge about targeting. She understood how mobs identified occupied Sikh homes—people in trees called to mobs below "which house of a Sardar is lit with lamps."—and that empty houses were left alone. These features made hiding seem attractive, so her family responded by making their house look empty.[45]

Across the city, Mr. Singh pursued adaptation, venturing out in Southwest Delhi despite options to flee or hide. His uncle who had emigrated to Europe arranged an evacuation, but Mr Singh's father declined.[46] Having weapons bolstered his control appraisal. An armed Sikh neighbor protected the house on the 31st. Later, Mr. Singh's father carried a gun when they left the house on November 1. His predictability appraisal, like Ms. Kaur's, was based on his understanding of how violence was targeted.

Third, some interviewees' strategies were dictated by higher-status people like parents. One man who fled Punjab illustrates this. When asked about his appraisals, he said his mother's control appraisal mattered more than his own. He recalls a pivotal bus ride that shaped her control appraisal. Police stopped the bus and pulled young men off. His mother begged the police to let her son go. He was surprised they did. As they rode onward, his mother explained that she felt she lacked control to mitigate threats that young Sikh men faced. Therefore, she thought her son needed to leave: "We've got to get out of here. Your dad's dead,[47] if we continue here ... they're going to shoot you." His mother's feeling of powerlessness was pivotal: "It was sealed that day that somehow I've got to get out." [48]

Conclusion

This paper applies a new political psychology approach to an enduring question in the study of conflict: how do civilians facing sudden, rapidly-evolving political violence make judgments about danger and choose

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[43] Interviews and oral histories contain little information about sexual violence, as do court affidavits and government investigations. Previous research documents instances of sexual violence during the pogroms (Kaur 2006), but suggests it was *less* common than in many political violence episodes (Van Dyke 2016, pp. 207-208). Understanding how SAT applies to sexual violence requires additional research.

[44] Mr. Singh D, interviewed California, October 2019.

[45] Ms. Kaur B, interviewed in Delhi, March 2020

[46] Mr. Singh E, interviewed Delhi, March 2020.

[47] Unrelated to the conflict.

[48] Mr. Singh C, interviewed California, September 2019.

strategies to secure their own survival? I argue that people's behavior during violence depends on how they interpret their environment—their level of control and the extent of predictability in the threat environment—and that interpretations often vary within conflicts, communities, or even within individuals over time. I show that situational appraisals—the interpretations—are a useful tool for explaining people's choices.

Situational appraisal theory (SAT) helps explain how civilians respond to sudden onset, surprising violence perpetrated by relatively disorganized actors—a type of violence that is increasingly common around the world (Raleigh et al. 2010). SAT might adapt well to other types of violence too. Future work to establish the generalizability of SAT could focus on conflicts with different levels of armed group organization, different violence technologies, and longer time horizons, as well as societies with different cultural values around collective decision-making and altruism. Individual interpretation cannot realistically dominate in all circumstances—strategic bombing and mass expulsion campaigns are particularly difficult ground—but SAT may still explain behavior in insurgencies or coventional wars.

Violence of all types is characterized by "fog" and divergent interpretations (Brass 1994; Clausewitz 1976), but some constellations of identity, resources, and cultural values around honor and altruism, may lead to more homogeneous appraisals and behaviors. Accounting for heterogeneity/homogeneity across violent contexts may help address other puzzles, like divergent findings in literature about "consequences" or "legacies" of violence. Control and predictability appraisals are part of the meaning-making and interpretation repertoire that helps people cope and recover after violence. Accounting for population-level appraisals could explain why some studies find cohesion and resilience after war (Bauer et al. 2016; Hartman and Morse 2020), while others find enduring harms (Vinck et al. 2007).[49]

There is also more to learn about how appraisals form, especially about how structural characteristics interact to make situational appraisals more or less homogeneous. This paper has shown that situational appraisals explain variation that is not captured by factors like identity and socioeconomic status. At the same time, these these factors are correlated with appraisals to varying degrees. Future work should investigate how appraisals are shaped by identity and resources—i.e. the correlation between control appraisals and gender. In this work, situational appraisals might be a useful *mechanism* for explaining the link between identity factors like gender and behavioral tendencies like lower aggression (McDermott 2015). Further, if certain demography–appraisal links generalize across contexts, those findings would make SAT more powerful for prediction and real-time analysis of behavior during violence.

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[49] See Figure SM.16

SAT has three implications for research and policy-making related to civilians facing conflict. First, SAT introduces a set of mechanisms that intercede between the environment people face and the preferences they form. Previous studies acknowledge that structure does not provide deterministic explanations for civilian behavior, but SAT identifies new, testable hypotheses to explain behavioral variation within structurally-similar groups. Focusing on situational appraisals helps explain within-group variation and, because appraisals can change faster than structural variables, it also provides new leverage to explain shifts in a person's behavior over time.

Second, SAT identifies directions for future research on the micro-foundations of political crises including: conflict-related displacement, ethnic cleansing, and vigilantism. Existing literature focuses on the consequences of violence intensity and community structure; I provide a framework connecting environmental conditions to individual decision-making.

Third, in terms of policy implications, this paper shows that extremely-disruptive action depends on low predictability appraisals, which are not often universally shared. This suggests that focusing on the material "root causes" of insecurity might be insufficient to promote stability. Attending directly to key actors' sense of predictability could make efforts to increase resilience and discourage escalation more effective.

Finally, rich testimony in oral histories raises new questions about violence that are worth future investigation. One theme is the importance of aid, especially across communal lines, in shaping civilian's choices. Political scientists know "rescue" occurs during anti-minority violence (Braun 2016), but mostly focus on the supply-side. We know less about demand: how do good samaritans affect the behavior of potential victims? Another pattern is the effect of social cohesion on control appraisals. This paper does not investigate the causes, in some Delhi neighborhoods, of successful community defense during pogroms. Survivor testimony suggests intra-Sikh coordination (unlike aid from Hindus) had feedback effects on control appraisals. Future work to understand how appraisals spread might explain these important dynamics. Ultimately, many interesting phenomena reported in oral histories call for a different level of analysis: social units and communities. This paper demonstrates that individual perceptions are important determinants of behavior, but there is much more to learn about how the social world reflects back on individuals enduring conflict. Decision-making during violence is, thankfully, not always a solitary exercise.

Declarations

Research documentation and data that support the findings of this study are openly available in the APSR Dataverse at https://doi.org/10.7910/DVN/GM1VRQ. Limitations on data availability are discussed in the text and/or Supplementary Material.

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Supplemental Materials

A   Data Description: Oral Histories

I use a collection of 509 oral history videos from the 1984 Living History Project, an online archive of survivor testimony documenting the experiences of Sikhs during violence in 1984 in Punjab and in India more broadly. I use the raw videos as well as original-language transcripts to analyze the content of the oral histories. Most of the analysis in the paper focuses on subsets of the larger oral history archive in which people describe taking some action in response to the threat of violence. Interviews in which the respondents do not describe an action in response to the threat of violence are missing a dependent variable for all models in the paper, and would be dropped anyway.

Transcripts, created by research assistants specifically for this project, flag particular sections of the oral history that are clear responses to questions in the archive's interview guide (1984 Living History Project 2019). For many of the text analyses in Section in the paper, I discard text tagged as a response to the final question in the guide. This question explicitly asks for post-treatment appraisals of the violence. In some models, like the MuRIL model in Figure 4, I restrict the sample further to only the questions that narrowly desribe experiences of violence. As the main body of the paper shows, this choice changes the conclusions of the analysis little if at all.

Table SM.1

Location		Count
India		**378**
	Punjab	185
	Delhi	98
	Uttar Pradesh	16
	Chandigarh	15
	Haryana	9
	Other	55
USA		**57**
Canada		**20**
Other		**19**
Unk.		35

Oral history respondent locations at time of interview (2010s).

Table SM.2

Var	Missing	Mean	SD	Min.	25%	Median	75%	Max
Age	159	25.6	13.7	0	15	23	35	69
Male	6	0.734	0.443	0	0	1	1	1
English	0	0.352	0.478	0	0	0	1	1
Punjabi	0	0.621	0.486	0	0	1	1	1
Activism	0	0.365	0.482	0	0	0	1	1
Loss of Life	0	0.466	0.499	0	0	0	1	1
Forced Relocation	0	0.259	0.439	0	0	0	1	1
Property Dest.	0	0.438	0.497	0	0	0	1	1
Describes June 1984	0	0.804	0.398	0	1	1	1	1
Describes Nov. 1984	0	0.880	0.325	0	1	1	1	1

Summary statistics for *all* oral histories (numeric variables). Because age is missing so frequently, I do not use it as a covariate in any models.

Table SM.3

Var	# Levels	Counts
Date	3	Nov: 195, Jun: 37, Unk: 33
Actor	2	Self: 199, Family: 66
Strategy	4	Hide: 90, Flee: 66, Adapt: 62, Defend: 47
Proximity	4	Firsthand: 127, Happened to Fam.: 84, Witnessed: 52, Secondhand: 2

Summary statistics at the strategy-choice-level for oral histories that describe high exposure to violence (factor variables). These are the 182 oral histories that I process using the hand-coding rules described in Appendix D. Any histories where the respondent does not describe a survival strategy enacted in response to the threat of violence (because they were too distant, likely) is dropped from the hand-coding processing.

A.1 Selection into the 1984 Living History Project Archive

The ~500 oral histories in the archive I analyze are gathered via a convenience sample, roughly speaking, of Sikhs willing to discuss their experiences of 1984 with a "citizen historian" in India, the United States, Canada, or a handful of other countries (see Table SM.1). Because interviewees are recruited via their ties to a community defined by Sikh identity, they may be more devout, more involved in the Sikh community, or more personally interested in the history of 1984 than the average person who identifies as Sikh and who lived in India at the time. People in the archive may also, by virtue of involvement in the Sikh community *after* 1984, over-represent political beliefs and goals connected to issues that are high-priority in the Sikh activist community, including recognition, legal recourse, and even reparations for violence in the 1980s and 1990s.[50]

What might these "selection effects" mean for the reliability of oral history data as a test of SAT? I argue that the implications of this selection are visible in the oral history testimony, but do not appear to overwhelmingly skew the sample, and do not pose substantial threats to inference for testing SAT because they tend to focus on specific topics that are hard to confuse with respondents' situational appraisal or strategy reports.

One very crude way to measure whether the sample of oral history respondents overrepresents more "devout" Sikhs is to examine the proportion of men in the sample who wear turbans. An estimate from 2007 (within the decade before oral history interviews were conducted) suggests that around 50% of observant Sikhs wear turbans (Gentleman 2007). The proportion in the oral history sample is certainly higher—around 90%.[51] Not nearly all of the 90%, though, appear to have un-trimmed beards. *Amritdhari* Sikhs—Sikhs who have taken *Amrit* (been "baptized")—are supposed to keep all their hair (*kesh*) unshorn. An increasing number of men split the difference by wearing a turban but trimming their beards. Ultimately, though, observant Sikhs seem to be overrepresented in the data.

This over-representation may not be a particularly severe inferential problem because, as historical evidence shows, visibly devout Sikhs were also more likely to be targeted in all phases of violence analyzed in the paper. Sikhs who wore turbans and unshorn hair, and Sikhs who lived in higher-concentration Sikh communities were more likely to be victims of violence in November 1984. More visibly devout people were also at a higher risk of victimization by the Punjab Police in the later 1980s and early 1990s.

The other way sample selection could pose a problem for inference is if oral history participants, by virtue of being on average more involved in the Sikh community, either a) have systematically different

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[50] As of the late 2010s, a very small group of Sikh activists (rumored to have support from Pakistan's Inter-Service Intelligence) was even organizing a new independence referendum to revive the "Khalistan" issue in India (Fair, Ashkenaze, and Batchelder 2020).

[51] Some of the non-turbaned men are wearing other head coverings (basically a bandanna) that all men including non-Sikhs are supposed to don when entering a Gurdwara. The fact that at least some interviews took place in Gurdwaras suggests that some respondents may be wearing turbans in their interviews that they do not wear on a daily basis.

situational appraisals and strategy selections, or b) misrepresent their appraisals or behaviors in a consistent way. There is evidence that post-hoc meaning-making in the Sikh community affects some *specific* aspects of oral history testimony, but the structure of the oral histories makes these parts of the data easy to isolate and exclude. One of the major focal points of collective memory-making is blame, specifically ending what Sikh activists call the "years of impunity" after the Pogroms in which no police or political officials were held accountable despite substantial evidence of involvement and coordination (Kaur 2006). To this end, a number of questions in the oral histories focus explicitly on blame and on assessments of cause. These questions come after less political questions in which respondents are simply asked to narrate their experience. Because these analysis-based questions are separate from the narration that matters for measuring situational appraisals and strategy selection, I isolate and drop questions about blame and culpability, which often focus on targets *well beyond* the individual experiences of participants.

Because control and predictability appraisals are *not* politically contentious, and because the political narratives developed since 1984 have *not* substantially proscribed or passed judgment on any one survival strategy category,[52] there is little reason to believe that the post-hoc meaning making in the Sikh community—though extensive—poses a major threat to testing situational appraisal theory so long as discussions of blame and culpability are not accidentally included in the measurement of appraisals.

A.2   Memory Reliability in Oral Histories

There has been substantial debate in psychology literature—and in political science literature that uses historical testimonial evidence—about the reliability of memories about trauma citepGardini2012. The so-called psychology "Memory wars" of the 1990s revolved around the claim, originally Freud's, that traumatic memories are "repressed" as part of a defensive responses to the experience of trauma (Patihis et al. 2014), or that trauma led to dissociation and episodic amnesia (Dalenberg et al. 2012). Clinicians claimed that psychoanalytic techniques and other forms of talk therapy could surface these memories, which people did not know they had and would not otherwise be able to report without assistance. Research into the phenomenon of repressed memories, though, has mostly found that discoveries of suppressed or altered ("false") memories related to trauma seem to arise from external suggestion, i.e. from clinicians looking for repressed memories and "discovering" them (Geraerts et al. 2007). There is little evidence in empirical literature that traumatic memories are routinely suppressed or altered (Henckens et al. 2009).[53]

In the course of this research, scholars have found other, notable ways in which traumatic memories are different from normal recollections. These differences include both positive and negative features from the perspective of social scientists trying to use historical memories of trauma as "data." First, research suggests that traumatic memories have "holes," but that the missing or mis-remembered bits of information in the memories of traumatized people tend to be details that are peripheral to their experience of trauma (Levine and Edelstein 2009). The testimony of people recalling traumatic memories may be poorly suited to establishing accurate historical accounts—timelines, placing a person in a particular location, remembering exact phrasings, etc.—of events that were *peripheral* to their experience. Second, while peripheral details are not necessarily remembered, evidence suggests that *central* details of a person's experience of trauma are actually very strong and durable memories. Central memories are strengthened by emotional arousal (measured by increased amygdala and hippocampal activity) during their formation (Sharot and Yonelinas 2008; Tsoory et al. 2008; Hamman 2001). Because emotional arousal strengthens memory formation, traumatic memories are likely *less* vulnerable to decay or drift over time than other recollections (Joëls, Fernandez, and Roozendaal 2011; Sharot, Delgado, and Phelps 2004; Peace and Porter 2004). The types of experiences that

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[52] Even hair-cutting, which is a violation of religious devotion, is often described in terms of the indignities that perpetrators *forced* some Sikhs to suffer, rather than as a judgment on people who chose to cut their hair to stay safe.

[53] Suppression of memory seems mostly to occur when emotional responses are down-regulated *during* the traumatic experience (Richards and Gross 2000). This lends further support to the idea (discussed below) that emotional experiences are important parts of the memory formation and solidification process.

participants are asked to recall in oral histories—"close personal experiences" of "shocking or consequential events"—are especially well suited to producing vivid, accurate recollections (Sharot et al. 2007).

A.3 Possible Sources of Bias in Interview and Oral History Data

As described in Section , there are three main possible sources of bias in the analysis of oral history and interview data. I argue these sources of bias are unlikely to affect attempts to test situational appraisal theory. Some evidence for this argument against the potential for bias comes from original interviews, where I was able to speak with respondents about topics like politics, their opinions on the appraisals I was trying to measure, and their reasons for participating in interviews. First, regarding the threat that re-appraisal, re-interpretation, or mis-remembering might bias results if it is affected by politics: I find evidence of substantial community "meaning-making" and political reinterpretation of events related to the 1984 pogroms, but the main objects of interest in the Sikh community are quite separate from *both* people's choices of survival strategies *and* people's sense of control and predictability. The major topics for political re-interpretation are blame attribution, and interpretation about the causes of violence—members of the Sikh community are particularly focused on causes and blame attribution as part of a campaign to hold alleged perpetrators in the Congress Party accountable for the violence. Interviews suggested that the dominant political narratives about blame attribution were actually compatible with all four survival strategy categories, and with both high and low values of situational appraisals: accounts of high control appraisals could be cast as evidence that Sikhs were uncowed even in unimaginable violence; accounts of low control appraisals could be framed as evidence about the horrors of what happened. Second, there is a possibility that people mis-report their appraisals if they internalize some "folk version" of situational appraisal theory, and report theory-consistent appraisals and strategies in order to make sense of a traumatic experience. Evidence from interviews is not consistent with the idea that a "folk theory of situational appraisals" is widely held among Sikh survivors of violence. If anything, some interviewees gave feedback to the contrary. After playing along and describing how in control they felt, some respondents then volunteered that they didn't understand why this mattered and they thought the line of questioning was irrelevant. Situational appraisal theory does not seem to be "common knowledge." Finally, on the issue of selection effects, I do not find consistent evidence in interviews that participation is restricted only to those people who had "made sense" of their experience and felt some sense of closure. To put it simply, a number of interviewees told me otherwise and some said that they had chosen to participate in part because they believed recounting their experience to an outsider would help them process it.

B Data Description: Author-Conducted Interviews

Interviewees were recruited in a stratified convenience sample, in order to prevent a single social network or chain of contacts from dominating the pool of respondents. In California, the interview strata were delineated by the three largest Gurdwaras (Sikh temples) in the Bay Area, in El Sobrante, Fremont, and San Jose. In addition, contacts provided by a scholar and community leader in the Bay Area Sikh community provided the start of a fourth stratum. Sampling across these nodes (and following personal referral lines in each node) ensured greater diversity in socioeconomic status and place of origin in India than a pure convenience sample would have facilitated.[54]

In New Delhi, the strata were delineated by different neighborhoods—plus one stratum made up of relatives of interview respondents from California—but not all strata of interviews were completed before COVID-19 transmission in Delhi began. Five neighborhoods at different levels of wealth (per the Delhi Municipal Valuation Commission) were chosen from the set of neighborhoods most heavily affected by the 1984 Pogroms (Government of India 2000). Interviews conducted pre-COVID covered one of the

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[54] Local experts in California cautioned against drawing my sample too heavily from a single temple community (or sangat) in the Bay Area and Central Valley, because the different sangats at the major and minor Gurdwaras are thought to have different socioeconomic backgrounds, average tenure in the United States, and critically, political orientations toward Sikh separatism.

wealthiest neighborhoods, Greater Kailash, and two poorer neighborhoods, Trilokpuri and Palam.[55] Most Delhi interviews were conducted with the assistance of two Punjabi translators and research assistants, both Sikh men born after 1984. One translator/research assistant hailed from North Delhi, the other from Ferozpur District, Punjab. Because interview respondents (especially in Delhi) describe violence that was largely committed by Hindus, I did not want interview conversations to be mediated by someone the interview respondents identified with that group. On the advice of experts in California and Punjab, and in an effort to avoid language politics that have perhaps become more intense in the years *after* the Punjab crisis, I made sure not to speak to interview respondents in Hindi unless they spoke Hindi first. When I introduced myself to respondents, I explained my institutional affiliation, and that I wanted to talk to them as part of my research studying how ordinary people survived violence. Interviews were semi-structured, following the same questionnaire and discussion topics. Each lasted between 60 and 120 minutes. In the vast majority of cases, respondents consented to audio recording for the purpose of transcription.

Table SM.4

Location c. 1984	Count
Delhi NCR	15
Amritsar (City and District)	6
Chandigarh	4
Other Punjab	4
Other India	1

respondent locations during the Punjab Crisis.

Table SM.5

Location c. 2019-2020	Count
Delhi NCR	10
South Bay, CA	9
East Bay, CA	6
Central Valley, CA	5

Interview respondent locations at time of interview.

Table SM.6

Language	Count
English	21
Punjabi	11

Language of interview (Punjabi interviews conducted with live translation).

Table SM.7

Gender	Count
Female	10
Male	20

Respondent Gender

C   Human Subjects Procedures

Human subjects research for this article was approved by the MIT Committee on the Use of Humans as Experimental Subjects (COUHES) under protocols E-1342, E-1623 and amendment E-1994, and was conducted in accordance with APSA's *Principals and Guidance for Human Subjects Research*. Research for this article engaged human subjects in two ways: original interviews with violence survivors, and analysis of personal testimony recorded as oral histories. Throughout the design phase, data collection, and analysis of evidence, I consulted with leaders and academic experts in the Sikh community in the United States and India to ensure that research activities respected autonomy and privacy of participants, reflected the sensitivity of the topics participants were asked to discuss, and minimized the potential for physical, psychological, or social harm to participants. Below, I describe ethical practices implemented in compliance with the APSA *Principles* in six thematic areas: consent, deception, confidentiality, harm and impact, compensation, and conflicts of interest.

Consent

All respondents, both in interviews and oral histories, provided informed consent that covered the way their testimony was used in this paper. Interview respondents provided informed consent in writing per the instructions of MIT COUHES. I obtained written consent for interviews (and audio recording),

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[55] The interviews that "covered" Trilokpuri and Palam were actually conducted in Tilak Nagar, in and near a government-built colony for widows of 1984 pogrom victims.

following a conversation about the interview process, the intended purpose of the research, and the rights of participants. Given the nature of the interview subjects, I sought continued verbal consent at multiple points throughout the interview. Oral history respondents provided consent in writing to the 1984 Living History Project, acknowledging their consent for wide distribution of their interview.

Deception

No deception was involved in the data collection for this study.

Confidentiality

I use two procedures procedures to protect the privacy of interview and oral history participants. First, I refer to all respondents (from both data sources) by fake names when they are quoted or mentioned. I refer to all oral history and interview respondents as Ms. Kaur or Mr. Singh, paired with a random identifier. Kaur and Singh (for women and men, respectively) are adopted as middle names or surnames by many observant Sikhs, and are not personally identifying like family surnames. Second, I do not quote any respondent at sufficient length for readers with contextual knowledge to identify them based on their quotations. In the cases I quote at greatest length (the women I Inderpal and Sukhwinder in the introduction), I asked a colleague who had the contextual knowledge to identify both women to read the case descriptions and ensure that they could not determine who was referenced.

These protections are quite strong for interview participants. The fact of their participation is not public, and the "region" identifiers I provide when quoting interviews (California and Delhi) are places where thousands and millions of Sikhs live, respectively. The protections are somewhat weaker for oral history participants, whose participation in the oral history project is publicly known. However, the potential harm to oral history participants is also less, since they were aware at the time of the interview that their testimony would be publicly available and matched to their name (in the oral history archive, but not in this paper).

Harm

The contents of the interview guide I used asked respondents to describe experiences of violence, so I developed a three-pronged approach to monitor and mitigate harm among interview participants. First, I developed the interview guide in consultation with experts in the Sikh community in the United States and India—including some organizers of the 1984 Living History Project. Their input led to changes that mitigated possible psychological risk, and to the identification of free counseling resources in case respondents felt psychological distress from participating. Second, all respondents received contact information for MIT's IRB. During the consent process, I reminded participants of their right to contact the IRB to report concerns. Third, following Wood (2006), I provided IRB contact information to local confederates, and told respondents that this intermediary could initiate a complaint on their behalf.

In addition to these pre-set harm mitigation strategies, I worked to minimize harm during interviews by seeking consent on a continuing basis, and making compromises with respect to the interview setup— like having family members present, turning off audio recorders in a few instances, and occasionally skipping questions—that allowed respondents to be in control of their participation. To my knowledge, no respondents have reported adverse outcomes or harm to the IRB or local confederates as of September 2023.

Compensation

Interview respondents were not compensated. I offered small, non-valuable tokens of appreciation (postcards and stress balls with the MIT logo) to all respondents.

Conflicts of Interest

I identify no conflicts of interest.

D   Measurement: Hand Coding

A complete codebook, along with data, will be shared upon publication. The hand-coding dataset includes justifications that link each coding decision to specific rules and specific sections of the coded text. Oral

history coding rules were developed—*prior to accessing the oral histories*—based on a combination of psychology literature that links control and predictability appraisals to various environmental stimuli and emotional states (among many: Frijda 1986; Lerner and Keltner 2000; Spielberger and Reheiser 2009; Frijda 2017; Scherer and Moors 2019), and based on segments in author conducted interviews where respondents described particular appraisals, particular beliefs about the causes of violence, or particular context specific patterns that drove their appraisals. A brief version of the coding rules are below, followed by specific commentary on how selected coding rules were developed from qualitative interview data.

D.1 Separating IV and DV Measurement

Because both independent variables (appraisals) and dependent variables (strategies) are represented in the oral history text, it is important to take care that they are coded *separately*. We might worry, for example, about an intrinsic relationship between the way people describe their actions and the motivations for those actions when both are described in the same text. If the coding of appraisals and strategies influenced each other, this would be a source of omitted variable bias. To guard against this, I use a combination of innate features in the data and best practices in existing research. First, I develop and use strong, theoretically motivated coding rules before accessing the data. This is one of the best-practices for handling issues around researcher discretion (Pepinsky 2007). Coding rule pre-specification is important in this case because oral histories measurement differs from retrospective measures collected in interviews or surveys in a few ways. Where interviews or surveys use responses to pre-determined questions to measure key variables, for example, relevant text in oral histories must be identified after the fact. Researchers must use discretion to apply the coding rules to only relevant text. Studies that code events from news reports or government documents face similar challenges (Fariss 2014; Fariss et al. 2015), and address them by specifying clear, theoretically motivated coding rules before approaching the data.

Another difference between data sources is actually quite helpful for separating IV and DV measures. Because important variables are not measured via responses to specific questions, oral histories should be less subject to a different source of bias: demand effects. Unlike in some interviews and surveys, oral history respondents are not asked to explain the strategies they pursued—this mitigates a potential source of contamination between independent and dependent variables, Respondents often try to generate an answer to survey or interview questions even absent strong beliefs (Nisbett and Wilson 1977), and this process (in interviews) might induce a retrospective correlation between reported behavior and reported cause.

Grammatical structure is one more important way that DV coding is separated from IV coding in hand-labeling. All IV coding rules below make appraisal determinations based on either 1) descriptions of feelings/judgments internal to the oral history respondent; or 2) descriptions of things people notice in their external environment, including actions taken by others. The dependent variable, on the other hand, is measured exclusively by coding respondents' descriptions of their own actions, which are conjugated differently and marked by different pronouns. Coding the IV and DV based on attention to mutually exclusive grammatical structures provides some protection against conflating the two variables.

Ultimately, these procedures should reduce the threat of bias that would come from insufficiently independent measurements of the key variables. It is impossible to say with certainty, though, that respondents actions in 1984 do not influence the way they report their circumstances later. Accordingly, the results in the paper rely on selection-on-observables assumptions that are common in observational research about violence.

D.2 Coding Rules

Here, I list the coding rules used to score respondents appraisals of control and predictability. I also include Tables SM.8 and SM.9 showing how frequently each rule was used, and include more detailed descriptions/justifications of select rules.

Control:

- **H -** Access to weapons (especially in Delhi)

- **H -** Presence of armed Sikhs (but not armed Hindus or Muslims)

- **H -** Majority Sikh surroundings

- **H -** Describing faith in God's protection

- **H -** Description of physically defensible space (i.e. walled colony)

- **H -** Mention of official (government) position

- **H -** Description of feeling physical safety

- **H -** Descriptions of Anger

- **L -** Descriptions of powerlessness

- **L -** Descriptions of strength/force of threat

- **L -** Descriptions of Fear

Predictability:

- **H -** Aid from non-Sikhs (in word and deed)

- **H -** Majority Sikh surroundings

- **H -** Description of particular "targeting logic"

- **H -** Verb tenses (subjunctives in English, habitual and progressive aspects in Punjabi) that suggest routine when describing others' actions

- **L -** Mentioning surprise or sudden change

- **L -** Description of ongoing attack

- **L -** Second-hand information about danger or impending violence

- **L -** Descriptions of incomplete information or uncertainty

- **L -** Descriptions of Anxiety

Table SM.8

Control		
Value	Coding Rule	Use Count
L	Powerlessness	64
L	Force of Threat	34
L	Fear	26
H	Defensible Space	22
H	Weapon Access	20
H	Maj. Sikh Surroundings	12
H	Official Position	9
H	Anger	8
H	Armed Sikhs	8
H	Faith in God	4
H	No Fear	4
H	Physical Safety	3

Use of Control Rules.

Table SM.9

Predictability		
Value	Coding Rule	Use Count
H	Aid from Non-Sikhs	47
H	Targeting Logic	40
H	Habitual Lang.	11
H	Maj. Sikh Surroundings	4
L	Surprise	40
L	Incomplete Info.	32
L	Ongoing Attack	15
L	Uncertainty	15
L	Suddenness	12
L	Anxiety	6
L	Second-Hand Info.	6

Use of Predictability Rules

Access to Weapons: A number of interviewees referred specifically to having "access to weapons" like kirpans and swords or various types of guns as a major source of high control appraisals during the 1984 Pogroms. They explained that access to even relatively light weapons made them feel more agency to defend themselves because, in most but not all instances, the mobs were not carrying traditional weapons. Their appraisal of control, in these instances, was based on how they perceived the impact of weapons on the relative power of a person vs. a mob.

Faith in God's Protection: Some interview participants connected high control appraisals to faith in God's protection. The connection they drew seemed quite specific to Sikh religious teaching and actually returns to the theme of weapons. According to one interviewee who laid it out most plainly, the "right" that God has given the Sikhs is the right to go on fighting, and that if you go on fighting then God will protect you.[56]

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[56] Mr. Singh F, interviewed Delhi, March 2020.

Another interviewee concurred: "I saw [the sevadar] scaring the people away. So many people were there and he was single handed. And at that time, I said 'By God I am born into this religion, I am fearless of everything.' At that time I came to know what I was. It was amazing. All this rioting made me fearless."[57]

Aid from non-Sikhs: Some respondents described aid from non-Sikhs (primarily Hindus) as a critical input to their appraisals of predictability. Receiving help from Hindu neighbors substantially decreased uncertainty because, to put words in the respondents mouths, helping revealed the neighbors' "type" and decreased uncertainty about who or what posed a threat of violence. Aid from members of non-targeted groups also provided information—one interviewee hiding at home in Old Delhi recalls Muslim neighbors telling the family what was going on outside by whispering through a hole in a shared wall.[58] Information and decreased uncertainty about threat both bolstered predictability and gave interviewees a sense that they could logically grasp what was happening.

Descriptions of Targeting Logic: Many respondents communicated high appraisals of predictability by describing quite detailed contemporaneous understanding of the targeting logic of the mobs. Even when their knowledge was extremely ominous, knowing how the mob chose houses bolstered their senses of predictability because they expected to get warning if they were about to be attacked. One interviewee figured out that the mobs were sending "lower-caste" people to climb trees and look for the signs that Sikhs were hiding in homes not visible from the street. The person in the tree would emulate a bird call and then direct the mob to a particular house.[59] Whether she was correct or not, the interviewee perceived the situation as more predictable because she thought she would hear her home identified before a mob attacked.

Fear: Many interview respondents reported fear as an important emotional response to the threat of violence they faced. Respondents connected this feeling to the perception that they lacked agency to deal with threats that were ongoing, or that they were already facing. A correlation between fear and a lack of control is supported in the emotion psychology literature (Lerner and Keltner 2000; Cowen and Keltner 2017).

Anxiety: Some interview respondents mentioned anxiety about future threats as a separate emotional response, different from fear related to ongoing threats. Feelings of anxiety, according to interview respondents, were related to perceived uncertainty about what kind of violent threats they would face, or perceived inability to assess risks. Neuroscience research (Grupe and Nitschke 2013) and studies based on self-reports of emotions (Cowen and Keltner 2017) distinguish anxiety responses from other negative emotions like fear based on the degree of "certainty one has regarding the likelihood, timing, or nature of future threat," and suggest that anxiety arises with "difuse, distal, or unpredictable threat cues" (Grupe and Nitschke 2013).

Majority Sikh Surroundings (Control): Some interview respondents referred to neighborhood demography—or the breakdown of their environment at the time of violence—as connected to their perception of how much power, agency, or control they had to protect themselves. Some respondents who noted that they were surrounded by many other Sikhs explained that having other Sikhs around made them feel more powerful, or more in control. They implicitly assumed that fellow Sikhs, facing the same threat, would band together and would be stronger as a group than as individuals. Assuming that Sikhs would band together (in many situations this assumption was incorrect) changed these people's assessments of relative power: the situation in their imagining became group vs. group, not individual vs. group.

Majority Sikh Surroundings (Predictability): Other interview respondents connected neighborhood demography to their assessment of threat-vectors, or whether danger could be seen coming. These respondents described majority Sikh surroundings influencing their perceptions of predictability/certainty in roughly the same way as receiving aid from non-Sikhs. Where non-Sikhs could demonstrate that they had benign intentions by helping Sikhs, fellow Sikhs could just be assumed as benign—even if respondents did *not* assume

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[57] Mr. Singh G, interviewed Delhi, March 2020.
[58] Mr. Singh H, interviewed California, September 2019.
[59] Ms. Kaur J, interviewed Delhi, March 2020.

they would coordinate or band together. According to these respondents, having majority Sikh surroundings was associated with a higher appraisal of predictability because it effectively eliminated the possibility—which many Sikhs in majority-Hindu neighborhoods felt—that their own neighbors would turn on them.

D.3 Coding Rule – Strategy Correlations

In hand-coding, contemporaneous justifications were recorded for each coding decision. Recordeds of which coding rule(s) were used to reach a particular appraisal coding decision make it possible to check for patterns in the application of coding rules, and ascertain whether any survival strategies are exclusively associated with a single coding rule (they should not be) rather than the broader concepts of control and predictability that the coding rules are designed to measure. Checking coding rule/strategy correlation in this way can verify "discriminant validity." Per Adcock and Collier (2001), demonstrating that IV coding rules (for example "access to weapons") and strategy categories (for example "fighting") are not perfectly correlated is one way to show that the measures are capturing separate concepts. I show two correlationss here, focusing on coding rules that seem, at first glance, quite conceptually similar to the outcomes they are meant to predict.

First, we might worry that the use of emotion words, describing fear for example, are automatically uttered when people describe an action like fleeing. If descriptions of fear were simply part of the bundle of metaphors that people used to describe fleeing, we would see near perfect correlation between the emotion description and the strategy. In this instance, the coding rule would not provide new information about an IV. What we see instead in SM.10 is that fear expressions are strongly associated with avoidance strategies (as SAT predicts), but not strongly associated with fleeing, specifically. This satisfies the "discriminant validity" standard to show that fear expressions are not simply measuring fleeing.

Table SM.10

Flee	Hide	*Missed Predictions*
7	21	5

Distribution of strategies in oral histories labeled with the coding rule Fear::Low Control.

Second, we might worry that there is a mechanical correlation between "fighting" strategies and mentioning access to weapons. Perhaps weapon access is simply a way people describe fighting, and does not independently signify anything about perceptions of control. Again, we see in SM.11 that mentioning weapon access is not perfectly correlated with fighting strategies. The rate of "fighting" strategies among respondents who mention access to weapons is not different at a standard threshold of statistical significance from the rate of "fighting" among respondents who are listed as high control per other, non-weapon coding rules.

Finally, given that two different ways of mentioning majority-Sikh surroundings are listed as coding rules for control and predictability,[60] respectively, we may expect that any mention of majority-Sikh surroundings is highly correlated with adaptation, the high control/high predictability strategy per SAT. Instead, we see that mentioning a feeling of *control* due to Sikh surroundings is only correlated with adaptation strategies among respondents who have high predictability appraisals *as measured by a different rule*. Table SM.12 shows the breakdown.

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[60] See above in Section E.2 for descriptions of the difference between these coding rules.

Table SM.11

	Strategy			
	Adapt	Fight	Flee	Hide
No Weapon	33	22	2	5
Weapon	6	9	1	4

Distribution of strategies and application of "weapon-based" coding rules among respondents scored as "high" control. Raw numbers suggest that people who *mention* access to weapons do seem more likely to fight than people who do not mention access to weapons. Fighting, however, is not the majority strategy of people who mention that they have weapons. Furthermore, the majority of people who choose a fighting strategy do not mention having weapons. A χ^2 test for dependency between mentioning weapons and strategy (using only the data in this table) produces a statistic with a p-value of .21, such that we cannot reject the null hypothesis that mentioning a weapon is un-correlated with strategy.

Table SM.12

	Strategy			
	Adapt	Fight	Flee	Hide
High Predictability	5	1	0	1
Low Predictability	3	4	0	1

Distribution of strategies and predictability scores among respondents who refer to Sikh surroundings. Adaptation strategies are only the majority choice if respondents have high predictability appraisals, based on coding rules other than majority Sikh surroundings.

# E   Measurement: Tuning the `MuRIL` Model

E.1   What is MuRIL? Why Use It?

The model architecture I use, Multilingual Representations for Indian Languages (MuRIL, Khanuja et al. 2021), MuRIL uses attention masking (basically: learning via fill-in-the-blank tasks) to pre-train a language model that can be fine-tuned to various tasks (Vaswani et al. 2017).

MuRIL and other similar models have three convenient features.First, they out-perform word embedding and rules-based text classifiers—especially for "low-resource languages" like Punjabi. MuRIL, specifically trained for Indic languages, is the best Punjabi model available. Second, MuRIL is naturally multi-lingual. Oral history transcripts include both Punjabi and English texts; MuRIL labels text in both languages according to a single, shared set of model weights. This type of cross-lingual consistency would be hard to match with bi-lingual human coders. Third, MuRIL, like all transformer models, achieves good performance with relatively little task-specific training data thanks to pre-training on terabytes of text.

I use standard neural network tuning practices for the three separate head layers. Because classifier performance is usually sensitive to hyperparameter values like batch size, number of training epochs, and optimizer learning rate, I start with Bayesian search over wide ranges of hyperparameter values, and then fully grid-search narrow ranges of best performance to maximize each classifier's accuracy. More details on hyperparameter tuning and model performance are in Appendix E. After fine-tuning, classifiers achieve very respectable accuracy on held-out test data. Appraisal detection, control, and predictability classifiers score 80.8%, 78.4%, and 85.3% accuracy, respectively. Figure 1a in the main text shows result from applying the classifiers to a single oral history: This produces sentence-level appraisal scores that can be summarized as an average score for each transcript.
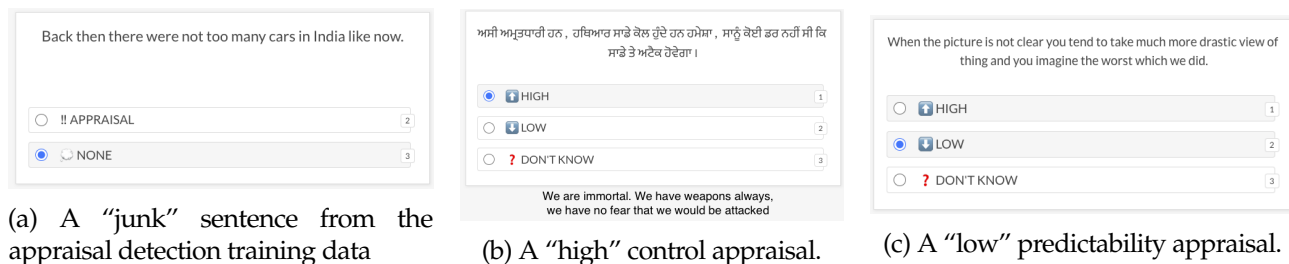
Figure SM.1
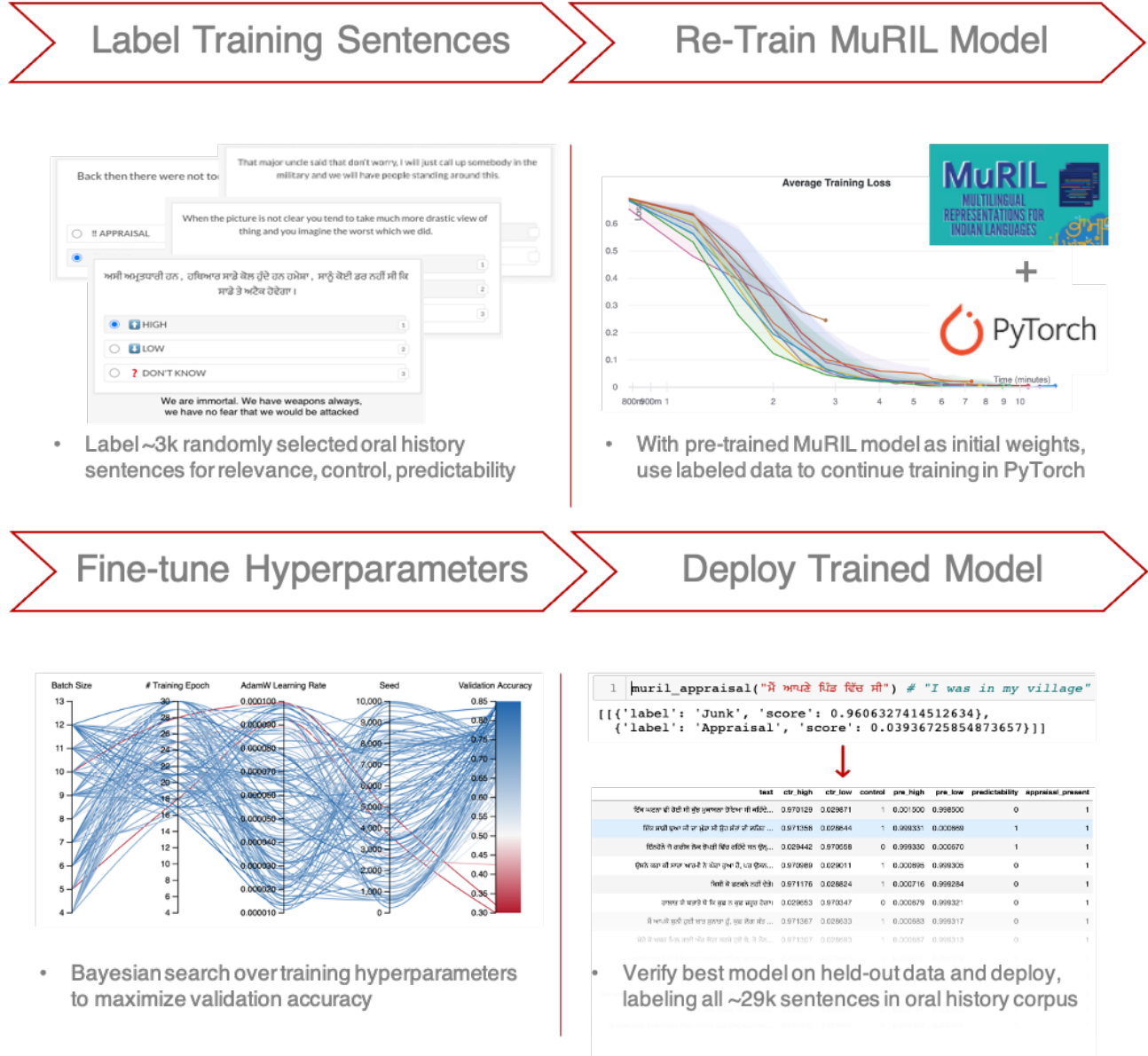
MuRIL training steps to create 1) appraisal detection, 2) control evaluation, and 3) predictability evaluation classifiers. I convert classification probabilities to binary scores using a sigmoid function, adding a "low confidence" dummy for the few sentences where the difference in classification probabilities for the two classes $< .3$. For respondent-level summary scores, I take the mean of control and predictability scores across all sentences labeled as "appraisals."

E.2 Tuning

I fine-tune the three different `MuRIL` models with sequence classification heads using over 1,700 labeled oral history sentences as training data (See Tables SM.13, SM.14, SM.15; data were re-sampled to balance classes before training). Labeled sentences for each model were split 85/15 into training and held-out test sets. The training set was further split 80/20 into training and evaluation data. Figure SM.2 shows examples of labeled sentences. Different training and labeling steps were run on different computing resources. Initial training and final deployment was run on a university high performance computing (HPC) cluster, using two Nvidia Volta V100 GPUs. Hyperparameter search used a single Nvidia Tesla K40C

GPU from a departmental HPC system. To identify best-performing parameters for model training, I first used a Bayesian adaptive search algorithm (Hyperband, Li et al. 2018) over wide ranges for the number of training epochs, training batch size, the AdamW optimizer learning rate, and the initialization seed. After identifying high-performing range of the relevant parameters, I then fully grid-searched over the narrower ranges to identify best-performing parameter combinations for each model. After hyperparameter tuning, I verify accuracy on fully held-out data. Figures SM.3, and SM.4 show confusion matrices for labeling the held-out test data. The models achieve 85.3% and 78.4% accuracy, respectively. The appraisal detection model, not shown, achieves an accuracy of 80.8%

Figure SM.2

(a) A "junk" sentence from the appraisal detection training data

(b) A "high" control appraisal.

(c) A "low" predictability appraisal.

Example sentences/labels from training data. Training data comprised 1,750 sentences randomly selected from the oral history transcript corpus (roughly 5% of the total corpus). All sentences were first labeled based on appraisal content (yes or no, see the left pane). Sentences that contained appraisals were further sorted into control and predictability, and then given high or low control or predictability scores (see the center and right panes) using the coding rules detailed in Appendix D.

Table SM.13

Label	Count
Appraisal	336
Junk	1414

Appraisal Training Data

Table SM.14

Label	Count
High	53
Low	109
Ambiguous (discarded)	7

Control Training Data

Table SM.15

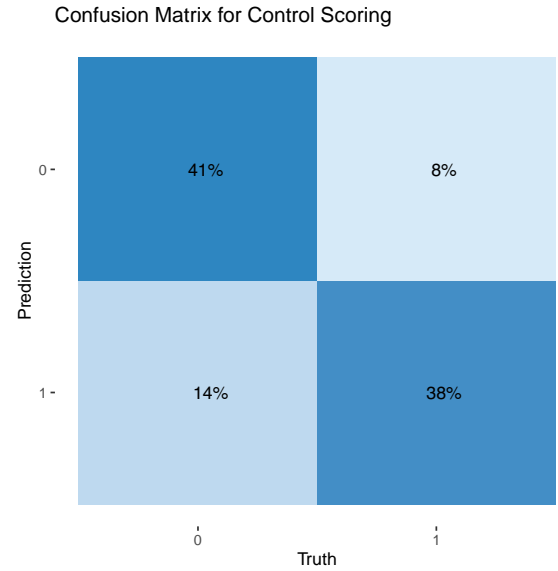| Label	Count
High	66
Low	79
Ambiguous (discarded)	4

Predictability Training Data

Figure SM.3

Confusion Matrix for Predictability Scoring
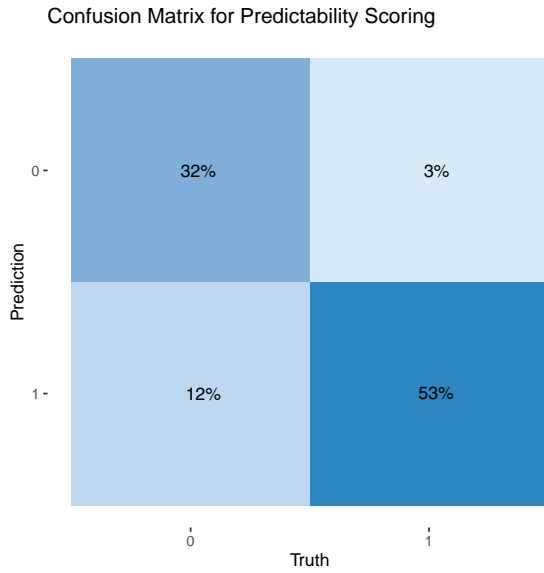
Confusion matrix for the Predictability Scoring model, on held-out test data. After training and fine-tuning, the model correctly labels 85.3% of the test sentences.

Figure SM.4

Confusion Matrix for Control Scoring

Confusion matrix for the Control Scoring model, on held-out test data. After training and fine-tuning, the model correctly labels 78.4% of the test sentences.

Table SM.16

Var	# Levels	Counts
Action (author coded, 1 per strategy)	4	Hide: 89, Flee: 66, Adapt: 62, Defend: 46
Action (tx. coded, 1 per respondent)	4	Hide: 60, Flee: 64, Adapt: 63, Defend: 44

Summary Statistics: Regression Data with MuRIL labels (factor variables)

E.3   MuRIL Workflow and IV/DV Measurement Separation

In Appendix E, I discuss safeguards to ensure IV and DV measures are not influencing each other in hand-coding. Features of the MuRIL labeling workflow provide additional guarantees against "cross-contamination" First, because the MuRIL classifier ingests and labels individual sentences, it is mechanically unable to consider information across sentence boundaries when classifying text. Cross-contamination in labeling—the classifier uses DV information to generate IV scores—is only possible in the unlikely case that statements about action and statements about appraisal are systematically occuring in the same sentences, rather than in separate sentences.

Second, IV-DV cross-contamination is unlikely because the DV labels are generated by IV-naive coders who are unaware of the IV coding rules or the theory their labels are used to test. The DV labels generated by these coders would only be contaminated if multiple different coders were independently and systematically using IV-relevant material (like emotion expressions) to answer the coding question they were charged with: "what action did the speaker take?"

F   Supplementary Results

Table SM.17

	DV: Strategy			
Indep. Variable	**Outcome Val.**	**Est.**	**SD**	**ST Pass?**
(Intercept)	Defend	-1.983	1.200	Y
(Intercept)	Flee	-2.275	1.182	Y
(Intercept)	Hide	-0.136	1.075	Y
Control	Defend	2.529	0.919	Y
Control	Flee	-4.521	0.648	Y
Control	Hide	-2.431	0.767	Y
Predictability	Defend	-0.705	1.217	Y
Predictability	Flee	-2.647	0.455	Y
Predictability	Hide	0.633	0.676	Y
Male	Defend	0.831	0.476	N
Male	Flee	0.728	0.642	Y
Male	Hide	0.419	0.592	Y
Nov. 1984	Defend	1.790	1.150	N
Nov. 1984	Flee	-0.502	0.760	N
Nov. 1984	Hide	0.587	1.054	Y
Jun. 1984	Defend	-0.579	0.582	Y
Jun. 1984	Flee	0.655	0.749	Y
Jun. 1984	Hide	-0.011	0.589	Y
Lang = Punjabi	Defend	-3.580	1.480	Y
Lang = Punjabi	Flee	0.226	0.97	Y
Lang = Punjabi	Hide	-0.389	1.085	N
Lang = English	Defend	-2.388	1.230	N
Lang = English	Flee	-0.964	0.838	Y
Lang = English	Hide	-0.525	0.933	N
Actor = self	Defend	-2.087	0.756	Y
Actor = self	Flee	-0.457	0.742	Y
Actor = self	Hide	-0.662	0.864	Y
Tag: active_police	Defend	0.718	0.776	Y
Tag: active_police	Flee	0.266	0.673	Y
Tag: active_police	Hide	0.606	0.622	Y
Tag: allies	Defend	0.957	0.789	Y
Tag: allies	Flee	0.522	0.808	Y
Tag: allies	Hide	0.273	0.627	Y
Tag: attack_gurdwara	Defend	1.167	0.782	Y
Tag: attack_gurdwara	Flee	0.632	0.664	Y
Tag: attack_gurdwara	Hide	-0.291	0.826	Y
Tag: attack_identity	Defend	-0.704	0.536	Y
Tag: attack_identity	Flee	-0.690	0.581	N
Tag: attack_identity	Hide	-0.725	0.405	N
Tag: destruct_property	Defend	0.601	0.739	Y
Tag: destruct_property	Flee	1.966	1.126	N
Tag: destruct_property	Hide	1.981	0.801	N
Tag: eyewitness_account	Defend	0.127	0.788	Y
Tag: eyewitness_account	Flee	1.323	0.601	N
Tag: eyewitness_account	Hide	-0.749	0.581	Y
Tag: gendered_violence	Defend	1.413	0.696	Y
Tag: gendered_violence	Flee	-0.306	0.635	Y
Tag: gendered_violence	Hide	-0.439	0.795	Y
Tag: judicial_harassment	Defend	0.564	0.750	Y
Tag: judicial_harassment	Flee	-0.409	1.212	Y
Tag: judicial_harassment	Hide	0.154	0.780	Y
Tag: loss_of_life	Defend	-0.695	0.542	Y
Tag: loss_of_life	Flee	-0.781	0.782	Y
Tag: loss_of_life	Hide	-0.679	0.673	Y
Control X Predictability	Defend	-1.583	1.116	Y
Control X Predictability	Flee	-995.657	636.914	Y
Control X Predictability	Hide	-1.668	0.954	Y
$n = 549$	MCMC Iterations: 10,000			Burn in: 1,000

Variable	Outcome	Est.	SD	ST Pass?

Raw coefficient estimates from Bayesian multinomial logit model for hand coding results presented in Figure 2. In this model, binary control and predictability scores, strategy (the response variable), date, and actor are measured at the strategy level, while other covariates are measured at the respondent level. All coefficients in the model pass a stationarity (Heidelberger) test for the posterior distribution after 10,000 iterations and a 1,000 iteration burn in. The column "ST Pass" denotes passage within 5000 iterations. Reference categories are: Strategy = Adapt; Date = Unkown; Actor = Family

Table SM.18

DV: Strategy				
Indep. Variable	Outcome Val.	Est.	SD	ST Pass?
(Intercept)	Defend	-1.786	1.292	Y
(Intercept)	Flee	-0.427	1.235	Y
(Intercept)	Hide	0.539	0.896	Y
Control	Defend	0.175	1.316	Y
Control	Flee	-2.502	1.24	Y
Control	Hide	-1.462	1.128	Y
Predictability	Defend	-2.355	1.567	Y
Predictability	Flee	-6.500	1.586	Y
Predictability	Hide	-0.951	1.174	Y
Male	Defend	0.141	0.559	Y
Male	Flee	0.051	0.547	Y
Male	Hide	-0.387	0.477	Y
Nov. 1984	Defend	0.572	1.096	Y
Nov. 1984	Flee	0.691	0.941	Y
Nov. 1984	Hide	-0.408	0.804	Y
Jun. 1984	Defend	0.457	0.618	Y
Jun. 1984	Flee	0.093	0.561	Y
Jun. 1984	Hide	-0.456	0.537	Y
Lang = Punjabi	Defend	-1.686	0.873	Y
Lang = Punjabi	Flee	-1.242	0.814	Y
Lang = Punjabi	Hide	-0.321	0.736	Y
Lang = English	Defend	0.580	0.813	Y
Lang = English	Flee	0.317	0.764	Y
Lang = English	Hide	0.935	0.679	Y
Tag: active_police	Defend	0.162	0.566	Y
Tag: active_police	Flee	0.979	0.537	Y
Tag: active_police	Hide	0.754	0.502	Y
Tag: allies	Defend	-0.011	0.607	Y
Tag: allies	Flee	1.078	0.534	Y
Tag: allies	Hide	0.004	0.564	Y
Tag: attack_gurdwara	Defend	-1.216	0.522	Y
Tag: attack_gurdwara	Flee	-0.382	0.473	Y
Tag: attack_gurdwara	Hide	0.157	0.466	Y
Tag: attack_identity	Defend	0.560	0.601	Y
Tag: attack_identity	Flee	0.361	0.571	Y
Tag: attack_identity	Hide	-0.017	0.494	Y
Tag: destruct_property	Defend	0.983	0.545	Y
Tag: destruct_property	Flee	1.295	0.551	Y
Tag: destruct_property	Hide	0.522	0.514	Y
Tag: eyewitness_account	Defend	1.289	0.560	Y
Tag: eyewitness_account	Flee	0.682	0.496	Y
Tag: eyewitness_account	Hide	0.921	0.465	Y
Tag: gendered_violence	Defend	-0.272	0.768	Y
Tag: gendered_violence	Flee	0.368	0.710	Y
Tag: gendered_violence	Hide	-0.384	0.698	Y
Tag: judicial_harassment	Defend	2.042	1.335	Y
Tag: judicial_harassment	Flee	1.975	1.275	Y
Tag: judicial_harassment	Hide	2.351	1.172	Y
Tag: loss_of_life	Defend	0.314	0.594	Y
Tag: loss_of_life	Flee	0.438	0.519	Y
Tag: loss_of_life	Hide	-0.336	0.512	Y

Indep. Variable	Outcome Val.	Est.	SD	ST Pass?
Control X Predictability	Defend	2.725	2.147	Y
Control X Predictability	Flee	7.544	2.101	Y
Control X Predictability	Hide	1.243	1.772	Y
$n=509$	MCMC Iterations: 10,000		Burn in: 1,000	

Raw coefficient estimates from Bayesian multinomial logit model for `MuRIL`-labeled appraisal results, vs. respondent-level, transcriber-labeled strategies presented in Figure 4. The `MuRIL`-labeled appraisals summarize the scores of all sentences with appraisal content in response to questions about respondents experiences of violence; All variables are measured at the respondent level. All coefficients in the model pass a stationarity (Heidelberger) test for the posterior distribution in the first iteration. Reference categories are: Strategy = Adapt, Date = Unknown.

F.1 Controlling for Alternative Explanations

Models reported in Figures 2 and 4 control for a number of alternative explanations—including explanations for participation in violence, migration, and adaptation that come from previous literature. The models include controls for relevant facets of identity, as well as proxies for micro-level variation in exposure to violence and different violence types, wealth or socioeconomic status, and presence of social alters/allies. Other "likely culprits" for explaining civilian behavior—like armed group strategy (Steele 2017; Balcells 2017), ethnic identity, and culture are all held constant by virtue of the data coming from a single episode of violence. Consequently, the results in Figures 2 and 4 can be interpreted as the explanatory power of situational appraisals, *after accounting for* the variation in strategy that is explained by the linear combinations of the control variables listed here. In other words, they show how much variation situational appraisal explain that is not already explained by existing literature.

Table SM.19

| Statistic	Value
Global Accuracy	0.605
95% CI	(0.543, 0.664)
No Information Rate	0.335
P-Value [Acc > NIR]	<2e-16
$n = 265$	

Accuracy statistics for the confusion matrix in Figure 3. Statistics in this table show that situational appraisals predict the observed survival strategy in six of ten cases, whereas random guessing with knowledge of the empirical distribution of strategies would only lead to the correct prediction 33% of the time. The difference between the observed accuracy and the "no information rate" that would be achieved with random guesses is statistically significant at a 1% level.

G Supplementary Results: Municipal Valuation Committee

One limitation of the oral history data is that circa-1984 wealth, a potential alternative explanation for strategy selection, or a potentially important correlate of situational appraisals, is not consistently measured across all histories and cannot be included as a covariate in the main models presented here. However, for certain oral histories from respondents who were a) in Delhi in 1984, and b) name or specifically describe the neighborhood/colony where they lived, wealth can be estimated using administrative records. In the 1980s, the Delhi Government established the first Municipal Valuation Committee (MVC) in order to establish property tax rates for residential holdings in Delhi. In 1984, the MVC released a property tax schedule that assigned Delhi neighborhoods and colonies to a lettered tier (A-G) and corresponding tax rate based on property value. 73 oral histories either name the respondent's neighborhood of residence in Delhi circa 1984 or provide enough detail to positively identify the neighborhood.[61] Cross-referencing the names with the Municipal Valuation Committee Report, I can identify the relative wealth of the area where the respondent lived, which is a reasonable though imperfect proxy for the respondent's wealth.

I use these scores to examine wealth correlates (or does not correlate) with situational appraisals and strategy selection. Figure SM.5 plots the correlation coefficients between a respondent's hand-labeled situational appraisals and the tier assigned to the respondent's neighborhood by the first Municipal Valuation Committee (MVC-1). The MVC-1 score (I set the most-posh tier A=7, and tier G=1) is negligibly correlated with control appraisals, and mildly negatively correlated with predictability appraisals. Figures SM.6, SM.7, and SM.8 plot the Pearson residuals from Chi Square tests for the bivariate association of MVC-1 score and strategy, control appraisal, and predictability appraisal. All tests fail to reject the null of no association. For comparison, Figures SM.9, SM.10, and SM.11 show Chi square correlation tests for the association, respectively, of control appraisals, predictability appraisals, and the interaction with strategy selection. In line with the results from regression analysis of the full hand-coded data in Figure 2, these residual plots show a) that the null hypotheses of no association are rejected here where they were not for the MVC data, and b) that individual residuals are consistent with the situational appraisal hypotheses.

Figure SM.6
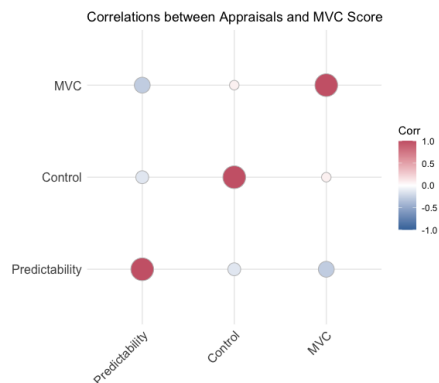
Figure SM.5

Correlation coefficients for neighborhood wealth and hand-labeled situational appraisals, among 73 respondents in Delhi who named their neighborhood of residence circa 1984.
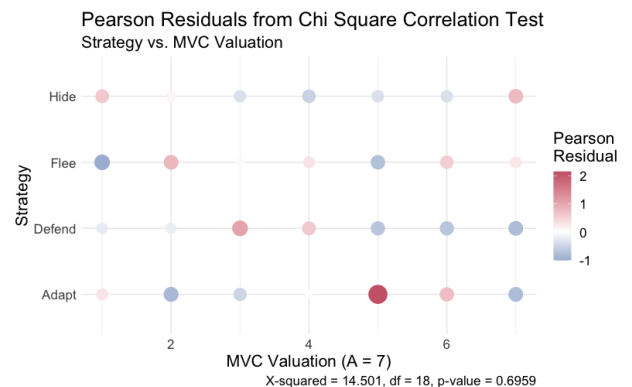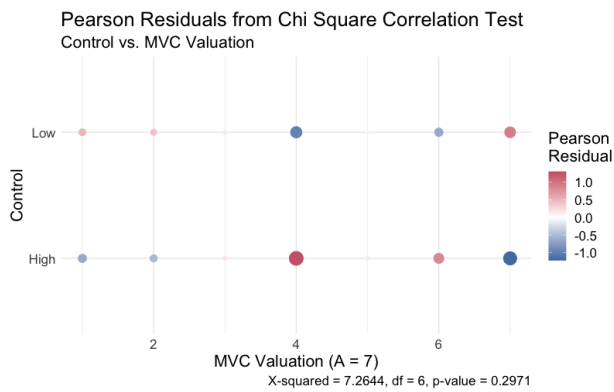
Pearson residuals from a Chi Square test for association between MVC tier (the wealth of a respondent's neighborhood of residence) and strategy selected in response to November 1984 Pogrom violence. The overall association test (in the caption) fails to reject the null hypothesis of no association, and the Pearson residuals show no strategy is consistently associated with higher or lower wealth neighborhoods.
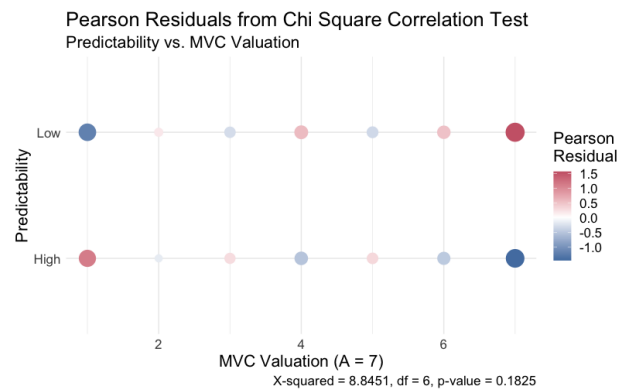
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[61] A respondent who lives between Filmistan Cinema and Pusa Road, for instance, is clearly describing Karol Bagh.

Figure SM.7

Pearson Residuals from Chi Square Correlation Test
Control vs. MVC Valuation

X-squared = 7.2644, df = 6, p-value = 0.2971

Pearson residuals from a Chi Square test for association between MVC tier (the wealth of a respondent's neighborhood of residence) and control appraisal during the November 1984 Pogrom violence. Both the overall test and the individual residuals show weak or no association.

Figure SM.8

Pearson Residuals from Chi Square Correlation Test
Predictability vs. MVC Valuation

X-squared = 8.8451, df = 6, p-value = 0.1825

Pearson residuals from a Chi Square test for association between MVC tier (the wealth of a respondent's neighborhood of residence) and predictability appraisal during the November 1984 Pogrom violence. Both the overall test and the individual residuals show weak or no association.

Figure SM.9
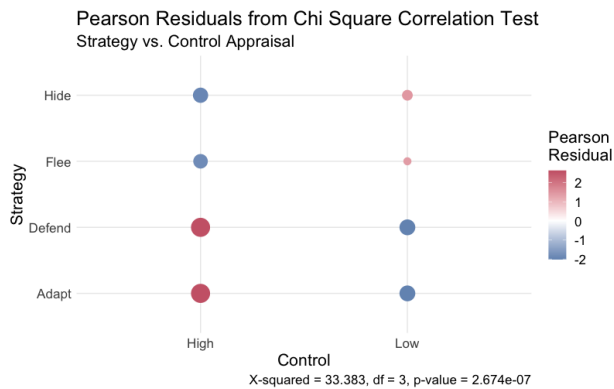
Pearson Residuals from Chi Square Correlation Test
Strategy vs. Control Appraisal

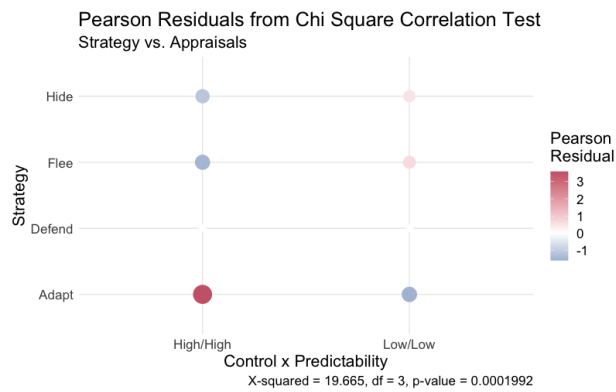X-squared = 33.383, df = 3, p-value = 2.674e-07

Pearson residuals from a Chi Square test for association between strategy during the November 1984 Pogrom violence and control appraisals. Results from the Chi Square test show a strong association between appraisal and strategy, and the plotted residuals point in the theoretically-predicted direction.

Figure SM.10
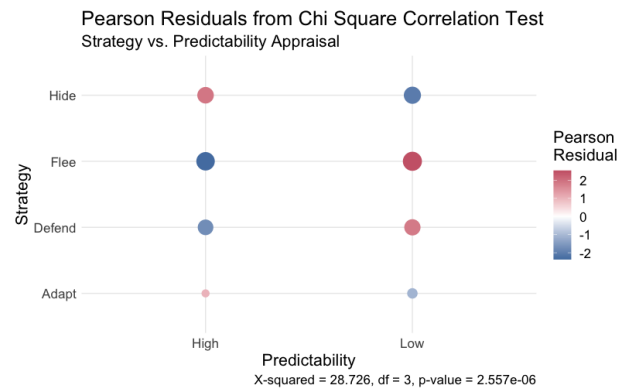
Pearson Residuals from Chi Square Correlation Test
Strategy vs. Predictability Appraisal

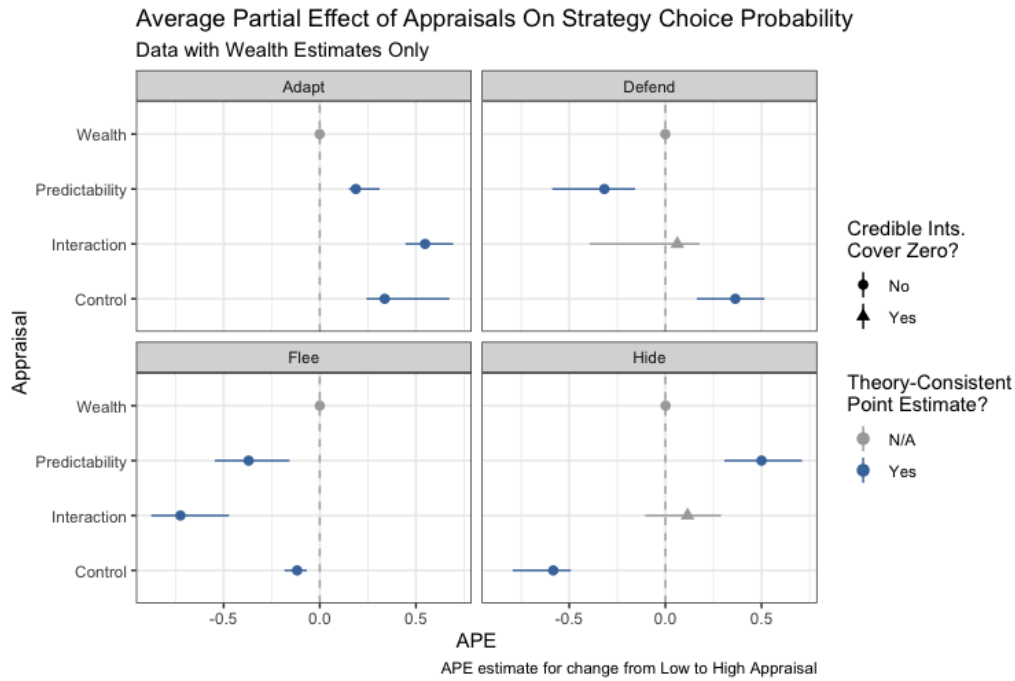X-squared = 28.726, df = 3, p-value = 2.557e-06

Pearson residuals from a Chi Square test for association between strategy during the November 1984 Pogrom violence and predictability appraisals. Results from the Chi Square test show a strong association between appraisal and strategy, and the plotted residuals point in the theoretically-predicted direction.

Figure SM.11

Pearson Residuals from Chi Square Correlation Test
Strategy vs. Appraisals

X-squared = 19.665, df = 3, p-value = 0.0001992

Pearson residuals from a Chi Square test for association between strategy during the November 1984 Pogrom violence and the interaction of situational appraisals. Results from the Chi Square test show a strong association between appraisal and strategy, and the plotted residuals point in the theoretically-predicted direction.

Figure SM.12

Average Partial Effect of Appraisals On Strategy Choice Probability
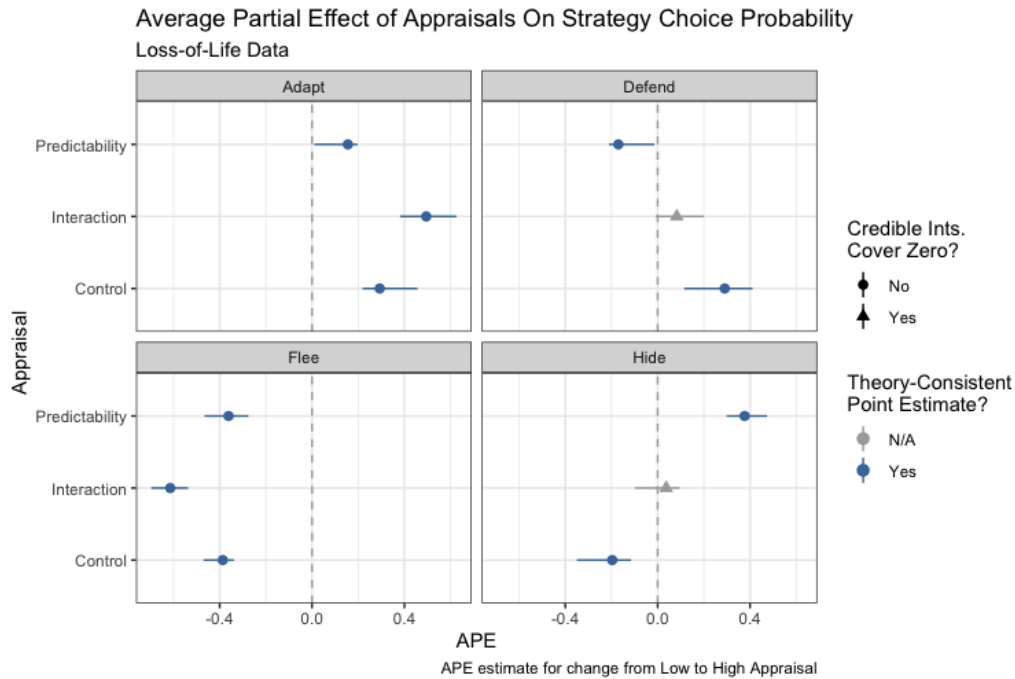Data with Wealth Estimates Only

Average Partial Effect estimates corresponding to the models in Figure 2, subsetting to only observations where it is possible to include an additional control for wealth measured *via* municipal valuation committee estimates. Tabular results corresponding to this model are available in the "Supplemental Results" file on the APSR Dataverse.

H Supplementary Results: Assessing Survivor Bias

Data in this study come from the testimony of Indian Sikhs who *survived* political violence in 1984. Because the testimony I analyze does not capture the experiences of the estimated 3,000 people who were killed in the pogroms, plus more who died in the attack on the Golden Temple and in the broader Punjab Crisis, there is the possibility of some critical difference between the appraisal–strategy connection among people who died vs. people who survived. Many studies of political violence face this conundrum: data collected after violence typically over-represent (or only represent) survivors.[62] Of course, there is no way to retroactively collect new data that ameliorates the "survivor bias" in the oral histories or interviews. To roughly estimate the impact of this bias, though, I test situational appraisal theory on a subset of respondents who I argue are *most similar* to people who perished and are therefore not included in the oral history archive. Figure SM.13 re-estimates the main analysis from the paper—the hand-coding model in Section —using a simple bivariate model (`strategy~control*predictability`) fit *only* on data from respondents who describe an experience of violence that happened to them, but in which someone else perished. These interviews record the experiences of people who narrowly escaped death—given how stochastic the micro-level processes of victimization in mob violence are, these people are the best available proxy for the experiences of people who died. Results from Figure SM.13 show results that are wholly consistent with the main results in 2, suggesting that "survivor bias" does not threaten the conclusions drawn in the paper.

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[62] The interviews and oral histories in this paper do better than some studies in terms of collecting data from a broad range of survivors: both data collection efforts made an intentional effort to include people who had migrated internationally as a result of violence to avoid studying only "remainers."

Figure SM.13

Average Partial Effect of Appraisals On Strategy Choice Probability
Loss-of-Life Data

APE estimate for change from Low to High Appraisal

Results from a bi-variate model fit to a subset of oral histories in which respondents describe a violence experienced that they survived while someone else died. This subset represents the best proxy for people who perished during violence, and serves as a test for the impact of "survivor bias" on the results. The resemblance between this figure and Figure 2 in the main text suggest that survivor bias is not a major threat to the analysis. Note that demographic controls are omitted from this model because not all 16 possible appraisal–strategy–covariate contrasts (4 strategies * 2 control levels * 2 predictability levels * 2 gender levels * 4 violence proximity levels, etc.) are present in the subsetted data. Tabular results corresponding to this model are available in the "Supplemental Results" file on the APSR Dataverse.

I   Case Studies

I.1   Case 26 - Adaptation

Mr. Singh 26 lived in a government colony in Delhi and worked as a civil service employee. His family tried to keep their normal routines in the first days of the pogroms , expecting things to pass quickly.[63] Mr. Singh describes coming home on the 31st, avoiding small fires, and having trouble getting into the colony because most gates had been shut and guarded. Mr. Singh emphasizes that his family was afraid given the "fires burning in surrounding colonies," but gives three key hints as to his situational appraisals. First, as mentioned above, he recounts a conversation with his son where he calms his son by saying the trouble will last only 'one or two more days,' which indicates a high predictability appraisal. Second, and also related to his predictability appraisal, he suggests that he understands the mob's targeting logic. He contrasts the quiet atmosphere in his largely Hindu colony to the nearby neighborhood that was set on fire by the mob, noting that the targeted area was home to "many Jats [Punjabi Sikhs]." Third, he again compares the situation "in the [government colony] houses" where there was "a Sardar" but "no one did anything" to the situation outside the gates where "a lot was happening" and he saw fires. He "understood" that the colony would be safe because when he went out to buy milk, he noticed his neighbor's frosty attitudes, but that no one accosted him. Not necessarily because of any power on his part, but he feels like

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[63]   In one sentence, Mr. Singh mentions going in a truck with his nephew to Delhi Cantonment to stay for a few days. It is unclear from the text whether this is *after* violence has subsided, or whether it was even Mr. Singh's idea.

he has control over the threat, since the intense violence is on the other side of a gate, and the people inside aren't trying to harm him. Mr. Singh does not *directly* connect the situational appraisals to the behavior except in noting that he felt comfortable staying at home through the night "because it was a government colony" and thus insulated from the outside. This is also what he recounts to his son.

I.2 Case 385 - Hiding

Mr. Singh 385 entered Delhi by train on November 1. On the train, he was robbed and beaten, but saved from a knife attack by his compartment-mates. He arrived at New Delhi Railway Station, and was told no trains would come on which he could leave . He stayed in the railway station, shifting between protected places with a group of "4-5 men" who were also stranded. He describes seeing gruesome violence outside the station, people "picking up the child, tearing it between the two legs and throwing it straight into the fire." I interpret Mr. Singh's focus on feeling "stranded" as consistent with a low appraisal of control, but, as in author-conducted interviews detailed above, I would label description of 'aid' from Hindus (Mr. Singh describes the station master trying to keep him hidden) as consistent with or causing a "high" predictability appraisal . Mr. Singh describes his conversation with the station master as a key factor in staying hidden inside the railway station, even after being told that on the day of Indira Gandhi's funeral, there would be more danger and people would "have to make [their] own arrangements" . Mr. Singh's exposure-minimization behavior continued even as he was able to leave Delhi after Gandhi's funeral: on a train to Punjab (the wrong train), he describes trying to avoid the police in the first two cars of the train. Mr. Singh's case might have evidence of a force majeure intervention. It seems like Mr. Singh's preferred strategy would have been to immediately take a train to his destination in Uttar Pradesh, but none was available. At the same time, Mr. Singh did choose sheltering in the station over other potential "flight" options like leaving to find a bus.

I.3 Case 496 - Flight

Two sisters, Ms. Kaurs 496, lived in a city in Uttar Pradesh a few hours north of Delhi. Their father had gone to Delhi to care for their ailing grandfather when riots began. They describe climbing from roof to roof across the neighborhood, keeping their heads low to avoid being seen by the mob gathered on the road below , until they reached a gated compound where a Hindu family was sheltering "hundreds and hundreds of Sikh families." They describe vulnerability or lack of control when talking about the house, which was "right by the main road" and "had [their] dad's nameplate outside," offering no no physical protection, plus a permanent advertisement that it was a Sikh home, identifiable by their father's name . After briefly trying to remain hidden in the house and barricading the door against a mob, the mob banging on the walls further decreased their sense of certainty or predictability about whether their hideout would hold: "it seemed like [the furniture in front of the door] wasn't going to stay there for too long, that they were going to barge in." At this point, they started retreating, first upstairs, and then across roofs. They describe new information about the viability of staying put as logically central to their decision to flee .

I.4 Case 333 - Defense

Mr. Singh 333 was traveling back from Hyderabad to his home in Amritsar on the 31st of October. He tried to defend himself in his train compartment when, at a stop, a crowd of "20-25 people" came onto the train, "coming from compartment to compartment and singling out Sikhs one by one and beating them up." Ultimately, Mr. Singh was beaten unconscious and thrown on the train track, at which point a "kind person" dragged him back into the train to keep him from being killed. Later in the train ride at another stop with another mob confrontation, Mr. Singh's strategy changes from defense to flight . I analyze both strategic choices in turn.

In the first stop, Mr. Singh has a low appraisal of predictability, which he emphasizes by talking about uncertainty regarding how serious the threat was. He talks about bits and pieces of information in conversations or "a small news item in the newspaper" about how there had been disturbances in Delhi

that were "addressed." Mr. Singh says he was "concerned" but unsure about what would happen . At the same time, his appraisal of control is high, because his compartment mates were both a Sikh CRPF soldier and Hindu army soldiers who assured him "we are with you" if it comes time to fight . When the mob came to his compartment, however, the CRPF soldier pled with the mob that his Pandit Hindu father had made him Sikh only because he was the oldest son and that they should spare him.[64] The mob moved on to Mr. Singh, who describes a strange standoff where the leader of the mob asked politely "Sardar-ji remove your spectacles" and then stood in "complete silence for about few seconds, may be four five seconds" before the "young boys" ripped off his turban, pulled on his hair and beat him around "like a doll," rupturing his ear drum, concussing him, and knocking him out.

Mr. Singh regained consciousness and got back on the train as it continued North toward Delhi. In a brief flash, he believes he has figured out who is being targeted and who is not: he asks the Hindu soldiers in his compartment if one would give him the uniform to wear so that he would stay safe.[65] Ultimately, he concludes that the soldiers, who refuse, are not "with him" as they had promised, decreasing his sense of control. He locks himself in a "small compartment" as the train continues on. He hears a knock on the door and a voice saying "Sardar-ji come out, otherwise you will be in danger later on." Unsure if he is being subjected to a trap (low predictability), Mr. Singh makes a "split second decision" and jumps out of the train which has just begun to move out of the station. His story ends with a trip from authority figure to authority figure, each rebuffing him and saying it is to dangerous to shelter a Sikh, until he finally talks his way into an army camp in Gwalior. Mr. Singh's actions, which change throughout his story, seem very grounded in the appraisals he is making at the time, and the changes in strategy all seem to correspond to changes in his understanding of the situation he is facing.

I.5 Cases 59 and 125 (Predicted Flight)

Respondents in both case 59 and 125 were predicted, on the basis of low control and predictability appraisals to have "fled" from pogrom violence in Delhi. In case 59, Mr. Singh instead returns home to his East Delhi neighborhood, which he says is all "Singhs" he gets out a bat and prepares to mount a defense with his neighbors. The missed prediction here is Mr. Singh's sense of control, which is assessed as low, based perhaps on his description of the chaos he faced in trying to get home in his car from near the Airport. It is possible to infer from Mr. Singh's description of his neighborhood as "all Singhs" and perhaps the fact that he owns his own car that he has resources to mount a defense . His low sense of certainty (and possibly low sense of control) is further emphasized by his description of fear, and praying to God that he will see survive the violence to see his family. It seems like the organizing decisions of other people in Mr. Singh's neighborhood pushed him from "flight" to "fight." He describes someone taking over the muezzin's loudspeaker at a nearby mosque to warn of approaching mobs and to rally people "together in the Gurdwara sahib, ready to face them." Provisionally, we might say that Mr. Singh's decisions were dictated in part by leadership in his neighborhood.

In case 125, Mr. Singh responded to the violence by hiding out in his home, though, he did ultimately leave Delhi for Canada nearly a decade later, saying that "minorities are not safe in India."[66] Case 125 is perhaps a truly missed prediction. The "hiding" action was taken on Mr. Singh's behalf by downstairs tenants who covered up his name on the front of the house and told a mob that had "cross marked" the house to indicate it was a target that Mr. Singh he had sold the house and moved away. However, Mr. Singh also later mentions having swords in his house such that he would have been "ready to face" the mob members

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[64] This happened more in the 19th century and the pre-independence 20th century, but still might have been believable. Khatri Hindu families in Punjab sometimes "converted" their eldest son to Hinduism in order to take advantage of British colonial laws related to the caste system. Converting a son to Sikhism (an "agricultural tribe" per the British) might give an advantage in landholding rights or recruitment in to the army under the "martial races" theory (Mazumder 2003).

[65] This, very briefly, might be considered a "hiding" strategy. I would argue it coincides with a lower feeling of control, having been beaten unconscious, and a briefly higher sense of predictability.

[66] In present day, he actually attributes this more to the RSS than the Congress party.

if they had come into his house. Ultimately I would argue that Mr. Singh's "predictability" appraisal in case 125 is ambiguous—he both describes being able to see the mob coming down the road, and watching young men come up to his house with steel rods, and also describes a ruse pulled by his downstairs tenants to protect him and the house. He does not describe his feeling of control or safety returning until the army came in days later. Unlike in case 59, where the divergence between measured situational appraisal and behavior can be explained by social influence, it is hard to square case 125 with the situational appraisal theory.

I.6   Cases 140 and 193 (Predicted Defense)

In cases 140 and 193, the control (H) and predictability (L) appraisals of two Mr. Singhs suggest that they should have pursued "defense" strategies. In both cases, the respondents instead pursue fleeing strategies, which is consistent with the same predictability appraisal, but a lower appraisal of control. In case 140, Mr. Singh does actually try a defense strategy before ultimately migrating out of India, saying the pogroms "definitely acted as the catalyst" for his decision to move . Most of his story describes actions he took during the pogrom violence to help evacuate Sikh pupils from the school his father ran and get them to Gurdwaras in rich neighborhoods like Greater Kailash where they would be safe . After Mr. Singh and his brother encountered the beginnings of a mob while out on their scooter, they decided to go find their father at the school. Mr. Singh, at the time, seemed to have a high appraisal of control in that he had identified a place where the pupils, many boarders from impoverished families, could be kept safe and he had the means of getting them there . At the same time, he mentions surprise, or low predictability, in comparison to his neighbor who, being "a partition person" had "some echo in his mind that [violence] could happen" again . His initial "defense" decision to get the pupils to safety seems theoretically consistent. It seems like Mr. Singh's fleeing decision came as his sense of control over threats to his family diminished in the aftermath of the riots. He describes becoming "horrendously aware of the goons" who had perpetrated the violence, and the burning/looting of his father's school contributing to a sense of precarity. Ultimately, this case seems like a correct prediction, but, it highlights the ways in which re-appraisal of violent events after the fact, like a declining sense of control over threats, can lead people to shift their *prospective* strategies to guard against future danger.

In case 193, Mr. Singh could be interpreted as having a low appraisal of predictability during the riots . Though he describes a logic of violence that he came to understand afterwards, his at-the-time appraisals use phrases like "surprise" and, at a few points, having other people tell him he was oblivious to an imminent danger like a "mob [that was] coming to set the Gurdwara on fire." It is hard to see, in the text, how Mr. Singh could be labeled as having a strong appraisal of "control" , indicating that this might be a measurement "miss" rather than a theoretical "miss." Mr. Singh describes a more or less frantic strategy during the violence, followed by a conclusion that his family should leave Delhi because the structures that should keep people safe from pogroms, like the police, were just "mute spectator" who, if they had acted, "there would be not a single killing."

I.7   Cases 12 and 337 (Predicted Hiding)

In cases 12 and 337, situational appraisals of low control but high predictability suggest that the respondents will select a hiding strategy, but one chooses to flee, and the other a "defense" strategy. In case 12, Mr. Singh initially stayed hidden and safe in his home, which he attributes to help from his downstairs neighbor who was a civil servant in the home ministry.[67] Mr. Singh could be said to have a low appraisal of control based on his description of an elaborate anti-Sikh conspiracy by the Jan Sangh and RSS, in which Gandhi and the Congress party were only minor players. He argues that the Sikhs were powerless against the conspiracy because "85-90% in the Delhi police [were] Haryanvi castes….they were all Jana Sangh and Jana Sangh has been against Sikhs from the beginning." He supposes that his house was spared because of the government affiliations of his downstairs neighbor—the neighbor initially seems to have provided some sense of "predictability" in that he was making forecasts on Mr. Singh's behalf . The decision that

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[67]   The Delhi police, unlike other state police forces in India, is directly under the Ministry of Home Affairs jurisdiction.

Mr. Singh took to flee to another country in Asia, pulling his son out of college, arranging passports, and leaving, he also chalks up to the home ministry neighbor's urging: "The deputy commissioner told me that even if you do not do anything, these people will name [your son] among the rebels…you somehow get him out of here…My family was taken out of India in 1984." This case could arguably fit under the rubric of social influence, or changing situational appraisals: once the neighbor, to whose presence Mr. Singh attributed his family's safety during the first days of the pogrom, suggested that there was no way to ensure the son's safety, Mr. Singh decided to leave. This fits the theory in one of two ways: either the situational appraisals of a high-status person in a small community prevailing upon Mr. Singh, *or* Mr. Singh's appraisal of predictability decreasing based on his neighbor's assessment about future uncertainty.

In case 337, Mr. Singh ends up preparing to defend his home, but, unlike in many stories in the oral history archive, he acknowledges that because he was keeping his hair short in those years, people did not much see him as a Sardar to begin with. He recalls a man coming by on a bicycle and asking *him* "where the sardars live." Case 337, though it concerns a Sikh-identifying man in Delhi during the 1984 pogroms (and indeed Mr. Singh's sister, brother-in-law and their children died in the pogroms), Mr. Singh does not seem to have felt personally endangered by the violence. He notes, "our neighbors must have known we were the Sardars [that people were looking for] but no one else knew." Case 337 seems poorly predicted by situational appraisals (it is hard, for instance to say that Mr. Singh was intentionally hiding), but perhaps outside the reasonable scope of the theory.

I.8   Cases 296 and 158 (Predicted Adaptation)

Finally, in cases 296 and 158, situational appraisals of high control and high predictability suggest that both respondents should either do nothing or choose adaptive strategies, but the respondents instead adopt defensive strategies or choose to flee, respectively.

In case 296, Mr. Singh was reasonably well protected in his house in Northwest Delhi, where he notes his family was "lucky" to "have a Bihari [Hindu] servant" who could bring food so that his family did not have to go out. Mr. Singh, though received a call on 2 November from a family member living in East Delhi whose son was missing, and left his house, which was in a relatively safe neighborhood, to go to a much more violent area to search for the missing son. Mr. Singh's description of his sense of control, the ability to avoid the violence by staying put in his home, is consistent with the action he ultimately took, but it is harder to judge his sense of predictability from what he says. Perhaps the best example is his expression of surprise at how much more intense the violence had gotten over the night of the 31st. He describes, waking up and finding the "atmosphere different," in terms of chaos and level of violence outside the house. This is perhaps consistent with "low predictability" which would lead to a defensive response. I would argue that Mr. Singh's sense of predictability is hard to judge, and therefore it is difficult to say whether his traveling across Delhi to look for a missing relative is consistent or inconsistent with his situational appraisals.

In case 158, Mr. Singh is traveling by train when his friend points out to him that something is wrong, and that people further down the train is taking bribes to get Sikhs off the train. As he approaches his destination his anxiety grows—mobs are searching the train and passing over him hidden in the bathroom because his friend tells the mob members there are women in the bathroom. At the station before his, he is found out in the bathroom, but says he has "a little bit of confidence" because he knows he is near home. Once the door opens, though, thugs "grabbed [him] by the collar and pulled [him] out," into a crowd he estimates of "300-400 people." He yells for his friend, but then starts to run for his life, is caught by the mob, and beaten but not killed. He describes growing sense of control and predictability as he neared the station where he was ultimately attacked, because 1) "the next station" was his home, and he thought he was making it unscathed, increasing predictability, and 2) because other "sardars" had gotten off the train recently into stations where there was complete peace. Mr. Singh is expecting to be able to do the same, which would be consistent with an adaptation strategy, until he arrives at the final station, where his appraisals suddenly change in the face of

a large mob that is totally unexpected. Again, I argue that his situational appraisals are changing as the train moves along, and that there is evidence in the oral history that his preferences are changing along with them.

J Situating the Typology and Theory in the Literature

J.1 A Typology of Survival Strategies

I argue in Section that civilian survival strategies can be mapped into the categories of *fight, flee, hide* and *adapt* based on two characteristics of the action that the survival strategy entails: the strategy's *physical* orientation toward the source of a violent threat, and the strategy's level of disruptiveness, in terms of how *disruptive* implementation is to the life of the person adopting it. Strategies that avoid the source of a threat (minimizing exposure or physically withdrawing from it) are categorized as *flight* when they are highly intense and disruptive to implement, and *hiding* when they are more moderate, and less disruptive.[68] Strategies that physically approach or seek to actively engage with the source of threats are *fighting* when they are highly disruptive and *adapting* when they are more moderately disruptive.[69]

This system of categorizing strategies differs from other attempts that focus, for example, on the strategic *causes* or *consequences* of different actions. Consequence-focused typologies might call migration a form of adaptation, for instance, because migrating away from violence can be conceived as a person taking an action that ultimately helps them adapt to the situation of political violence they were facing (Black et al. 2011; Gray and Mueller 2012). Others might call migration a form of "resistance" or "voting with their feet" because it has the effect of punishing the incumbent power in the territory people leave (Zolberg, Suhrke, and Aguayo 1989). Echoing the justification in Schon (2020b, 8), I call migration away from violence "fleeing" rather than adaptation or fighting because the action of migration, regardless of it's potential consequences, involves physically *avoiding* the source of a threat by seeking to leave the area where the threat operates, and doing so in a way that is extremely disruptive vs. pre-conflict baseline behavior. In a typology focused on migration behaviors *caused* by different armed group targeting logics, Steele (2017), for example, identifies a category of "mass evasion" from indiscriminate violence which my typology splits across fleeing and hiding because it includes both relocation and temporary evasion with very short return timelines.[70]

Similarly, my typology draws a distinction between various strategies of resistance or non-cooperation with violent actors (Arjona 2017) based on how disruptive they are—how much they deviate from "normal" behavior.[71] I call resistance strategies that involve the use of violence "fighting" and all other resistance strategies (ranging from disobedience to bargaining, to protest) "adapting," even though the strategies nominally work toward the same consequence.

I also call some strategies of cooperation or collaboration with the source of a threat "adapting" as well. I group collaboration and non-violent resistance together because, even though they have very different intended consequences, the actions share a directional orientation and a level of disruptiveness. Figure

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[68] In practice, the disruptiveness cutoff is whether a person contemplates permanently leaving their dwelling and leaving their life behind to avoid violence (flight), or avoiding threats without changing domiciles (hiding). Another way to phrase this difference is to note that flight and hiding both share a *withdraw* orientation, but flight strategies involve the more disruptive *withdraw from*, whereas hiding strategies involve the less diruptive *withdraw into*. Drawing an imperfect analogy to a far less dire, more widely shared experience: moving apartments is much more disruptive than "travel."

[69] Here, the practical cutoff is whether or not they involve participation in violence. Fighting is clearly violence, while adapting could include resistance that is non-violent, or collaboration that is non-violent.

[70] Steele, for what it's worth, advances a hypothesis about mass evasion that appears contradictory to SAT: "unpredictability" of indiscriminate violence can provoke actions that would be classified as hiding. The difference in theoretical expectations likely comes down to different understandings of "predictability." Steele is referring to a concept that is more like "risk" than "uncertainty," (Knight 1921).

[71] Everything that is called a "resistance" strategy in the literature seems to involve either physical approach toward the source of the threat, or at least maintaining close engagement. For that reason, "resistance" occupies either the fight or adapt categories in my typology, though there could theoretically be exceptions for concepts of resistance that involve physical withdraw or exposure minimization.
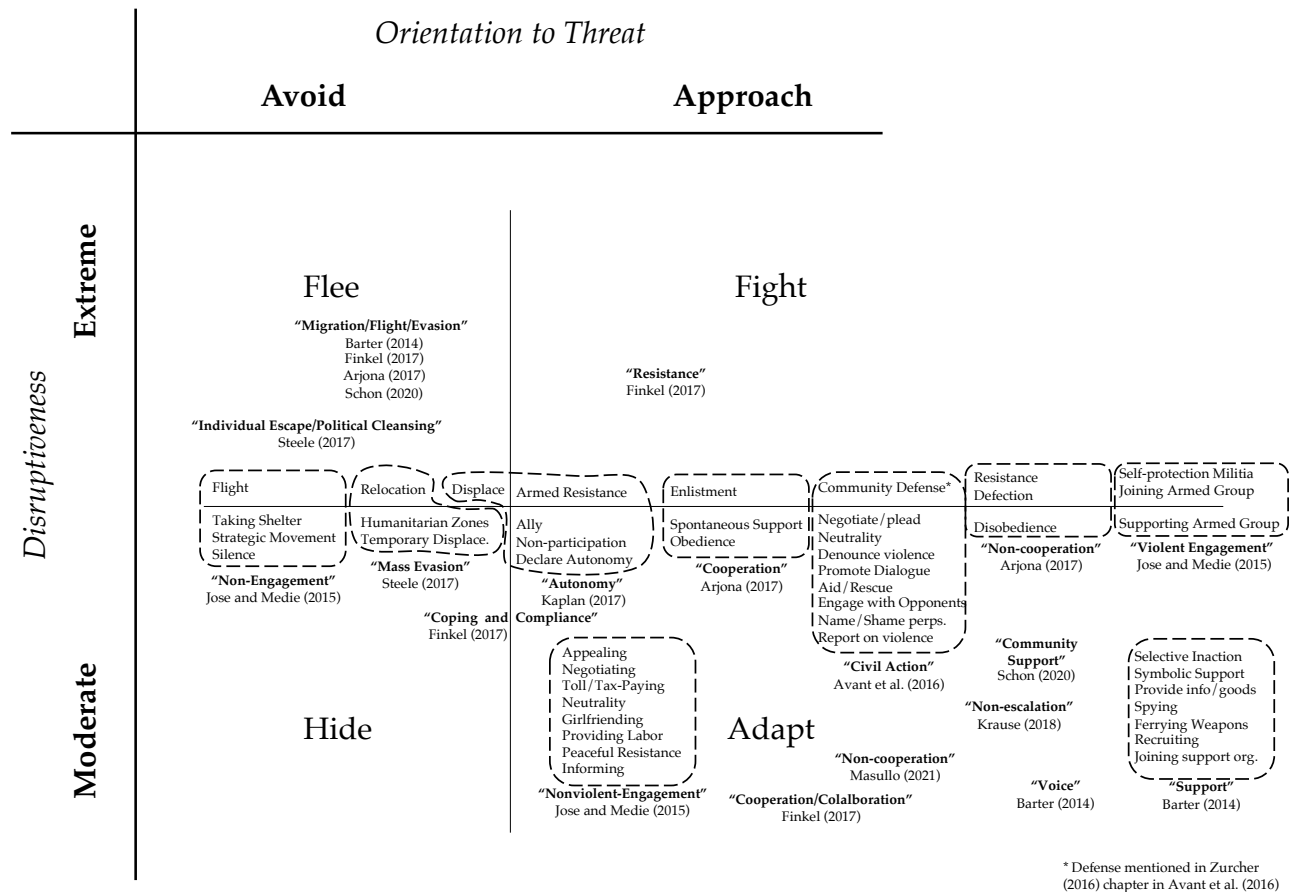
This table compares concepts from the civilian self protection and civilian agency literatures to the typology I advance in the paper. I plot the strategies described in Barter (2014); Jose and Medie (2015); Avant et al. (2016); Steele (2017); Arjona (2017); Finkel (2017); Kaplan (2017); Krause (2018); Schon (2020b) and Masullo (2021) to show where they do (or do not) overlap with the situational appraisal theory typology. The figure shows that the closest overlaps are either the strategy menus in Finkel (2017) or Barter (2014) though, as I note in Section , both Finkel and Barter present the strategy menus as a list of distinct categories, rather than developing comparisons between the categories along one or more dimensions of variation.

SM.14 shows how my typology based on orientation and disruptiveness compares to other concepts in the civilian self-protection/civilian agency/civilian behavior literature. Of the different typologies/concepts that are plotted in Figure SM.14, only the typology from Finkel (2017) fills in all four strategy categories with *separate* categories. The three-category typology in Jose and Medie (2015) includes actions that my typology would sort into all four categories, but does so by advancing strategy categories that I would split across the Flee/Hide categories and the Fight/Adapt categories. The figure shows that one of the biggest features that differentiates my typology from others in the literature is a focus on action characteristics rather than consequences. Many of the categories that appear "split" in Figure SM.14 all share the same goal or intended consequence, but involve actions with different orientation or disruptiveness. I combine some categories that are "split" in other typologies because, while they have different intended outcomes (for example "voice/protest" and "support" in Barter (2014)), they *share* the characteristics of approach orientation and moderate disruptiveness. Though the category of "adaptation" appears qualitatively larger and more expansive in Figure SM.14, I do not argue that adaptation is a broader category or some sort of

default or residual. Instead, adaptation appears more varied in the figure, I posit, because existing literature on adaptation strategies has been much less coordinated in its use of terminology (as is often the case for newer areas of empirical inquiry) than studies of fighting or fleeing.

J.2 Situational Appraisal Theory in the Literature

I distinguish situational appraisal theory (SAT) from a number of alternative theories in two groups: theories about how the structure of an economy, society, or conflict shape people's choices and theories about other aspects of perception. Figure SM.15 shows how I argue that SAT relates to "structural" theories about how factors like resource access (Humphreys and Weinstein 2008; Blattman and Annan 2016; Schon 2019), community structure (Petersen 2001; Shesterinina 2021), level or type of violence (Davenport, Moore, and Poe 2003; Balcells 2017), group identity (Cederman, Wimmer, and Min 2010; Lewis 2016), or personal background/personality (Jha and Wilkinson 2012; Mironova, Mrie, and Whitt 2019) influence people's adoption of a particular strategy (or their choice within a typology). The "structural" variables—I use this simply as a short-hand to differentiate from perceptual variables—are inputs that contribute to the situational appraisals people reach, but they are filtered thorough an individually-specific process of perception that weighs them against each other and combines them in a manner I do not model. Situational appraisals are the output of that interpretation and perception process. Appraisals, therefore, should reflect the way people perceive things like resources, social pressure, their own identity, their beliefs and experiences, etc. in the context of a particular episode of violence. People may differ not only on the content of what they perceive, but also on how much weight they put on any particular source of "information." The process that develops situational appraisals is not orthogonal to "structural" inputs, but the contribution of a particular piece of information to the content of situational appraisals will vary across people to some extent.

Figure SM.15 also shows causal pathways that link "structural" considerations like conflict characteristics or wealth directly to behavior, without filtering through appraisals. Existing literature (cited above) suggests that these direct effects are important ways that "structural" considerations influence strategy, and I do not propose that accounting for appraisals will wipe out these direct effects—instead I contend that accounting for appraisals will explain variation that structural direct effects do not capture. I include many of the "direct effects" as controls in the models in the paper (Section) because omitting the direct effect would create confounder bias in the estimates of situational appraisal effects.[72]

The causal relationships shown in Figure SM.15 imply one more argument about how SAT relates to "structural" arguments which is relevant for understanding the framework, but is not tested in the paper, which focuses primarily on the causal arrows linking "situational appraisal" to "strategy." In different environments, or among different groups of people, the interpretation "function" will yield situational appraisals that are either *more* or *less* reflective of simple linear combinations of the "structural facts." To put it another way, interpretations/perceptions about a violent environment may be *more* or *less* a direct function of variables like wealth, identity, violence type, etc. in different conflicts.[73] Where the interpretation function happens to be straightforward, most of the "effect" of structural variables will flow through the dashed lines and appraisals won't explain much additional variation in behavior. Where interpretation is complicated, highly variable, or subject to a fractured information environment, though, much more of the "effect" of structural variables will flow through arrows that run through the process of interpretation; the direct effects will be relatively smaller, and the effects of appraisals will be relatively large. This is true in the analysis of survivor testimony from the 1984 Pogroms, and, I argue, is likely true in a wide range of other contexts because experiencing violence tends to lead to fractured information environments that require substantial, debatable interpretation.

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[72] Interpreting Figure SM.15 as a DAG (Pearl 1995) shows that my theoretical model implies structural variables create "backdoor paths" from situational appraisal to strategy which must be closed by conditioning on the structural variables.

[73] This might happen when people are more likely to have access to the same information environment, for instance.

I also contrast SAT with other theories that focus on the importance of perception in explaining civilian behavior. One strand of perception-focused theories advanced by Rosen (2017), Schon (2020b) and others suggests that "narrative rupture" is an important cause of migration: When people experience a "rupture" that renders the pre-existing narrative for coping with violence no longer useful, they are more likely to consider exiting a violent context entirely. The types of events that prompt narrative rupture seem related to the conditions that might lead people to form low appraisals of predictability. SAT and the narrative theory are further similar in that they emphasize perceptions of narrative stability/predictability as the proximate cause of behavior change, not the underlying shock which might be interpreted in different ways. SAT and narrative theories also differ in important ways. The first and most obvious is the addition of a second dimension of variation—control appraisals—that supports predictions about behaviors beyond the flee vs. cope dichotomy that Rosen (2017) studies. Second, narrative rupture theories are inherently retrospective, which SAT is not. Narrative theories suggest that major shocks that impact narratives are likely to lead to behavioral changes. SAT suggests, somewhat differently, that major shocks are likely to lead to behavioral changes *to the extent that* the shocks make it more difficult to predict the future evolution of violence—whether or not they make a pre-existing narrative invalid.

Another strand of perception-focused literature addresses risk, or perceived risk, as a major explanation for migration behavior. Risk, which is often used to mean physical integrity threats (Davenport, Moore, and Poe 2003), is potentially a useful way to characterize the way people perceive a violent situation. The decision-making process in situational appraisal theory could, for instance, be explained as a process in which people decide which strategy is least risky based on their assessment of their environment. Davenport, Moore, and Poe (2003) argue that perceptions of risk motivate people to flee. In SAT terms, the equivalent statement would be that perceptions of low predictability and low control motivate people to flee. These are potentially compatible ideas. The value in replacing a concept like "risk" with multidimensional appraisals, though, is that a wide variety of different actions might seem "risky" and different strategies might seem more or less "risky" to different people facing the same situation. If different options (say fighting, fleeing, and adapting) all carry perceived risks of physical integrity threats, then additional non-risk variables are necessary to explain why people prefer one over the other.

## J.3   Appraisals and Traits in Behavioral Economics Literature

How do situational appraisals relate to concepts in the behavioral economics literature like "locus of control," "self-efficacy," or "confidence"? A substantial research program in economic and political decision-making has linked outcomes like firm success (Tyszka et al. 2011), entrepreneurial activity (Shane, Locke, and Collins 2003), educational attainment (Coleman and DeLeire 2003), or participation in politics (McClendon and Riedl 2015) or protest (Young 2020) to concepts like efficacy or control. Some of these measures, especially self-efficacy (Bandura 1982) and Locus of Control (Rotter 1971) seem conceptually related to "control appraisals" since they also ask about individuals' perceptions of their ability to act on the world vs. the world's ability to act on them.

I argue there are two major differences between the appraisal I use (more similar to the concept proposed by Lazarus (1991) and Lerner and Keltner (2001)) and the concepts that are common in behavioral economics research. First, quantities like locus of control or self efficacy are thought, in much of the BE literature, to be relatively stable traits that are culturally learned but then relatively slow to change. Situational appraisals, as I show in the paper, can change rapidly in response to different external stimuli. As I show in Figure SM.15, personality traits like locus of control, efficacy, or confidence might all *inform* situational appraisals, but I argue that they are different concepts.

Second, because the economic literature focuses on concepts that are socially learned, recent research calls their cross-cultural validity into question.[74] Smith, Trompenaars, and Dugan (1995), Henrich et al.

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[74]   Judge et al. (2002) find evidence that these various concepts are culturally-realized "markers" of the same higher order trait.
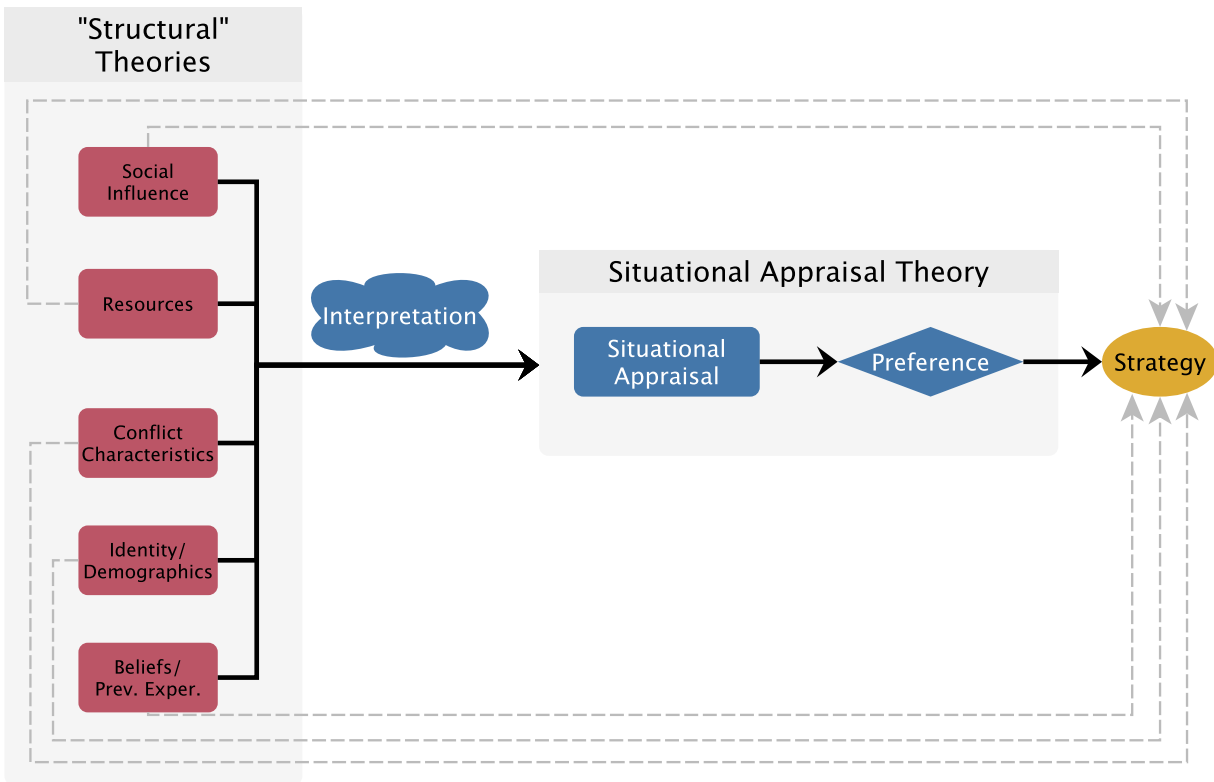
This figure depicts situational appraisal theory relative to other explanations for civilian behavior ("strategy") during violence. Situational appraisals are the result of a *process of interpretation* in which individuals assimilate information from a wide variety of sources, some of which appear as stand-alone explanations in existing literature about civilian strategy. I argue that, while the literature shows that "structural" factors appear to have direct effects on the strategies that people choose during violence, situational appraisals are an additional pathway that might explain behavior variation that is puzzling vs. theories focused on structural direct effects. Appraisals explain why a given value of "resources" for instance, does not lead people to the same strategy. This figure also communicates that, while interpretation is a critical process, situational appraisal theory does not specify a generalizable interpretation function to explain how various inputs are actually weighed against each other. In the next Appendix (K), I show that structural factors do indeed shape appraisals communicated in the 1984 Living History Project archive, but in general I stipulate that the input-appraisal relationship is highly context dependent and varies across different people.

(2001) and Henrich, Heine, and Norenzayan (2010), among many others, find relatively little empirical basis for the idea that personality trait findings (including self-efficacy) generalize outside the WEIRD (western, educated, industrialized, rich, and democratic) societies in which they were developed and originally tested. Especially after the rise of neuroscience methods for studying affect and cognition (Duncan and Feldman Barrett 2007; Skerry and Saxe 2015, among many), there is better evidence for the cross-cultural validity of the framework that I draw on to build the control appraisal concept (Scherer and Moors 2019).

J.4 Appraisals and Behaviors in the Psychology Literature

What is the intuition behind the SAT hypotheses in Section ? Hypotheses for the effects of control and predictability are motivated by different strands of research in political science and psychology about how control/relative power affects behavior, and about how uncertainty affects behavior. Hypotheses relating con-
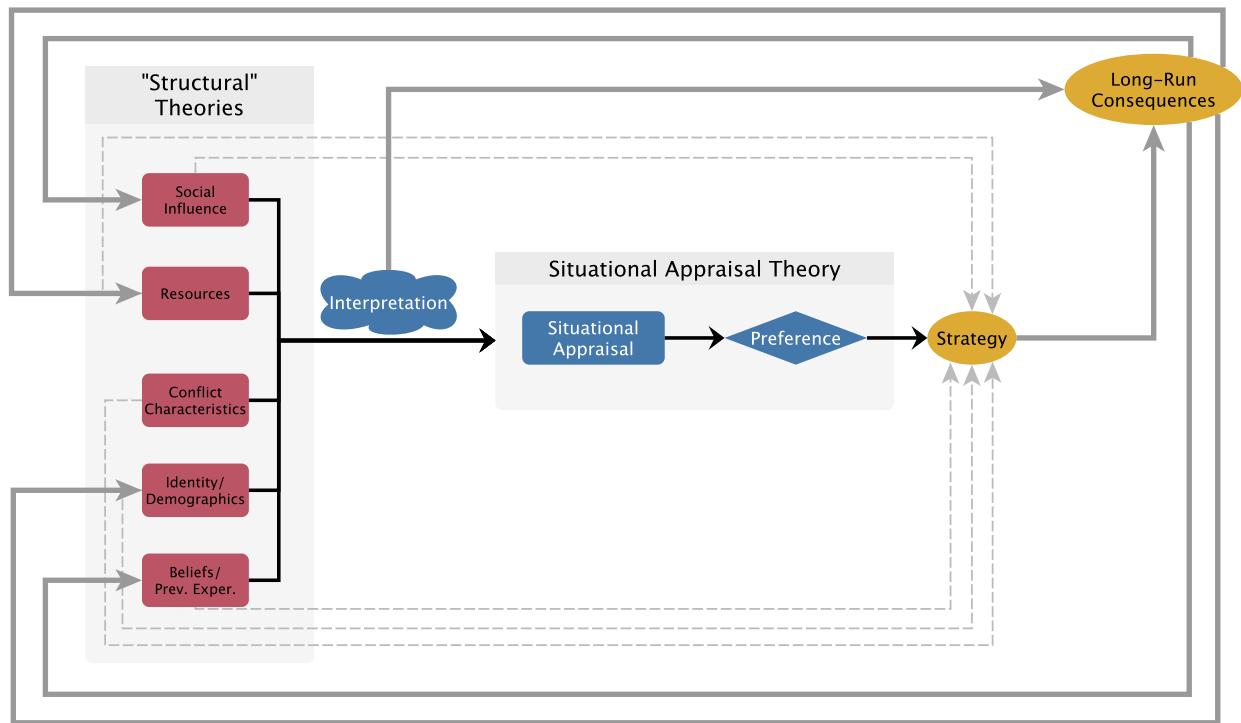
How situational appraisal theory connects to long-run consequences of violence. Literature seeking to explain society-level improvements and problems after violence has recently focused on psychological mechanisms like post-traumatic growth (Bauer et al. 2016), arguing that people who successfully make meaning out of potentially-traumatizing experiences can contribute to social improvement and act more altruistically. Consistent with my argument in Section , the components of SAT connect this long-run consequences literature (control and predictability appraisals are interpretations that can last beyond survival strategy decisions), to the behavior during violence literature. Accounting for variations in appraisals, in future work, might even help explain why different studies of post-conflict societal change find such different effects of violence.

trol appraisals to higher tendencies toward approach behavior follow the intuition of the appraisal-tendency framework in emotion psychology, most associated with Lazarus (1991), Frijda, Kuipers, and ter Schure (1989), and more recently the empirical and theoretical work of Lerner and Keltner (2000, 2001). Across this framework, laboratory studies find evidence supporting a connection between higher appraisals of control and higher tendency toward "approach"—usually both bound together by an emotion experience of anger.

The literature that connects "predictability" to the disruptiveness of a behavioral response comes from studies of decision-making in psychology, as well as in political science. In political science, Scott (1976) famously argues that uncertainty about the ability to meet basic survival needs prompts people to change their course of action in ways that are highly disruptive vis. normal life (he focuses on rebellion). Studies of decision-making connect this proposed relationship to the "explore-exploit" paradigm—which posits a tradeoff between reaping the rewards that come from continuing a known behavior vs. testing the rewards produced by yet-unknown behaviors. Survival strategies that deviate more from the routines of pre-conflict life—are more extremely disruptive, in other words—are roughly analogous to the "explore" end of the paradigm, in which people engage in behavioral deviations in search of better rewards. Yu and Dayan (2005) establish a relationship between "unexpected uncertainty" (low predictability) and increased tendency to engage in explore behavior. They identify a mechanism—increased release of Norepinephrine (adrenaline)—

that matches nicely with the intuition of situational appraisal theory which associates low predictability with larger-magnitude behavior deviation. Unexpected uncertainty, in other words, is associated with release of a neuromodulator/hormone that is colloquially called the "fight or flight" hormone. Cohen, McClure, and Yu (2007) find the same hormonal linkage and further show that the regulatory effects of Norepinephrine and Acetylcholine, considered together, nicely mirror bayesian optimal solutions to explore-exploit tasks like selective attention tasks. This general idea also matches with a variety of other decision-making studies in recent decades. Mehlhorn et al. (2015), reviewing empirical literature on the explore–exploit tradeoff, surmises that "reduced stability/predictability of the environment" increases the need for exploration (or behavioral deviation). Coates and Herbert (2008) identify another SAT-consistent hormonal linkage: Higher unexpected uncertainty in markets (variance and volatility) increase endogenous cortisol levels in stock traders, which could promote what they call "irrational" behavior. The hypotheses about effects of predictability follow the intuition established in these studies, and combine it with the intuition about control and approach/avoidance to reach *new* theoretical expectations about specific strategies of survival.

K   Predictors of Situational Appraisals

What predicts whether a person will develop a high or low appraisal of control and predictability when facing violence? Above in Appendix J, I argue that appraisals are the result of a process of interpretation that assimilates information from previous experiences/beliefs, the conflict environment, material resources, and social influence. Appraisals should be connected to these factors, though the connection will vary from situation to situation.

Here, I show the results of two prediction exercises that use variable selection or regularization to identify the "structural" factors that most strongly predict appraisal content in the 1984 Pogrom oral histories. First, I use a feature selection algorithm called recursive feature elimination (Guyon et al. 2002) to identify the highest "importance" predictors of control and predictability appraisals. The important covariates (per a scaled index) are shown in Figure SM.17 for predictability and Figure SM.18 for control. The figures show that: 1) appraisals are shaped in part by the structural variables I list in Appendix J, and 2) the effects of these structural variables do not account for all variation in appraisals. Results from a similar exercise using Lasso (L1) regularization (Tibshirani 1996) are shown in Figures SM.19 and SM.20 for predictability and control, respectively. They support similar interpretations.

Figure SM.17
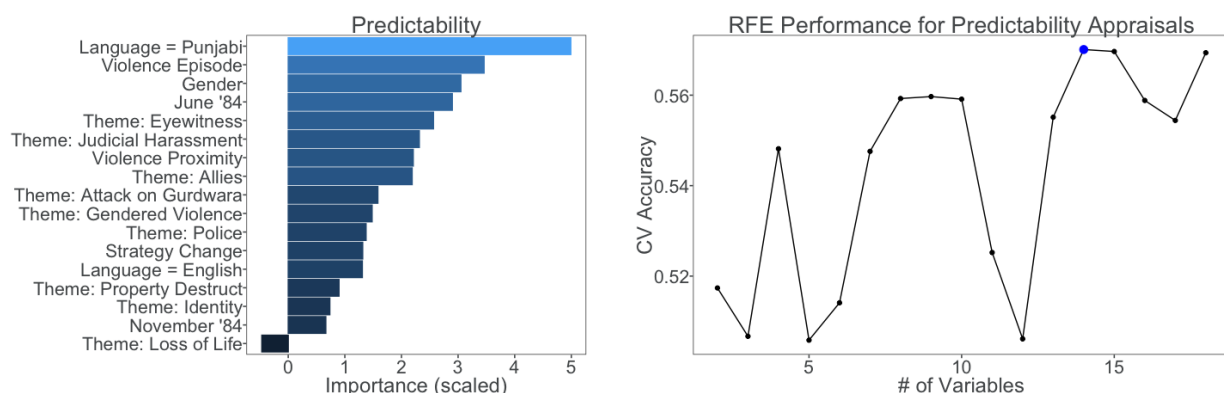
High importance features for predicting respondent predictability appraisals in the 1984 Living History Project oral histories. The left pane shows the scaled "importance" of candidate predictors from the most accurate model of appraisals. The right pane shows the cross validation accuracy of predicting with different numbers of variables; and identifies the most-accurate model that is depicted in the left pane. Highest importance predictors for predictability include language of interview (a very rough proxy for socioeconomic status), the epoch or particular episode of violence being described, respondent gender, proximity to violence, and presence of community support (social influence). These variables, though, only explain some 60% of appraisal variation, further underlining the importance of interpretation. Finally, all of the "most important" variables are included as controls in the main results in the paper—the direct effects of variables that also shape appraisals *do not* attrit the appraisal-strategy relationship, suggesting that appraisals explain different variation than the direct effects of gender, SES, etc. Tabular results corresponding to this model are available in the "Supplemental Results" file on the APSR Dataverse.

Figure SM.18
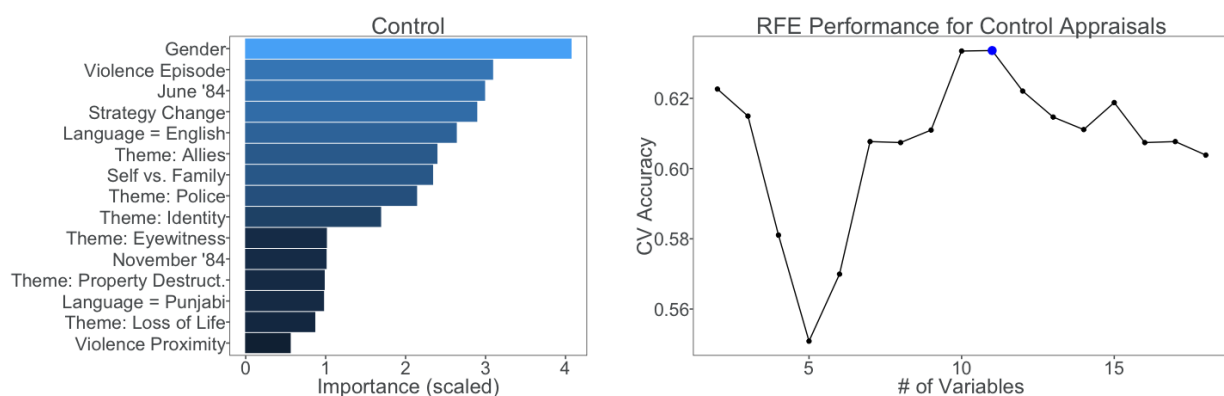
High importance features for predicting respondent control appraisals in the 1984 Living History Project oral histories. The left pane shows the scaled "importance" of candidate predictors from the most accurate model of appraisals. The right pane shows the cross validation accuracy of predicting with different numbers of variables; and identifies the most-accurate model that is depicted in the left pane. Highest importance predictors for control include respondent gender, the epoch or particular episode of violence being described, language of interview, violence proximity (self vs. family) and community support. Tabular results corresponding to this model are available in the "Supplemental Results" file on the APSR Dataverse.

Figure SM.19
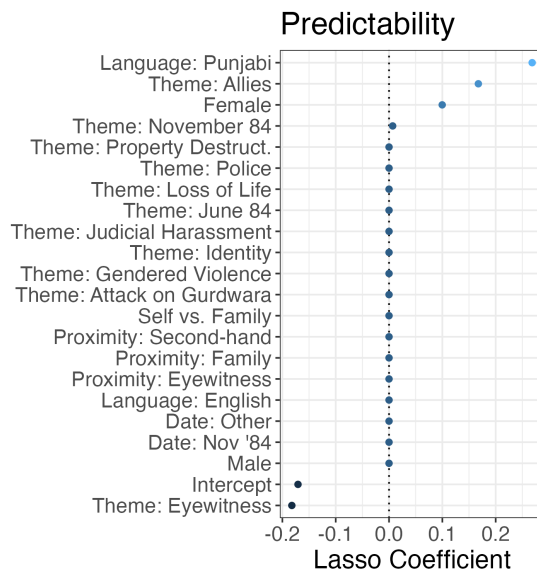
Predictability

Estimated coefficients from a Lasso-penalized regression with predictability appraisals as the outcome. The selected features (non-zero coefficients) support similar interpretations compared to the alternative feature selection (RFE) shown above. Higher predictability appraisals are associated with having aid from allies while confronting violence, with respondent gender, and with Punjabi language. Tabular results corresponding to this model are available in the "Supplemental Results" file on the APSR Dataverse.

Figure SM.20
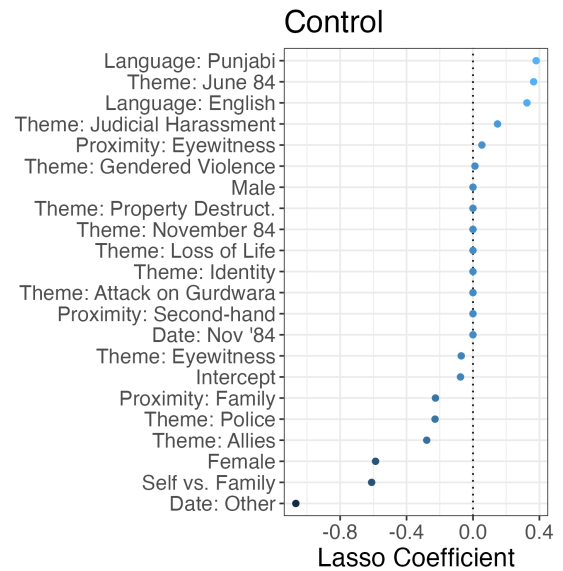
Control

Estimated coefficients from a Lasso-penalized regression with control appraisals as the outcome. The selected features (non-zero coefficients) support similar interpretations compared to the alternative feature selection (RFE) shown above. Higher control appraisals are associated with being an eyewitness to violence targeted at someone else, with respondent gender, and with SES and *absence* of the known-unfriendly police. Tabular results corresponding to this model are available in the "Supplemental Results" file on the APSR Dataverse.

L Are Reported Appraisals Shaped by post-Violence Experiences?

If appraisal reports are strongly correlated with variables that measure *ex post* information—consequences of violence, location of residence long after violence, etc.—it would raise questions about whether reported appraisals are useful independent variables for explaining strategy selection, or whether they simply reflect the life circumstances of the respondent at the time of interview. To investigate whether reported appraisals are related to the context in which respondents are reporting them, I measure correlations between reported appraisals and a battery of variables that *intentionally* encode *ex post* information about the respondents, like their location of residence at the time of interview, reporting about the psychological, social, and legal consequences of 1984, and post-1984 social class and status.

Table SM.20 shows the results of χ^2 tests (some *ex post* variables are categorical) for the independent association of reported control and predictability appraisals with a range of *ex post* variables. None of them are significantly correlated at the $\alpha = 10\%$ level. This suggests that potentially-problematic factors like post-traumatic stress, socioeconomic status, social and legal consequences, and local environment are not systematically contaminating self-reports of situational appraisals in 1984.

Table SM.20

Ex Post Variable	Appraisal	χ^2	D.F.	p-value
State (in India)	Control	9.093	15	0.8726
	Predictability	21.501	15	0.1216
Country	Control	3.79	4	0.4352
	Predictability	3.003	4	0.5573
Later Migration	Control	0.201	1	0.6539
	Predictability	0.091	1	0.7626
Particip. in Activism	Control	1.628	1	0.2019
	Predictability	1.825	1	0.1768
Alienation from Comm.	Control	0.132	1	0.7615
	Predictability	0.625	1	0.4292
Experience Nightmares?	Control	0.489	1	0.4843
	Predictability	0.493	1	0.4824
Discuss Blame	Control	0.877	1	0.3491
	Predictability	1.860	1	0.1726
SES (Language)	Control	1.1689	1	0.2796
	Predictability	1.391	1	0.2382

$n = 265$

χ^2 tests (with Yates' continuity correction) relating situational appraisals to *ex post* variables. No available *ex post* variable is significantly related to reported appraisals at the 10% level.

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