

# Facts Shape Feelings: An Information-based Framework for Emotional Responses to Violence\*

Aidan Milliff<sup>†</sup>

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## Abstract

Why don't all survivors of violence become angry at perpetrators? Scholars often contend that social mobilization depends on grievances, but the process by which survivors translate trauma into grievance is typically assumed, not shown. I show that situation-specific information and broader political narratives interact to influence whether survivors become angry and at whom. To study meaning-making while protecting survivors' privacy, I apply topic modeling to transcripts of original, in-depth interviews with relatives of predominately Black and Latinx homicide victims in Chicago, IL. I find substantial diversity in the emotions and attributions of blame that surviving relatives express. I argue that these differences are explained by variation in the clarity of available information about the identity and motive of the perpetrator, and variation in perception of circumstances mitigating perpetrator responsibility. Evidence from Chicago shows that the social consequences of extreme harm depend both on individual circumstance and available political narratives.

**Word Count:** 9,627

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<sup>†</sup>Department of Political Science, Massachusetts Institute of Technology. Contact: milliff@mit.edu.

## 1 Introduction

Ms. K’s son and Ms. L’s brother were murdered in Chicago the same week of 2016. Both young men were gang-affiliated but were killed over non-gang-related personal feuds. “So-called friends” set up Ms. L’s brother. Ms. K thinks her son was killed over competition for a woman’s affection. Ms. L harbors extreme animosity toward her brother’s killers. She wants revenge. One of the “so-called friends” was later murdered, and Ms. L relishes that he was too mutilated for an open-casket funeral (Respondent 83, Chicago, IL, 2018). Ms. K, however, is not angry. When asked who she blames for her son’s death, she replies that “it’s nobody’s fault.” Rather than the killer, she thinks most often about the detectives who haven’t “done their job” and who “disrespected” her, making her provide an alibi for the time of her son’s murder (Respondent 75, Chicago, IL, January 2018). Why is Ms. L angry and vengeful while Ms. K is not?

Anger, and the grievances that create it, are thought to underpin many forms of political mobilization and political violence—from retributive behavior and participation in violence (Gurr, 1971; Lerner and Keltner, 2001; Horowitz, 2002; Petersen and Zukerman Daly, 2010, among many) to, counter-intuitively, both greater social and political participation (Siegel, 2011; Bateson, 2012) and lesser trust in government (Webster, 2017). Anger is part of the causal chain that explains individual mobilization into organized armed groups (Costalli and Ruggeri, 2015; Balcells, 2017), development of extremist views (Nielsen, 2017), support for inter-group violence (Claassen, 2013; Zeitzoff, 2014), and approval of vigilantism (Javeline, 2014; García-Ponce, Young and Zeitzoff, 2019). Though this growing literature links emotions to consequential political behaviors—especially violent behavior—little work has sought to directly measure the formation of emotions in a realistic-yet-controlled setting.

I conduct and analyze 31 original interviews with relatives of homicide victims in Chicago, Illinois to directly study how violence affects emotions. Among families who experienced similar trauma during a 36-month window, I find evidence of diverse emotional

experiences and diverse attributions of blame. Such diversity defies theoretical predictions that date back to ancient Greek epics (Homer, 1997), and are still used by political scientists today. I argue that the process by which people move from victimization, to grievance, anger, and retribution is more situation-specific and more politically determined than most studies assume.

To analyze nearly 200,000 words of transcript, I develop a new application of structural topic modeling (STM). Using STM (Roberts, Stewart and Airoidi, 2016) to detect and present patterns in author-conducted interviews is a new way to make qualitative findings transparent and reproducible when sharing underlying data is unethical. Systematically “flattening” evidence from interviews into honest interpretations is difficult but often necessary, because interviewers commonly promise respondents they will be protected from harm including exposure of private information. I promised respondents in this study that neither transcripts nor audio would be released, and that quotations or paraphrases would be too short or too vague to reveal their identity. STM can help researchers fulfill these promises in a way that yields transparent and reproducible findings.

I use STM results to support qualitative interpretation of 31 transcripts. The results indicate that knowing particular information about the circumstances of a homicide—the perpetrator’s identity, the motive, and absence of blame-mitigating circumstances—is associated with increased expression of anger targeted at the perpetrator.

I develop a new theory to explain the surprising patterns that appear across interviews. I argue that *cognitive clarity* about 1) perpetrator’s identity, 2) perpetrator’s motive, and 3) blame-mitigating circumstances are important predicates for feeling anger instead of another negative emotion, and for identifying the perpetrator as the emotion’s target. When individuals lack cognitive clarity, but still experience the negative core affective state anyone would expect in the wake of violent trauma (Russell, 2003; Barrett, 2006*b*), I argue they are likely to attribute negative emotions to a “next best” target, often the police. Anger

and blame directed at police police—usually for valid reasons, to be sure—has clear political implications. When the perpetrator cannot be blamed, the social consequences of trauma likely include deepening mis-trust of police and the state.

This new theoretical framework implies that victimization more likely creates anger at perpetrators under certain structural conditions and political grievances under others. Clear information about the perpetrator, for instance, might be harder or easier to gather depending on structural and political factors that vary widely across different violent contexts. Violent trauma in a conventional war, for instance, typically comes with near-definitive information about the perpetrator’s identity and motive (Costalli and Ruggeri, 2015; Balcells, 2017). Trauma from criminal violence (Bateson, 2012), multi-party, non-conventional civil wars (Pearlman, 2016), or even repressive state violence (Davenport, 2005; Young, 2016; Blaydes, 2018) is harder to interpret; achieving cognitive clarity is an individual labor, and attribution is a matter of individual meaning-making. My cognitive clarity framework implies that the link between violence, grievance, anger, and retribution varies based on whether affected individuals share an information environment. When survivors are left to reason individually about motive, identity, and circumstance, the population-level consequences of victimization are more variable.

## **2 Emotions in Political Violence**

Negative emotions—especially anger—are increasingly part of political science theories because emotions are an attractive way to account for choices that are irrational from a utility-maximizing perspective. Anger, an emotion prompted by an unjust action, explains desire for retribution (Leith and Baumeister, 1996; Lerner et al., 2003; Fischer and Roseman, 2007), participation in punishment more broadly (Tajfel and Turner, 1979; Frijda, 1994; van Prooijen, 2009), or supporting harsh policies against “transgressors” (Johnson, 2009; Petersen and Zukerman Daly, 2010). McDermott, Lopez and Hatemi (2017) explain

this from an evolutionary perspective: anger and the drive to punish are long-term rational as a deterrent, even if retaliation is non-utility-maximizing in the short-term.

Recently, political violence studies of anger and retaliation have generated contradictory results. Some studies identify a straightforward relationship between injustice, anger (or indignation), and retribution (Claassen, 2013; Costalli and Ruggeri, 2015), others suggest that anger shapes politics over a longer time-scale than the “hot cognitive” behavioral effects identified in experimental psychology literature (Balcells, 2017). Still others find weak links between anger or moral outrage and preferences for punishment (Javeline, 2014; García-Ponce, Young and Zeitzoff, 2019).

Many studies use broad, closed-ended questions (“How many times have you felt angry in the last week?”) to measure a narrow quantity of interest: anger as response to a particular injury. Other studies use indirect proxies or simply assume that exposure to violence causes anger. These approaches have serious downsides. First, counting anger episodes equates anger in response to violence—the signal of interest—with anger-proneness as a trait of personality (Vagg and Spielberger, 1979; Parrott, Zeichner and Evces, 2005). This creates a problem because high trait anger is associated, in existing studies, with increased attention to angering stimuli (Wilkowski et al., 2007; Alia-Klein et al., 2018). Trait anger might correlate with self-reported victimization in surveys, for example, because constitutionally angry people report more victimization, not because victimized individuals are more likely to be angry. Second, even where measurement of anger truly captures reactions to violence, closed-ended measurements neglect information about the target and justification of anger, both of which are important for understanding anger’s political consequences. In studies that measure blame directly, for instance, victimized individuals often blame someone other than the perpetrator (García-Ponce, Young and Zeitzoff, 2019).

I create a richer and more direct measure of the emotional experience of violence by combining open- and closed-ended responses from surviving relatives of homicide victims.

Evidence collected using these new measures suggest the causal link between victimization and anger is more contingent than previous studies assume.

### 3 Violence and Trauma in Chicago

This paper analyzes in-depth interviews with close relatives of 31 homicide victims who were killed in Chicago, Illinois between 2015 and 2017.<sup>1</sup> Interviews were conducted in January 2018 and ranged from 90-180 minutes long.

Chicago in the 2010s became widely known for homicide violence (Kapustin et al., 2017). In the three years-worth of homicides from which interview respondents were sampled, over 1,500 people were murdered in Chicago. This death toll is actually a conservative measure of violence at the time; A higher proportion of gunshot victims in Chicago survive compared to other American cities (Asher, 2017).

Homicide risk in Chicago is concentrated in a relatively small population, primarily Black and Latinx people, connected through social networks and living in certain neighborhoods on the South and West sides (Papachristos and Wildeman, 2014). Violence is likewise geographically concentrated: over half of homicide victims are killed in the neighborhood where they live (Bhatti et al., 2017).

Violence patterns in Chicago differ from contexts often studied in political violence research (see, though (Mukhopadhyay, 2014; Calderón et al., 2015; Lessing, 2017, and others)). Not all violence in Chicago relates to gang politics or political motivations in general. Chicago police designate just over half of homicide victims and two-thirds of perpetrators as “gang-related” (Kapustin et al., 2017), but the city’s inspector general criticizes the categorizations as overly broad and unreliable (Sweeney and Buckley, 2019). The intersection between gangs and homicides is shrinking: gang-affiliated homicides fell 6% in 2017 as non-gang affiliated homicides rose 25% (Ludwig, 2018).

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<sup>1</sup>Virtually all respondents were parents, guardians, or siblings of the victim.

## 4 Data and Measurement

I use interview transcripts and closed-ended, survey-style questions to study individuals' emotional experiences after violence. All interviews were conducted in person in January 2018 with relatives of homicide victims killed 2015-2017. Interviews covered: circumstances of the homicide, experiences with police and prosecutors, emotional experience, and post-homicide changes in behavior. Respondents also answered standard demographic questions, questions about attitudes toward government and the police, and three short clinical instruments to measure emotions (Watson, Clark and Tellegen, 1988; Vagg and Spielberger, 1979). Interviews were recorded and transcribed by the author. The combined transcripts run 190,000 words—10,000 words longer than the longest *Lord of the Rings* book.

To recruit respondents, I worked with Chicago Survivors, a 501(c)(3) organization providing case management and social services to families of homicide victims in Chicago. Chicago Survivors has unparalleled access to families of people murdered in Chicago. Nearly 100% of victims' families are contacted at least once by Chicago Survivors, often, staff meet families in person at the crime scene or hospital. Roughly 80% of families accept free services and are assigned to a Family Support Specialist (FSS). Over the following six months, the FSS develops close relationships with the survivors through visits to their homes, referrals to outside services, and assistance with government interactions—especially seeking victim's compensation from the state.<sup>2</sup>

Guidance from FSSs was a critical component of research with such a sensitive population: FSSs made introductions, explained the interview process to potential respondents, and vouched for the author's commitment to protecting privacy. Informed consent for interviews (and separately for recording) was obtained in writing by the author, following a conversation about the interview process, the intended purpose of the research, and the

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<sup>2</sup>Staff always call their clients "survivors," never "victims," except when filling out State of Illinois "victim's" compensation forms.

rights of participants. Respondents were reminded that participating was not a condition of their continued relationship with Chicago Survivors, nor would Chicago Survivors ever have access to personally identifiable data from the project.

I developed a three-pronged approach to monitor and mitigate harm to participants. First, I developed the interview guide in consultation with Chicago Survivors staff. Their input led to changes that mitigated possible psychological risk, and to the identification of free counseling resources that could be provided for respondents who felt psychological distress from participating. Second, all respondents were provided contact information for the author and relevant IRB. During the consent process, I highlighted IRB contact information and reminded participants of their right to contact the IRB directly (without going through me) to report concerns. Third, following Wood (2006), I provided IRB contact information to Chicago Survivors staff, and, with staff permission, told respondents that their FSS could initiate a complaint on their behalf. To my knowledge, no respondent has reported concerns to Chicago Survivors or the IRB.

Respondents were sampled from a long-list of families that had already completed six months of Chicago Survivors services (interviews took place January 2018—no one whose family member died after July 2017 was interviewed). Chicago Survivors staff compiled the long-list based on professional judgment about a) who could participate safely, b) who could offer informed consent and “understand what [the researcher] was trying to do,” and c) who they thought a priori would be willing to participate (Chicago Survivors Staff, 2017). In the final list from which respondents were sampled, geographic distribution (across the North, Central, and South detective areas) roughly matched administrative data on homicide locations, with the North area somewhat underrepresented (See Figure 1), likely due to a language barrier. The list *excluded* families in which no one was comfortable conducting a long interview in English; Victims in area North are more likely to be from families of non-native English speakers. The proportion of “cleared” or solved cases in the list (24.5%)



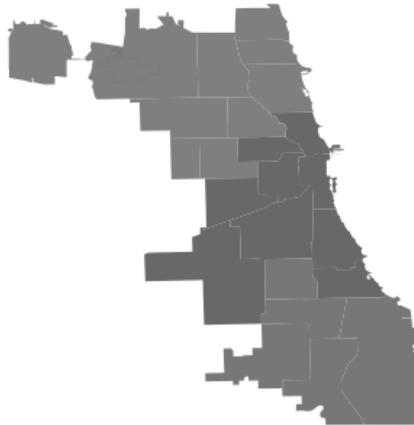
matched the population rate for the time period (26.41%).

The final list of respondents was generated by stratified random sampling from the long-list provided by Chicago Survivors. Cases that were “cleared” by the CPD and referred for prosecution were over-sampled to test other, ultimately unsuccessful hypotheses described in a pre-analysis plan. For each selected family, I received contact information for Chicago Survivors’ “primary contact.” Primary contacts skewed older—often parents of the homicide victim—and included more women than men. For a given family the “primary contact” was typically the interview respondent, but some primary contacts referred me to other relatives. Almost all respondents (and the homicide victims to whom they are related) were either Black or Latinx.

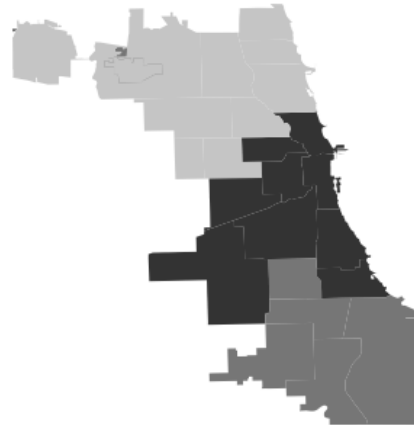
Women are over-represented among respondents, and there is some debate over whether anger tendencies differ between women and men (Thomas, 1993; Cox, Bruckner and Stabb, 2003). Recent research suggests that key differences (if any) are in modes of expression: women are more likely to talk about anger whereas men are more likely to exhibit aggressive behavior (Coleman, Goldman and Kugler, 2009). In other words, interviews oversample people more likely to discuss anger conditional on feeling anger, but less likely to “act angry.”

Evidence from interviews cuts against potential gender bias in measurement: I find surprising absence of anger (measured through discussion) where anger is theoretically more likely to exist. To further address possible gender bias, respondents answered questions about the attitudes and behaviors of other people in their family. This technique is imperfect, but has been used in sensitive contexts to learn about individuals who cannot be interviewed (Thomas, Frankenberg and Smith, 2001; Fair, 2007).

All Homicides 2015-2017



All Individuals in Sample



All Respondents Interviewed

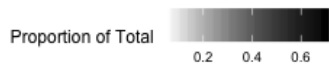
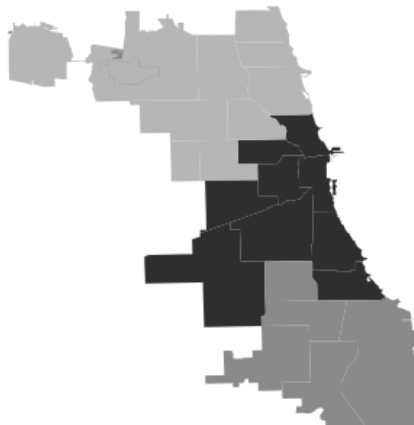


Figure 1: Geographic distribution of homicides in Chicago and of interviews, split by CPD detective area. Interviews moderately oversample from area Central and moderately under-sample from area North. Given patterns of racial segregation in Chicago, this imbalance can be roughly interpreted as oversampling Black homicide victims, and undersampling Latinx homicide victims.

## 5 Results

### 5.1 Correlates of Anger in Survey-style Items

Respondents' emotional experiences after trauma do not fit common assumptions about anger in response to violence. In a measure of anger averaging self-reports of feeling "angry," "upset," "hostile," and "irritable" from an adapted PANAS battery (Watson, Clark and Tellegen, 1988), respondents scored an average 3.39 of 5, corresponding to feeling "moderately" angry, etc. when thinking specifically about their relative's homicide.<sup>3</sup> This simple measurement shows that many respondents are surprisingly un-angry when thinking about the homicide, yet still undersells the extent of emotional diversity across respondents. Among respondents who report anger as 5 out of 5, only half report blaming the perpetrator for the homicide (See Figure 2). When asked to report how they feel when thinking about the homicide, a quarter of respondents overall report extreme anger, but identify someone other than the perpetrator as the target of anger.

Answers to survey-style questions also belie common assumptions about anger and blame/grievance in other ways. One common model, for example, predicts that anger is caused by injustice and abates when perpetrators are punished (Goldberg, Lerner and Tetlock, 1999; Lerner and Keltner, 2001). This model predicts a negative association between anger and the perpetrator being caught. Interview data shows no such relationship. Depending on the measure of anger used, the association between anger and "perpetrator caught" is actually positive but insignificant. The main association that obtains in survey-style responses is a positive association between anger and knowing the perpetrator's identity. Whether survivors of violence know the perpetrator's identity is rarely measured in political violence studies of anger.

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<sup>3</sup>One standard deviation ranges from feeling "a little" angry to "quite a bit" angry. Average scores for "angry" alone are higher but the difference between index and "angry" scores is not significant.

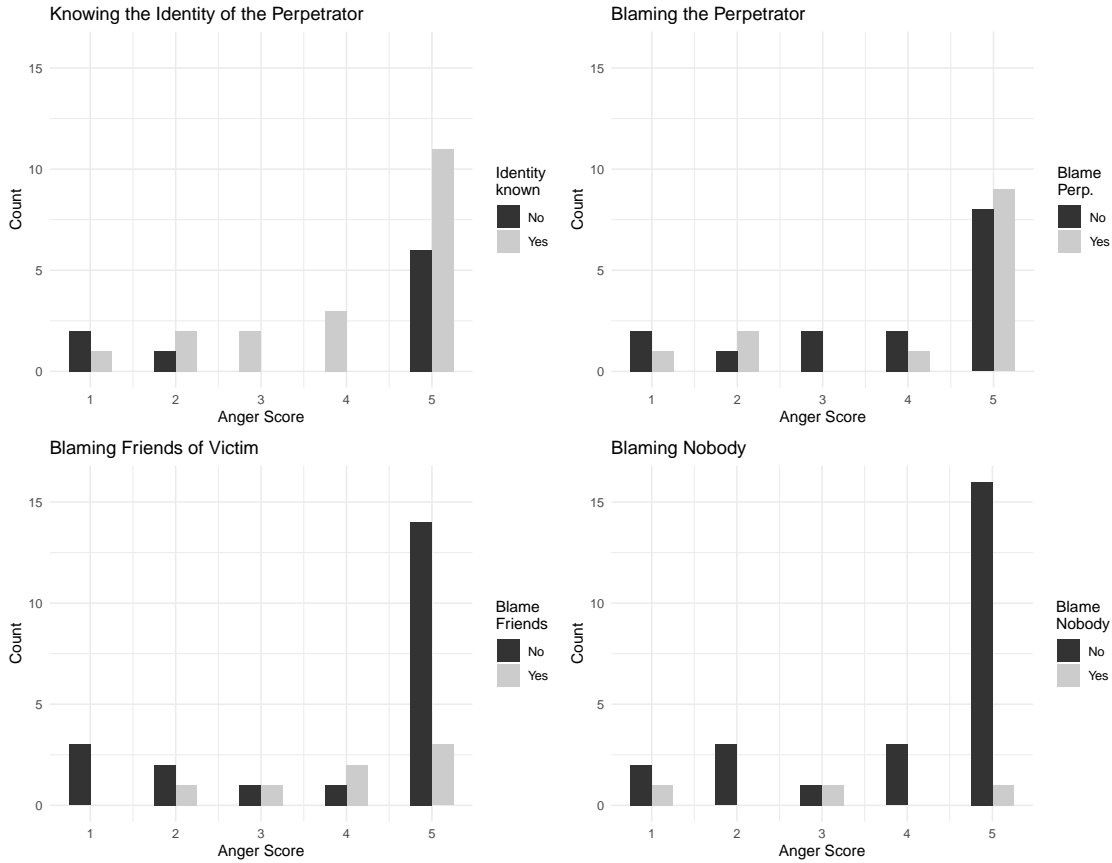


Figure 2: Self-reported anger subset by other responses. The similarity of the anger levels between respondents who do/do not blame perpetrators, friends, or the victim themselves suggest that simple measures of anger mask important variation in the targets of anger. Knowing the perpetrator’s identity appears positively related to anger levels. This may seem trivial, but nearly 35% of respondents had no notion of the perpetrator’s identity. This is likely an even more common condition in the general population of survivors in Chicago: Interviews oversampled respondents whose cases went to trial.

## 5.2 Topic Models for Qualitative Research: A New Application

Survey-style responses suggest that respondents’ emotional experiences of violence are inconsistent with existing theories linking victimization to anger. Survey items alone, though, do not fully capture rich information about emotional experiences that respondents shared in interviews. I use structural topic modeling (STM) to present patterns of emotional experiences captured in nearly 200,000 words of transcript.

### 5.2.1 Why use Topic Models?

Topic models are typically used to analyze large corpora of publicly-available documents, but STM is useful for analyzing a smaller private corpus for two reasons. First, STM honestly presents evidence of patterns in any corpus, even one that is small enough for qualitative analysis. Typical topic model applications seek patterns in text corpora that researchers have not read completely (often because of size). I instead use topic models as a presentation tool to show patterns in a corpus that is small enough to read and analyze qualitatively. Topic models fit to smaller corpora can “aid the researcher’s memory” by correcting for the human tendency to inadvertently weight some particularly evocative or surprising interviews more heavily than others during analysis; STM has no such tendency.

Second, STM can produce low-dimensional, digestible summaries of corpora that cannot be shared in full. Survivors of violence participated—with surprising candor—on the condition that audio and transcripts would never be published, and that quotations would be too short or vague to identify the respondent. This agreement creates tension, common in political violence research, between respondent privacy and academic transparency. Topic models ease this tension by showing patterns in sensitive data in a way that is privacy-protecting but facilitates transparent, reproducible inference. Topic model-based workflows simultaneously maintain differential privacy and transparency because they begin with pre-processing that strips word order from the corpus. This renders documents as “bags of

words” represented in document-term matrices (DTMs). So long as important identifiers (proper nouns and locations) are stripped from documents before pre-processing, it should not be possible to identify respondents from information in DTMs.<sup>4</sup> Other workflows for transparent, reproducible *qualitative* inference do not allow researchers to protect sensitive data to the same degree.

### 5.2.2 How Topic Models Work

STM is an improvement on correlated topic models that allows for incorporation of document-level metadata into the model fit (Roberts, Stewart and Airoldi, 2016). Like all topic models, STM models words in a document as a function of an unobserved latent variable—the “topic” the words are describing. It assumes each document is a mixture over these unobserved groups, and that a particular word’s appearance in the document can be attributed to the group that “explains” that word (Blei, Ng and Jordan, 2003). Once the model converges, each document is summarized by a vector (which sums to 1) of topic proportions. Document-level topic proportions can then be compared to other metadata to measure associations between topic prevalence and other variables of interest.

The topics that STM generates are a powerful tool for identifying patterns in text. Natural language is a high dimensional representation of information: interviews, for example, transmit meaning through thousands of unique words, some appearing once, a few appearing dozens of times. A corpus of natural language contains many unique words or “terms,” each of which constitutes a separate dimension along which documents can be compared. STM facilitates dimension reduction by identifying groups of terms that frequently co-occur, and treating co-occurrence as evidence that those word groups communicate one underlying idea. If a model organizes 5,000 unique terms into 10 topics, for example, it

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<sup>4</sup>Standard pre-processing likely drops proper nouns and place identifiers automatically as “sparse terms” that appear in few documents. However, since the purpose of the workflow is to protect sensitive information, it is more conservative to use dictionary methods, named entity recognition models, or brute force to remove terms that could make respondents identifiable.

reduces the dimensions for document comparison from 5,000 to 10.

If a STM fit returns meaningful topics, they can be interpreted as evidence of latent “ideas” across documents in the corpus—the idea of memorial, for example, is not directly measured through speech but can be understood as the common cause behind words like “funeral,” “homegoing,” “remember,” or “flowers.”<sup>5</sup> Topic model interpretation is very involved. It is up to researchers, not the computer, to determine what (if anything) the fitted topics mean in the context of a particular research question (Grimmer and Stewart, 2013).

### 5.3 Topic Model Analysis

I fit a STM with 10 topics on the complete corpus of interview transcripts (Roberts, Stewart and Tingley, 2018).<sup>6</sup> I model topic prevalence as a function of individual respondents even though each respondent’s transcript is broken into an average of 70 documents. The topics upon which the model converges (and my interpretations of topic meaning) are listed in Table 1 along with a list of the highest frequency, most unique (FREX) words associated with the topic (Airoldi and Bischof, 2016). To generate topic descriptions, I extract and read the 25 complete documents/paragraphs with the highest proportions of each topic. A small subset of these documents are available in the appendix. Researchers cannot prompt topic models to return topics of theoretical interest, but this model recovers a number of relevant topics for the research question in this paper. In the remainder of this section, I focus on topic five, which identifies discussions of “anger” at the perpetrator, and I discuss how the anger topic relates to other topics and to survey-style responses.

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<sup>5</sup>Topic models do not rely on semantic structure, so they incorporate vernacular grammar and slang easily. Here, the model associates Chicago Survivors-specific terminology like “homegoing” (funeral) and “angel-day” (death anniversary) with more common terms to describe funerals.

<sup>6</sup>The 31 interviews have been broken into 2,300 paragraphs to generate a better fit. Correlation between documents from the same interview is preserved in fitting the model.

Topic	Description	Top Stems (FREX)
1	Homicide Description	phone, camera, station, lay, house, ambulance, tape
2	Frustration at Detectives	contact, begin, name, store, pretty, talk, call
3	Reason/Motive	yes, old, somebody, gang, daddy, worried, man
4	Immediate Aftermath	funeral, crying, heart, miss, say, try, train
5	Blame/Anger/Motivation for Justice	kill, guy, brother, nephew, girlfriend, grandson, stab
6	Confusion about Motive/Reason	god, scare, fear, afraid, investigation, cop, van
7	Frustration at Courts	court, attorney, state, judge, trial, bond, charged
8	“What If”/Victim Blaming	feel, angry, anger, parent, shouldve, can, felt
9	Support/Community	family, school, community, member, closer, lot, support
10	Panic/Anxiety	hes, sleep, life, happy, gonna, hate, hell

Table 1: Top stems (and researcher-provided descriptions) for 10 topics fit using the STM package in R. Stems are calculated using the FREX score measure (Airoldi and Bischof, 2016), which weights uniqueness more highly than other measures. The number of topics was pre-specified in order to generate a small number of high-level topics.

I interpret STM results in two ways: examining inter-topic correlations, and measuring associations between topic proportions and survey-style responses. First, co-occurrence of different topics in a document shows the associations that respondents make between concepts, insofar as they talk about those concepts together during the interview. Figure 3 shows correlation coefficients for topics related to “Perpetrator Anger/Blame” with a coefficient greater than 0.1 or less than -0.1.



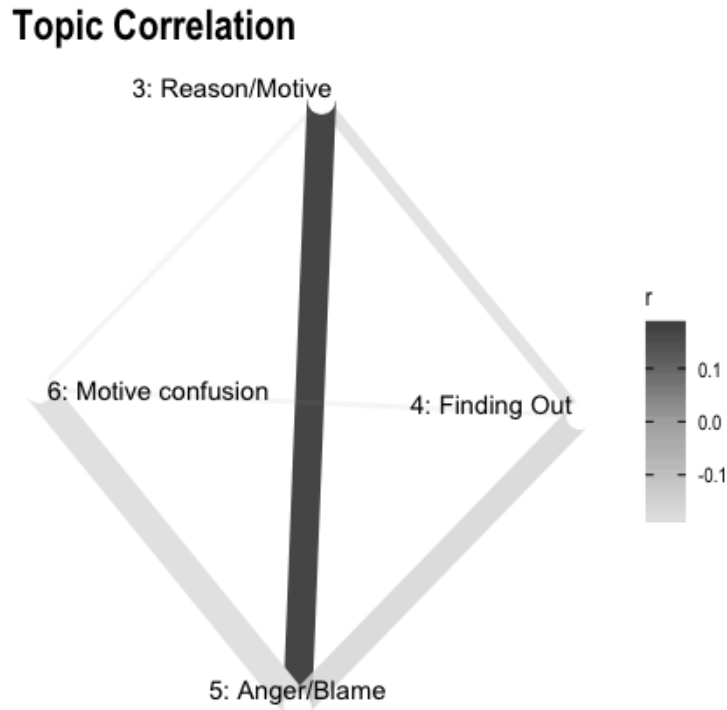


Figure 3: Topic correlation for the 10-topic STM. Dark edges connect topics that are positively correlated. Light edges connect topics that are negatively correlated. Topics related to Topic 5 below a threshold of  $|r| > 0.1$  are not shown.

Figure 3 shows a strong positive association between the prevalence of Topic 5 (anger/motivation for justice) and Topic 3 (discussion of motive and reason). It also shows a negative association between the prevalence of Topic 5 and both Topic 4 (discussion of finding out) and Topic 6 (confusion about motive).

Topic 5 (“anger”) co-occurs with respondents talking about the “reason” behind the homicide, particularly the perpetrators’ motive. The opposite holds comparing discussion about motive confusion to discussion of anger. Respondents who were confused about the reason their relative was killed were unlikely to simultaneously talk about retribution

or anger. Talking about knowledge of motive is correlated with talking about anger, *and* talking about *not* knowing motive is negatively correlated with talking about anger. When respondents have a specific piece of information—knowledge of motive—they ruminate more on anger.

Other topics that should be emotionally evocative, like respondents discussing how they found out their relative was killed, are negatively associated with discussing anger. This has two explanations, one mechanical and one substantive. Mechanically, interviews were structured to discuss circumstances of the homicide and emotional response in different sections. Negative correlation may reflect this structure. However, the structure might be expected to induce negative correlations between anger and other topics as well, since discussion of emotion was also separate from discussion of motive, for example. This negative correlation does not appear, so the mechanical explanation is likely incomplete. Negative inter-topic correlation between 4 and 5 (Immediate aftermath/anger) substantively suggests that anger is not the dominant negative emotion in the immediate aftermath of the homicide, and that anger at the perpetrator is determined by additional moderators.

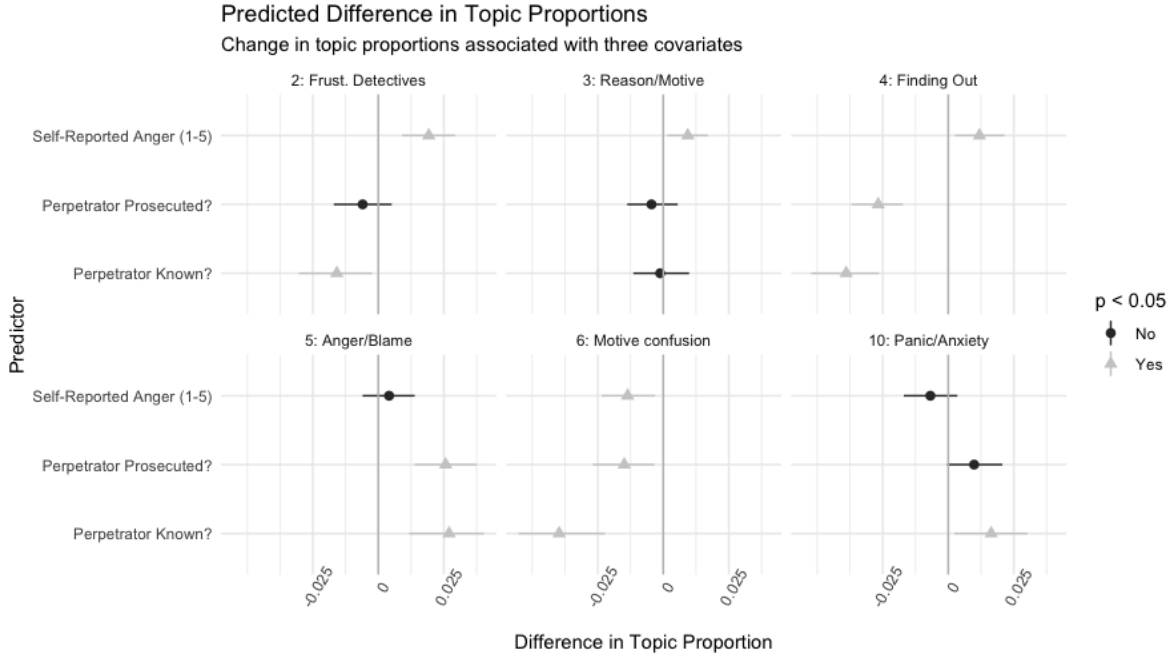


Figure 4: Change in predicted proportions associated with changes in survey-style predictors. Plot shows expected difference in topic proportion associated with difference between values of 0 and 1 for indicator variables, or with difference between the 25th and 75th percentile values for continuous predictors. Predicted differences are calculated as bivariate associations for each predictor.

Figure 4 shows bivariate associations between respondent characteristics and proportions of various topics. These show the same patterns suggested by inter-topic correlations. All estimates in Figure 4 are generated using the STM package with the most conservative uncertainty estimation, which propagates uncertainty from the topic model estimation into the estimated errors (Roberts, Stewart and Tingley, 2018).

Self-reported anger is positively associated with the overall amount that a respondent discusses: the process of finding out about the homicide, understanding reason/motive, and frustration at detectives. Overall anger is not significantly associated with the amount of discussion about anger at the perpetrator, blame, and desire for justice. This difference

indicates that asking about anger in general without asking specifically about targets and justifications for anger leads to substantively different and less meaningful conclusions. Qualitative analysis supports this suggestion: Some respondents are angry at police or prosecutors not the perpetrator.

Though overall anger level is a poor predictor of topic prevalence for the anger/blame topic, knowing the perpetrator’s identity is a good predictor for the same topic. Respondents who know the perpetrator’s identity talk slightly less about the immediate aftermath of the homicide, less about confusion about motive, less about frustration at detectives, and significantly more about both anger/blame and panic/anxiety. This is consistent with the notion that anger at the perpetrator is associated with having access to relevant information about the perpetrator, like identity.

Respondents in the subset of cases where the perpetrator was prosecuted have similar tendencies compared to respondents who knew the perpetrators identity despite no prosecution. When perpetrators were prosecuted respondents talked less about the immediate aftermath of the homicide and more about anger and blame. Appendix plots show prosecution status is associated with a lower topic proportion for Topic 8, “what ifs” or blaming of the victim. This again suggests that anger at the perpetrator is associated with information, not with outcomes of the justice process.

Other associations are also worth mentioning. First, some topics are significantly associated with respondent gender (See appendix). Men talk less about frustration at detectives, and less about the immediate aftermath of the murder. They talk more about motive and reason, and more about anger, blame, and justice. This may at first glance make cross-gender comparisons questionable, especially regarding anger-proneness. Looking individually at transcripts from male respondents to interpret this finding, though, only two of four are angry at the perpetrator. The others are angry at friends of the deceased, or at the justice system. Second, there is a strong negative bivariate association between church

attendance and discussion of anger at the perpetrator. The relationship between religious belief, religious practice, and preferences about justice is worth further exploration in another study.

## **6 Understanding Variation in Emotional Response**

Interview evidence shows surprising diversity in the emotional responses of people who have experienced similar trauma. Some are angry while others are not. Some angry people blame the perpetrators of violence, others target the police or bystanders. Evidence also suggests that having certain information like the perpetrator’s identity and motive is associated with whether or not a respondent expresses anger at the perpetrator, at another target, or not at all.

In this section, I develop a new theory to explain this variation. I argue that patterns of information, emotion, and grievance that appear in interviews support the idea that cognitive clarity about three separate issues—the perpetrator’s identity, the perpetrator’s motive, and the absence of blame-mitigating circumstances—is important in determining whether trauma survivors blame and express anger at perpetrators. After introducing the cognitive clarity framework, I provide qualitative illustration showing how the framework matches with variation in respondent experiences.

### **6.1 Cognitive Clarity Framework**

A relative’s murder is a clearly negative experience, but, as shown above, it does not always produce anger and blame directed at the perpetrator. Comparing respondent scores on the Positive-Negative Affect Scale to a non-clinical reference population (Watson, Clark and Tellegen, 1988) shows that the average respondent reports more negative feeling and less positive feeling than population-normal after their relative’s homicide (See Appendix). Only one of 31 respondents reported lower-than-population-average negative affect after

the homicide. Of the 30 respondents with above-average negative affect, though, only half blamed negative emotions on the perpetrator.

The puzzle, therefore, is to explain why people who virtually all feel negative feelings after traumatic events experience different emotions directed at different targets. I focus on the role of information and context in assigning different meaning to feelings: “categorizing” core affect into emotional experiences (Barrett, 2006*b*). In doing so, I refer both to the Feldman-Barrett concept of “core affect” and also to empirical findings about the correlates of feeling angry that come from research based on a “natural-kind” view of emotion.<sup>7</sup>

I argue that certain types of information are important for forming *directed* emotions: anger at a specific target, fear of a specific threat, etc. I argue that interpreting negative feelings as anger at a perpetrator of violent trauma depends on *cognitive clarity*, or a clear understanding of three issues: 1) the perpetrator’s identity, 2) the perpetrator’s motive, and 3) absence of mitigating circumstances around the injury.

Identity, motive, and circumstances may seem like foregone conclusions in many situations, but the relevant information was not easily available to all respondents interviewed in this project. I hypothesize that acquiring information about the causes and circumstances of violent trauma is easier in some contexts than others. Where cohesive political narratives do not pre-attribute blame for injustice, researchers should expect individual differences in emotional experience among people who endure similar violence.

### 6.1.1 Identity

Knowing the perpetrator’s identity is an important predicate for experiencing negative affect as anger at the perpetrator. Without knowing the perpetrator’s identity it is

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<sup>7</sup>These approaches differ over whether different emotions are naturally separate phenomena from discrete processes (Lerner and Keltner, 2000), or a single integrated process of interpreting “core affect” as distinct emotions (Russell, 2003; Barrett, 2006*b*). The disagreement is *not* about the veracity of findings linking anger to risk assessment, attitudes, etc. so I refer to both (Barrett, 2006*a*).

difficult to fulfill two conditions for feeling anger: ability to attribute negative feeling to some source, and ability to envision restorative action/punishment against that source.

Emotional experiences are generally connected to people, objects, or processes that we believe caused the underlying good/bad feeling: we are typically afraid *of* things or angry *at* things. Emotion experiences also provide templates for behavior, leading us to treat targets of emotion in ways supposed to benefit us (Frijda, 1986). Anger is the emotional response to harm—an “unfair treatment” or “injustice” (Frijda, 1994; Fischer and Roseman, 2007; Hutcherson and Gross, 2011). Feeling anger promotes behaviors that restore balance and avenge injury: angry people formulate plans to restore fairness (Lerner and Tiedens, 2006), and feel anticipatory exhilaration about punishing transgressors (Tripp and Bies, 1997). Neuroimaging studies find that the possibility of punishing is integral to anger: Reward centers in the left frontal cortex of angry subjects show increased activity *only if* there is some possibility of punishing the “cause” of anger (Harmon-Jones and Sigelman, 2001).

Interview evidence is consistent with these theories: respondents have a difficult time attributing negative feelings to unknown causes or envisioning vengeance against an unknown target.<sup>8</sup> Even if the particular perpetrator’s identity is unknown, categorizing them as a member of a specific group (a particular gang as opposed to “gangs” in general) helps with envisioning punishment, and thus enables anger at the perpetrator. Take for example, two respondents unaware of the identities of their son’s killers, having heard only rumors about who was involved. Neither expressed anger at the perpetrator. Both explained their feelings saying they “did not know who to blame” for what happened (Respondent 75, Chicago, IL, January 2018; Respondent 90, Chicago, IL, January 2018).

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<sup>8</sup>Getting the attribution wrong is not an impediment to envisioning punishment (Clare and Gasper, 2000).

### 6.1.2 Motive

Knowing the perpetrator's motive is another important condition for anger and grievance toward the perpetrator. Clear knowledge of motive helps people perceive their situation as controllable and comprehensible. In laboratory experiments, anger formation after some injury depends on believing one understands what happened and why it happened (Lerner and Keltner, 2000, 2001). Anger formation also depends on attributing the injury to someone else's agency—not an act of God or chance—and believing the injury is something they have the agency to respond against (Halperin, 2008).

I argue that not knowing the perpetrator's motive makes conceptual representations of certainty and control tenuous, interrupting the formation of anger at the perpetrator. What does it mean in practice to not understand motive or to feel uncertain? Interviews suggest this condition is separate from—albeit correlated with—knowing the perpetrator's identity. Respondents who were unclear about motive were not “at peace,” but their negative emotions were different from the emotions of respondents who had a clear sense of motive.

Respondents who are unclear about the perpetrator's motive seem frustrated at the cosmic unfairness of their situation, or at their own helplessness. One respondent, whose son was murdered by strangers on his commute home from an overnight shift described her level of anger as high (5/5) but she was angry “at the situation” and the randomness of what happened. When asked what the motive was, she said: “I ask myself constantly...I can't think of a reason...I have no idea why it happened to him.” She described her behavior after the murder as an attempt to increase her general feeling of control over her life, like “pulling the reins in” on her surviving children's behavior to try and protect them from “random violence” (Respondent 89, Chicago, IL, January 2018).



### 6.1.3 Mitigating Circumstances

Even among people who know the perpetrator's identity and motive, not everyone becomes angry at the perpetrator. Anger is associated with perceiving "unfairness" or transgression, so perpetrator-directed anger is less likely for people who think the circumstances of the homicide mitigate the perpetrator's responsibility for their pain.

One respondent, whose son was stabbed to death after winning a fight against someone who had previously robbed him, was not angry at the robber/perpetrator despite clear knowledge of his identity, and clear knowledge of a revenge motive. She is angry at another friend of her son's for "orchestrating" the robbery and thus precipitating the situation that killed her son. She saw the murder as a natural consequence of an earlier betrayal by a friend: "If he had not set [my son] up to be robbed, it would not have put [my son] in this predicament."

Other survivors concluded that the perpetrator couldn't be held responsible for their actions. One respondent, whose younger brother had also been killed after winning a fight, was convinced that the environment of the West Side contributed at least as much to his brother's death as the shooter's agency did. He believed that "the kid with the gun is [a] victim...being brainwashed into believing that this is how you defend yourself." Blaming the environment was not a matter of forgiveness—he is not sure he will ever forgive the perpetrator. Instead, it follows from his belief that the perpetrator was not in control of himself: "I've seen it happen to my friends, people I've been to school with. It's like it's some type of disease or something." (Respondent 27, Chicago, IL, January 2018).

Finally, some respondents believed the victim's behavior mitigated the perpetrator's responsibility. One respondent felt angry about her nephew's death, but she was angry at her nephew. She felt he had died because he was reckless (Respondent 33, Chicago, IL, January 2018). Even after murder, a paradigmatic un-just event, not all respondents felt

the perpetrator had done the greatest injustice.

In most cases, respondents who did not meet one or more of the conditions described above—knowledge of perpetrator’s identity, knowledge of perpetrator’s motive, absence of blame-mitigating circumstances— expressed some negative emotion other than *anger at the perpetrator of the homicide*. Respondents who lacked key pieces of information were not more likely to be at peace or happy. Rather, they used the diminished set of available information to contextualize their negative feeling differently, by attributing it to a different actor.

#### 6.1.4 Diffusion

Many examples above show respondents who have less information than necessary for “cognitive clarity” describing their emotional experience as “anger” at some non-perpetrator target. This is theoretically consistent with the core-affect-plus-context model of emotional experience—and indicates an important pattern in the way survivors of non-state violence regard the state.<sup>9</sup>

Respondents who are missing the information necessary to become angry at the perpetrator still make attributions and experience emotions in non-random ways. Blame attribution follows the logic of cognitive clarity laid out above, but for the identity, motive, and culpability of some other person. People angry at the victim’s friends, for instance, identify a particular target, a particular injustice, and a particular motive when talking about their emotional experience. The meaning ascribed to a negative feeling in these cases still draws on contextual knowledge to explain the causes of the feeling.

The process of attribution emotional experience toward a non-perpetrator target, which I call *diffusion*, often results in anger at agents of the state like prosecutors or detectives. Why are agents of the state common second choices for anger? Availability is the simplest answer. After a homicide, state agents are reliably present and often make mistakes

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<sup>9</sup>None of the interviews discussed homicides that involved police as either the perpetrator or victim.

(sometimes honest, sometimes malicious). When information does not support anger at the perpetrator, state agents may appear as the people with the “last clear chance” to prevent or avenge the injustice of homicide.

This shows nuanced attitudes toward the state. Most respondents reported in survey questions that they did not trust police or expect police to treat them fairly. The same respondents, though, often had high expectations about the police’s *ability* to find perpetrators and bring them to justice. Against these expectations, the Chicago Police and the Cook County States’ Attorney regularly under-delivered.<sup>10</sup>

When respondents were angry at the police and the Cook County Attorney’s office, their diffused anger was always explained with reference to specific, tangible mistakes or misdeeds. The political implications of this pattern are expansive: Respondent testimony suggests that active harms like excessive use of force or civil rights violations are not necessary antecedents for people in marginalized communities to feel angry or aggrieved toward the police. Anger and grievance can also be fueled by equally real, but less headline-grabbing injuries and sins of omission.

### **6.1.5 The Missing Explanations: Inequity and Race**

Even though many respondents express anger at institutions like the police, the City, and the State, very few interviews respondents invoked political explanations about racism and structural inequity to explain their experience. In other words, though diffusion of anger has clear political consequences, it is not clear that diffusion is *caused* by political entrepreneurs, nor that shared political narratives are always central to the way people make sense of trauma. I argue that patterns of diffusion and anger at police are the result of personal experience and reasoning because two observable implications of a shared political

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<sup>10</sup>A police Captain who I bothered in line at a coffee shop lamented the “CSI effect:” people don’t believe detectives when they say that surveillance cameras were too far away to see faces etc. Many respondents, though, had far more serious and specific complaints about police behavior.

understanding of trauma are missing. If anger at the police were politically fueled, anger at police and prosecutors would be virtually universal. This was not even the case among the subset of respondents who lacked the cognitive clarity to blame the perpetrator.

Further, if shared political narratives were the overwhelming driver of respondents' attributions and emotional experience, respondents might more explicitly invoke a shared experience of racism or inequity, or contextualize their experience as part of a pattern in the way state institutions treat Black and Latinx people in Chicago. This happened in only a very small number of cases.<sup>11</sup> Even respondents who bring up racial inequity focused almost exclusively on specific personal experiences where police let them down or treated them poorly. Given that respondents focused so much on the particularities of their own experience, it makes little sense to attribute diffusion of anger to a political cause, even though centering racial inequity to explain trauma and poor treatment by the state would be highly consistent with macro-level evidence about inequality and the causes of violence in Chicago.

## 6.2 Qualitative Vignettes

To illustrate the cognitive clarity framework, I briefly summarize the experience, reasoning, and emotions of nine interview respondents. Qualitative illustrations show correspondence between the cognitive clarity framework and the STM results described above. Seven respondent stories illustrate how emotions differ depending on the level of cognitive clarity: two cases show cognitive and emotional processes associated with full clarity, five more show how those processes work differently with partial or no clarity. Two more stories are included because they do not fit the framework: respondents are not angry at the perpetrator despite clearing the bar for cognitive clarity. Longer stories for each respondent are in an appendix.

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<sup>11</sup>Jackson (2019) shows that perception of the threat of inter-group violence in Chicago (mostly racist treatment by the state) varies by gender, with men more likely to downplay the threat of racism and women more likely to express fear and anxiety.

### 6.2.1 Full Cognitive Clarity

How are emotional experiences formed among respondents who have full cognitive clarity about the circumstances of their relative's death? In two full-clarity cases, respondents explain their anger at the perpetrator with specific reference to relevant facts of identity and motive. Both Mr. A (whose son was killed by a cousin) and Ms. B (whose son was killed by someone he had previously beaten in a fight) use available information to understand the murder as a) a transgression, b) caused by the perpetrator's individual choice, and c) avoidable. Mr. A and Ms. B report high levels of anger and identify the perpetrator as the target of anger.

Mr. A and Ms. B's experiences are characterized by how specifically they ruminate on their knowledge of identity, motive, and nature of injury. Ms. B says that thinking about how socially connected she is to the perpetrator makes her angry. She put off learning his real name (she knew him by a nickname); speaking his real name in court made her want to "walk over there and kick him in his face with my boot." She also refers to motive to explain her anger: the "fair" thing for the murderer to do would've been to learn how to fight better instead of shooting (Respondent 68, Chicago, IL, January 2018). Cognitive clarity also informs Mr. A's emotional response. He is very angry at the cousin because killing a blood-relative over a "beef" is a more serious transgression than killing in general. Mr. A points out that his son's own behavior—gang involvement—put him at risk generally speaking. Mr. A is angry, though, because he knows based on the perpetrator's identity and motive that his son's death was a transgression against the norms of family (Respondent 95, Chicago, IL, January 2018).

The informational components of cognitive clarity are more than permissive conditions for anger: Knowing the perpetrator and motive help Mr. A and Ms. B form a coherent narrative in which their son's deaths were a violation or injury, carried out by a person who could have made a different choice. The connection between particular knowledge and

anger is not lost on respondents: Ms. B says knowing the motive is the specific thing that makes her angry. Respondents who have cognitive clarity actively use its constituent parts to describe and justify their emotional experience.

### 6.2.2 Partial or No Cognitive Clarity

How does missing cognitive clarity information change the way people emotionally process a homicide? Five cases where respondents lack at least one of the three elements of cognitive clarity show how cognition and emotional response work differently with an information shortfall.

Ms. C and Ms. G, whose nephew and son, respectively, were murdered, are unclear about the perpetrator's identity and have "worked backward" from what they know about their relatives' lives to make a guess about the motive. They come to different conclusions about motive (and thus their anger diffuses to different targets), but the way they use available information to make sense of the murder and direct their emotions is similar. Both women discussed the unknown perpetrators as quasi-structural factors, not actors with agency. Accordingly, they talked about violence as some sort of background condition in the environment that people have to work to avoid. Both blame people who they think had agency—Ms. C blames the victim, who might have refrained from antagonizing a rival crew (Respondent 33, Chicago, IL, January 2018), and Ms. G blames the victim's friends who she thinks could have prevented the violence (Respondent 10, Chicago, IL, January 2018). Unknown perpetrators figure very little into explanations of the homicide and who is to blame.<sup>12</sup> Lack of cognitive clarity about the perpetrator's identity changes cognitive and emotional processes: not knowing the perpetrator inhibits Ms. C and Ms. G from reasoning about the perpetrator's culpability and agency the way Ms. B and Mr. A do. Ms. C and Ms. G focus on what other actors could have done differently.

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<sup>12</sup> Ms. G accuses the perpetrators of a secondary wrong—what Fujii (2013) calls "extra-lethal" violence. Ms. G says that sometimes people "catch a bullet," but is upset that someone "unloaded" a whole magazine into her son, who the whole neighborhood agrees wasn't the intended target.

Ms. D knows who killed her son, but she does not think the motive she has been told makes sense: The killer says he shot her son in a robbery. Robbery, however, does not fit with her other knowledge about the perpetrator (attended private school) or the sequence of events (shot before trying to take money), so she lacks cognitive clarity about the motive. Ms. D has a competing theory about her son’s murder, which she calls a “horrific” mistake. She believes the real cause was the killer’s mental illness. She is angry at the government for not helping people like her son’s killer get treatment, and for not preventing people like her son’s killer from getting guns. Ms. D’s emotional response—anger diffused onto a new target—follows from her confusion about motive. Without a believable story about the killer’s motive, she makes sense of the situation by stipulating, without evidence, that the killer cannot control his behavior. She blames the people who she thinks could have kept him from hurting others (Respondent 22, Chicago, IL, January 2018).

Ms. C, Ms. G and Ms. D have partial cognitive clarity about their relative’s death. They know either the perpetrator’s identity or motive and they use what they *do* know to try and fill in blanks. Ms. E and Ms. F, however, do not have cognitive clarity about either identity or motive. Both women assume their brother and son (respectively) were accidental victims, and both claim they don’t know who to blame for the killing. Ms. F explains that not knowing “the who or the why” means she can’t be angry at the perpetrator. She says: “anger needs a target, so I’m not angry.”

Ms. E and Ms. F say there are too many unknowns for them to focus on blame. Both express extreme anger, though, at subsequent transgressions by detectives and funeral directors. Both had more to say (and were much more animated) about these subsequent injuries than the circumstances and causes of the homicide itself. Ms. E and Ms. F seem to use diffusion as a guard against the feeling of futility when thinking about the homicides. Neither woman has enough information to make sense of the homicide, and, as Ms. F says, it’s hard to be angry at something you know so little about (Respondent 101, Chicago,

IL, January 2018). Ms. E and Ms. F direct their anger at things that are tangible and understandable, like the wrong color casket, missing flowers, or a detective who never calls. Both express frustration at feeling impotent, not only when they couldn't protect the brother and son who died, but also because they couldn't "be in control" of the situation after the fact (Respondent 73, Chicago, IL, January 2018).

### **6.2.3 Failure of Cognitive Clarity Framework**

Ms. H and Ms. J have full cognitive clarity like Mr. A and Ms. B, but they do not experience anger at the perpetrator. In these cases, variables other than cognitive clarity seem to mediate the level and target of the respondents' anger. Both Ms. H's grandson and Ms. J's daughter were killed because, the respondents believe, cousins put them at risk (but unlike with Mr. A, cousins were not the killers). Though perpetrator's identity, motive, and a sense of transgression are clear to Ms. J and Ms. H, both are angry at the reckless cousins at least as much as at the perpetrator.

Ms. H and Ms. J seem to perceive the nature of the injury in a way that most respondents do not. Homicide is, of course, an injury, but the way the cousins' actions put the eventual victims at risk is a separate, and similarly grievous transgression.<sup>13</sup> It might make sense to think of the cousin's actions as over-riding the victim's ability to keep themselves safe (Respondents 74 and 96, Chicago, IL, January 2018). Even though the ultimate target of the anger is puzzling, these cases illustrate the same process as seen above with Mr. A and Ms. B: the content of information about injury, perpetrator, and motive are not just permissive conditions for anger. They are integral to the formation of emotional response and the attribution of blame.

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<sup>13</sup>I also interviewed Ms. H and her son Mr. H about the murder of a different son, who was stabbed to death by his girlfriend. In this case, both Mr. H and his mother Ms. H were unequivocally angry at the girlfriend; their reactions fit the cognitive clarity model very well. This within-subject comparison provides suggestive evidence that emotional response to trauma is driven by attributes of the trauma and the situation, and less so by attributes of the person.



## 7 Narratives of Violence: Generalizability of the Cognitive Clarity Framework

What does evidence from interviews with homicide-affected families in Chicago say about emotional responses to violence more broadly? Chicago is, in many ways, quite different from usual cases for studying political violence. It has a strong state, moderately functional public service provision, and much of the violence is a-political. Context differences might explain variability in emotional responses that makes these interviews stand out against existing studies of violence, anger, and grievance. Other settings, though, also have stronger, more cohesive shared narratives that explain individual acts of violence. Stronger shared narratives obviate information-seeking and make cognitive clarity easy to achieve for survivors, because they pre-designate the motive and identity of the perpetrator even before a particular act of violence occurs.

2010s Chicago, unlike two-sided conventional or unconventional wars or situations of highly institutionalized criminal violence, does not have a shared narrative that pre-designates information about homicide-specific motive and perpetrator.<sup>14</sup> Survivors of violence in Chicago sometimes lack the information to explain who/what is responsible for their trauma; as such. At a loss for anger at the perpetrator, some survivors make sense of their situation in ways that lead to the formation of political grievance.

Evidence from Chicago should be instructive for other contexts. First, it demonstrates the breadth of possible emotional responses to trauma. Second, Chicago provides insight about the power of structural narratives. A strong, valid *latent* narrative exists in Chicago to explain violence-in-general as a product of racism and structural inequity, but the narrative is insufficient for providing cognitive clarity in individual instances of violence, and is infrequently invoked by survivors making sense of their situation.

Political scientists know that macro-political interpretations and individual inter-

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<sup>14</sup>Chicago violence perhaps had a shared narrative in the past, but the breakdown of cohesive drug gangs since the 1980s has complicated the non-state violence landscape (Stuart, 2020).

pretations of a conflict, a cause, or even a single event do not necessarily match (Scott, 1985; Davenport, 2009). Evidence and theory developed in this paper support a newer, related observation: Interpretations of violence depend strongly on access to information, which can vary across individual events in a broader context. Interpretation at the general and individual levels may even support opposing conclusions about why violence has happened, who is to blame, and how to respond.

This study suggests that emotional responses to violence are more variable and potentially less correlated with macro-narratives of violent conflict than often assumed. It also demonstrates that a new framework focused on information and cognitive clarity explains a good portion of that variation. The pathway that links victimization to anger and grievance is less simple and less linear than political scientists have recently assumed. Using a more nuanced understanding of emotional responses to violence, with measurement and analysis facilitated by modern computational tools applied to qualitative data, could provide significant benefits for understanding post-violence behavior, revenge seeking, and grievances against the state in both low-intensity, less politicized contexts like Chicago, and in canonical situations of political violence like conventional wars.

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# Supplemental Information

*Facts Shape Feelings*

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## A Supplemental Plots

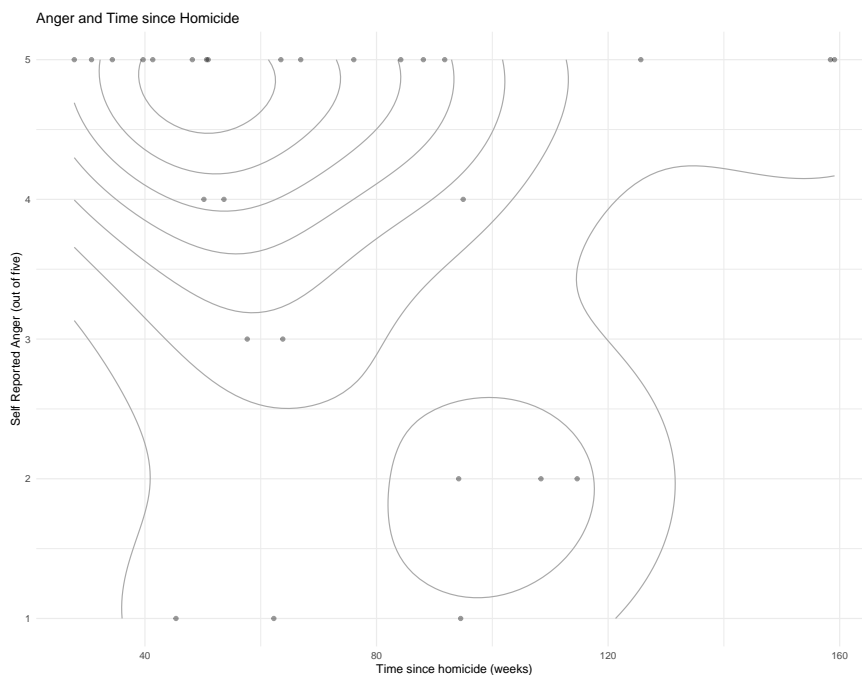


Figure A.1: Plot of self-reported anger scores against time since homicide in weeks. Respondents who self-reported their level of anger more weeks after the homicide were slightly more likely to report lower anger scores, but contour lines show the trend is very weak. Most respondents report very high anger scores no matter how much time has passed.

### A.1 Diffusion and Retargeting

When respondents lack the cognitive clarity to be angry at the perpetrator, they should sometimes diffuse anger onto another target of convenience. Closed-ended responses have some shortcomings in terms of identifying this relationship, but anger distributions do still seem strongly related to respondents' perceptions of how they were treated by the court system and prosecutors after the fact. Respondents who report that prosecutors represented them poorly are more likely to report extreme anger than those who felt prosecutors represented them well. Interestingly, this difference does not seem to hold for respondents who do/do not think the detectives in the case did a good job. This evidence is consistent with the qualitative cases—some but not all respondents who aren't angry at the perpetrator diffuse their anger to agents of the state.

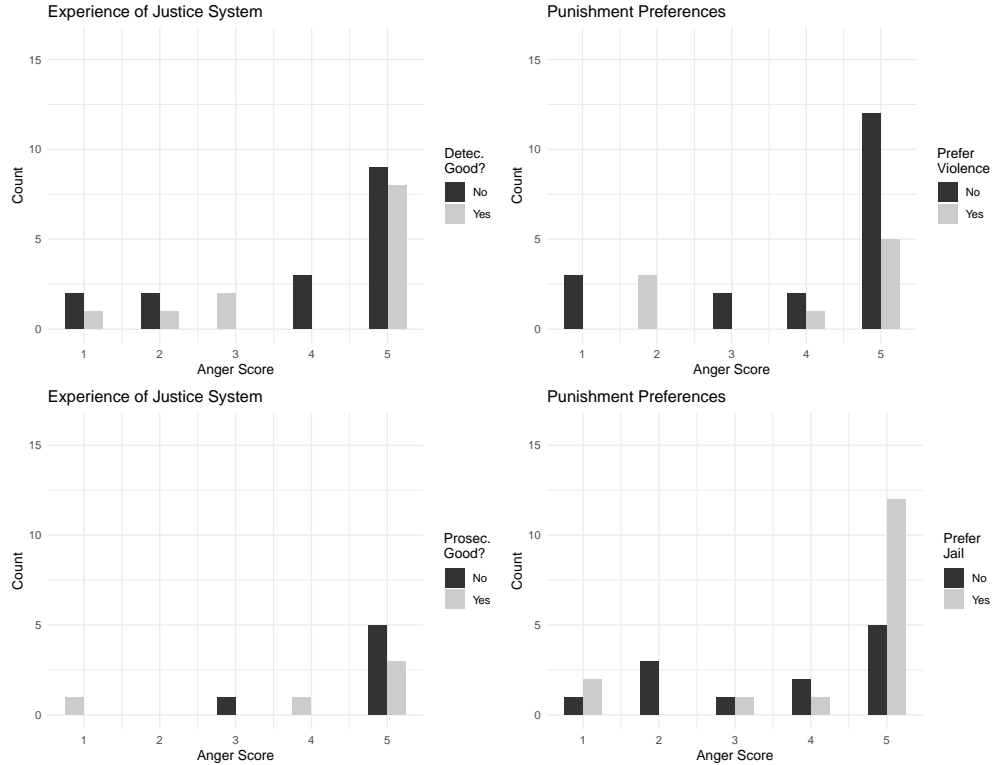


Figure A.2: Bar plots of bivariate associations between respondent self-reported anger related to a) experience of the justice system, and b) respondent’s preferences for how to punish the perpetrator. Fewer responses are shown for the relationship between anger and satisfaction with the prosecutor because roughly 1/2 of respondents were discussing unsolved, unprosecuted cases.

Finally, this figure also shows the relationship between anger self-reports and respondents preferences for how the perpetrator ought to be punished. These two plots do not support the idea that general anger is associated with preferences for harsher punishment. If anything, the plot on the bottom left shows that individuals who desire violent punishment might be slightly less angry on average, and that individuals who want the perpetrator to go to jail are often extremely angry. Given that these distributions represent a sample of 31, this is not exactly evidence against existing work, but it certainly supports the notion that anger formation and targeting ought to be theorized about and taken into account in attempts to test the standard model of anger formation.

## A.2 Expanded Topic Associations Plot + Religion Effects

There is a strong and large-magnitude association between respondents who attend church weekly (or more frequently) and a decreased topic prevalence for anger and blame. The association between church attendance and decreased discussion of anger, blame, and justice is about the same magnitude (and opposite sign) as the association between knowing the perpetrator’s identity and increased discussion of anger, blame, and justice. Beyond

negative associations with anger, church attendance is not associated with broader sang froid: respondents who attended church at least weekly were associated with a significantly higher topic proportion for panic and anxiety. The cognitive clarity theory does not speak directly to the issue of religion, which does seem to be somehow important in mediating emotional response. Beyond this correlation, respondents' faith and beliefs about the eventuality of divine justice were an important part of many interviews. Both respondents who did and respondents who did not know the identity of the perpetrator talked about God and divine justice.

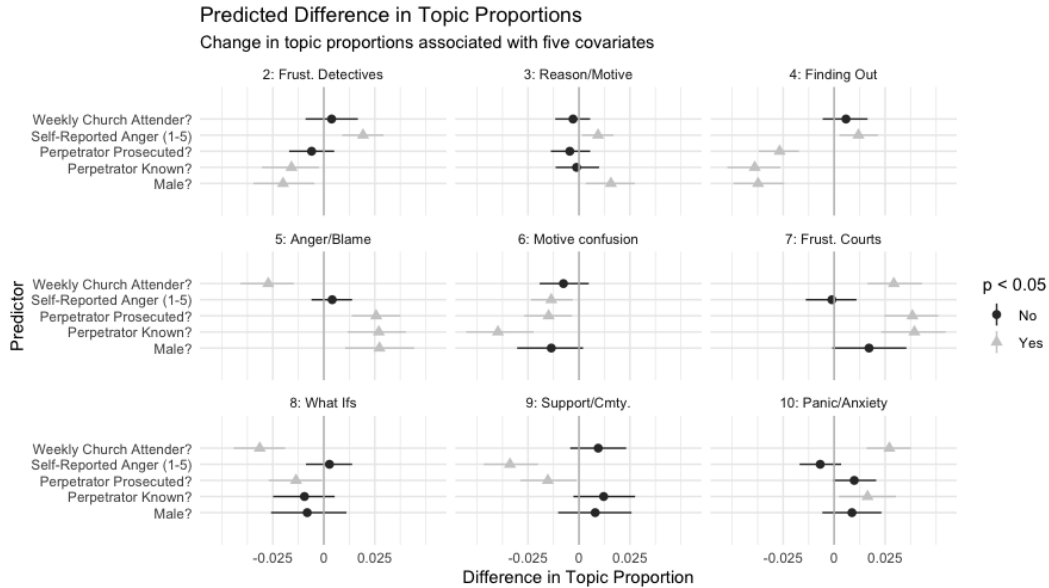


Figure A.3: Change in predicted proportions of topics 2-10 associated with five predictors. The difference plotted in the figure is the expected change in topic proportion associated with either moving from 0 to 1 if the predictor is an indicator variable, or from the 25th to the 75th percentile if the predictor is continuous. In this figure, all variables besides self-reported anger are indicators. Predicted differences are calculated from separate bivariate associations comparing a single predictor to each of 10 topics. Topic 1 (simple, factual description of the homicide) is omitted because it is not significantly associated with any predictor; such a description was elicited in every interview.

The effect of religion is not accounted for in the cognitive clarity theory because its appearance in interviews seemed to be mostly about justice and punishment, not about the formation of emotion. Unfortunately, interviews simply did not yield enough information about how religion acts on the formation of blame and emotional response for this paper to treat faith as a separate mechanism in a theory of emotional response to victimization. Where respondents did talk about religion, references to God did not focus so much on religion as a social institution, but rather on how the respondent's belief about God's will and God's plan factored into their understanding of why they had become victims of violent trauma and what in particular they ought to do in response. Over half of respondents talked in detail about God when asked what sort of punishment the perpetrator deserved or when

asked to think about why their family member had been killed.<sup>15</sup> The particular understanding of New Testament scripture espoused by the respondents who talked about God (all respondents who identified themselves as religious were part of a Christian denomination) is incompatible with vengeance and retaliation: multiple respondents quoted Romans 12:19 at some point in the interview (“It is mine to avenge; I will repay, says the Lord”). This interpretation itself is an interesting puzzle. We might expect affirmations of faith in the context of discussing a relative’s homicide to be a way of talking about Christian forgiveness. Some respondents did talk about knowing they ought to forgive the perpetrator, but more often, respondents’ invocation of God was about knowing they had to refrain from trying to punish the perpetrator themselves and about trusting in divine justice.

Based on where in the interviews religion most often arose, it seems like respondents faith has more to do with mediating the expression and action tendencies of anger—a process that occurs after the cognitive clarity theory has run its course. This notion is consistent with the association in the STM. In any case, the frequency with which respondents explained their beliefs and actions with extensive and internally consistent reference to their faith suggests that it is worth learning more in future research about the effect that religious belief has on emotions and behaviors after trauma.

## **B Single Case Vignettes**

### **B.1 Full Cognitive Clarity + Anger at Perpetrator**

#### **B.1.1 Mr. A**

Mr. A’s son T was killed, and Mr. A believes the killer was one of T’s cousins on his mother’s side of the family, and that the cousin set T up to be killed on account of a gang-related beef. Both T and his cousin were members of different factions of what used to be the same gang; Mr. A was a member of the precursor gang earlier in his life, but left when T was young. Mr. A does not know exactly what the beef was about—he says he could envision T’s death as being the result of something T had done. Mr. A knows that T was in a gang, carried a weapon, and sold drugs. He is not sure whether or not T ever killed anyone, but he is aware of the possibility that his death was “coming back around to him.” All the same, based on what he knows about the circumstances of T’s death and what he has heard from connections in the neighborhood, he is convinced that T was set up on account of some beef. T and his girlfriend were hanging out across town in a house that Mr. A thought belonged to another relative of T’s cousin. He found out after the fact that the house was abandoned and had been turned into a trap house:<sup>16</sup>

“Every night in this trap house, there’s about 20 [people] partying, kicking it, drinking. Then all of a sudden this night, there’s three people: my son, his girl-

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<sup>15</sup>Respondents who brought up God when asked about motive were generally respondents who lacked cognitive clarity about the motive.

<sup>16</sup>Mr. A hinted that people like T’s girlfriend or the “crackhead” knew the specific beef/jealousy over which T had been killed, but would not tell him.

friend, and this crackhead. His cousin's uncle, who was going with the crackhead, 15 minutes before this happened he has an asthma attack...that was just to get him out of the house or whatever...The crackhead opened the door...everybody got shot except her."

T was shot seven times in the face and torso and died on the scene, his girlfriend was shot eight times but survived. Mr. A got information "from the joint" that T's cousin had been "one of the trigger men," and has talked to the witness (the woman he calls the "crackhead") on Facebook. Mr. A believes she was part of the setup, or was paid off to open the door. She's stopped responding to his messages because, despite his assurances, she's afraid that Mr. A's family will retaliate against her if she says what she knows. He blames T's cousin and is confident that he has identified the right perpetrator, but is still looking for more specific answers and witnesses.

Mr. A has cognitive clarity about a) the identity of the perpetrator, b) the perpetrator's motive and c) the sense that T's death was an undeserved injury even if it might have been "fair" in some sense. Mr. A said that he blamed himself at times for having let T see "too much too soon" when he was young, but first and foremost he blamed T's cousin for "two wrongs": killing T of course, but also for betraying T's trust that his blood relative would "have [his] back and protect [him]." To Mr. A—who lost another son to homicide years ago—this death feels worse because T's cousin broke a fundamental norm of what it means to be a blood relative. Mr. A asked: "how could you do your own family like that?"

In line with the common sense theory, Mr. A is angry at the perpetrator (he self-reported "anger" at 4 out of 5) and does want revenge. Though he says he would be satisfied if someone else punished T's cousin (even satisfied to find out the cousin had "gotten sick and died") he has also undertaken his own preparations. Mr. A heard that T's cousin was briefly in jail on an unrelated charge, and tried to use a connection in the Cook County Jail to find out where he was serving his house arrest.<sup>17</sup> At various times in the year between T's death and the interview date, Mr. A. went driving through the area where T had been killed and where the cousin supposedly stayed (across the city from Mr. A's house). Mr. A was armed during these drives, and said that he figured if he saw T's cousin while he was out driving he "would've been forced" to kill him. He assumed that T's cousin would try to shoot him first. The day before our interview, Mr. A and a friend had driven through the neighborhood, looking for the cousin on the way to visit the cemetery where T is buried. After that ride, Mr. A told his friend he was "not going to go looking for him anymore." (Respondent 95, Chicago, IL, January 2018)

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<sup>17</sup>This attempt failed. Mr. A said very directly that his friend at the Cook County Jail either did not know the address, or knew and would not tell Mr. A. As of the time of our interview, he did not know where to find the cousin, and said that after visiting T's headstone at the cemetery the day before our interview, he was done trying to look for the cousin.



### B.1.2 Ms. B

The same points of cognitive clarity seem to be enough to facilitate anger at the perpetrator even outside of the kind of social networks and informants in which Mr. A is embedded. Ms. B's son J was killed outside a currency exchange near her home. By the time of our interview, the killer had already been convicted and given a long prison sentence. Ms. B knew the killer—he and J were roughly the same age and grew up in the same neighborhood—but didn't consider him to be one of J's friends. Months before he was murdered, J and his killer had gotten into a fist fight, where J “beat the crap out of him.” Ms. B believes that by winning the fight, J embarrassed the killer in front of “all the guys” and that in response, “instead of learning how to fight...[he] chose to shoot my son four times.”

Ms. B satisfies all three conditions of the theory in this paper: she knows the identity of the perpetrator, she has a *\*very\** clear idea of the motive, and she has no doubt that her son's death was unjust. Though Ms. B equivocated on the question of whether or not her son was affiliated with a gang—she drew a distinction between “his own crowd” of boys he grew up with and true gang affiliation—it was clear that she herself was not connected to social/informational networks through gangs. Ms. B is still angry, even after the trial yielded a sentence that she was “pretty much happy with.” Ms. B scored five out of five on self reported anger, and said that anger makes her wish they would “let her in the jail and just punch him in his face.” More practically, she says that she wants the killer, who will be in jail until J's young son is in his 50s, to wake up every day and think “I'm in here because I killed Ms. B's only child.” According to Ms. B, the only thing that calms her anger now is thinking that the killer will eventually have to “answer to a higher power.”<sup>18</sup>

Other hints in Ms. B's recollection of her grief and her experience of attending the trial suggest that knowing the perpetrator's identity is a particular object of fixation for her. Ms. B is upset at how connected she and J's killer are, she feels uncomfortable knowing they have so many mutual friends on Facebook and knowing that she went to high school with a lot of his family. She wishes she didn't have so many opportunities to think about J's killer: “It's bad enough that I know his name.” She perceives knowing the perpetrator's identity, seeing his face in court (and beyond that, knowing the perpetrator as someone with family and friends), as angering. Ms. B did not learn the perpetrator's real name until she went to court (she had known him by a nickname), because she did not let anyone say it in her presence. She says: “I didn't want to know anything about the chump. It was the hardest thing for me, saying his name in court...I literally wanted to walk over there and kick him in his face with my boot and hit him with my crutches.”<sup>19</sup> (Respondent 68, Chicago, IL, January 2018)

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<sup>18</sup>J's killer is in prison, and even though some family members “wish he wasn't breathing,” no one has tried to punish him themselves. Ms. B did mention that one of the killer's friends was shot and killed two months after J, and that she wouldn't “put it past” some of J's friends to have done it. When asked directly if she thought the second murder was “someone's way of expressing their love for J,” she responded “I don't even want to say what I think in my gut.”

<sup>19</sup>Ms. B broke her foot a couple months before the trial and was still in a boot cast and on crutches when she attended court.

## B.2 Partial or No Cognitive Clarity + Anger Diffused

### B.2.1 Ms. C - Perpetrator Unknown, Angry at Victim

Ms. C raised M and his siblings (including a brother, R, who was murdered a few years prior) after M's mother died of cancer.<sup>20</sup> Ms. C has an extremely clear idea of why M was killed. He was an aspiring rapper, and had released a music video called a "diss track" that mocked dead members of a rival crew and threatened those who were still living. In the video, M points a pistol with a laser sight and what looks like a 30-round magazine at a person wearing the rival crew's logo. Ms. C believes that M was murdered because of the track, and specifically because he had disparaged the dead members of the other crew. Because M was shot so many times at such close range, Ms. C is also positive that M was the intended target: "If they shot him up like that...they knew who they were coming for." Even though she has a clear understanding of the motive, and a clear understanding of M's death as unjust—"It's sad that they can kill somebody over something they say in a song...just say something back!"—Ms. C says she is not sure the identity of the perpetrator.

The police have not caught or charged anyone for M's murder, and Ms. C is likewise unclear about who shot M. To the extent that Ms. C knows who was behind M's murder, it is because she has worked backwards from the known motive: "I figured it was a gang, I don't know what gang, but I guess I just assumed it was a gang...I don't know for sure, but I just feel like if he made that diss of \*\*\*\*, that's who I feel like killed my nephew." Given that Ms. C does not have a clear sense of the perpetrator's identity, it makes sense that she does not focus much anger on the perpetrator. When I asked Ms. C who she blamed, her first response was to confess feeling guilty about having "lost [my sister's] kids and not mine." Ms. C believes that she did not fulfill her responsibility to keep her sister's children safe, and she thinks most of the other kids (her children and her sister's) blame her for how M and R turned out. She says it would have been better if she would've died instead of her sister.

When asked specifically about blaming the shooter, Ms. C had as much to say about the investigation as she did about the unknown perpetrator: "I never even thought about that person. I don't know why. I didn't even think about the people that shot him up. I get mad at the police because I feel like they're not doing anything to solve it...Another young black boy gone, who cares."

Ms. C scores five out of five on self-reported anger, but her anger is targeted at M ("Why weren't you paying attention?...Did you know the consequences that were going to come behind that song?"), at the rest of her family ("Everybody wants to look at me as if I didn't do a good job...nobody helped me."), and at the police ("Somebody knows something, somebody must've said something...how can you not find out?").<sup>21</sup> This is consistent with the idea that not knowing the perpetrator's identity is a significant impediment to feeling

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<sup>20</sup>M's father had also been murdered years previously

<sup>21</sup>Part of what stokes her sense of guilt is seeing comments on YouTube that mock or celebrate M's death. Other research on violence in Chicago speaks more to this dynamic—cycles of insult and *sometimes* violence perpetuated through taunting music and its promotion on social media (Stuart, 2016, 2019).

angry toward them. (Respondent 33, Chicago, IL, January 2018)

### **B.2.2 Ms. D - Motive Illogical, Angry at Government and Society**

Ms. D's son J was killed driving in rush-hour traffic. He had stopped at a currency exchange to get cash, and two men followed him onto the freeway and into traffic in order to rob him; one of them shot into the car, killing J. Ms. D knows the identity of the perpetrator—he was caught very quickly—and perceives her son's death as unfair. She also has a nominal sense of motive: the killer says in his police statement that he was just trying to get the money that J was carrying when he walked out of the currency exchange. This explanation, however, is neither satisfying nor sufficiently clear to Ms. D. It does not make sense to her that a person would kill someone he did not know and had never seen before, nor does it make sense that he would shoot J \*before\* trying to take his money. Moreover, Ms. D cannot understand how a person who went to a private high school ends up killing someone to steal a few hundred dollars. When I asked why she thought J had been murdered, she said there was “no reason,” and that it was “senseless.”

Even though Ms. D can recite the explanation and motive that the killer gave, the fact that she is still searching for answers other than the money suggests that she does not feel like she has cognitive clarity about the motive. At various times in the interview, Ms. D characterized J's murder as a “horrific” mistake, the result of drugs and peer pressure, or symptoms of mental illness—the killer was admitted to the hospital right after he was caught because he tried to commit suicide. Because Ms. D is unsatisfied with the robbery-focused motive, she has thought of other motives consistent with the facts of the case, and has directed blame and anger based on her own hypotheses about the reason that J died.

Ms. D blames the killer's parents, saying that J might still be alive if “someone would've caught those [mental problems]” that she believes contributed to the killer's decision. She blames “society” for the fact that “kids in the inner city have mental problems and no one helps them.” She blames the city of Chicago for the fact that the killer could get a hold of a gun: “before J, there have been hundreds and hundreds [of murders] and it's still happening.” Ms. D says she knows she “will have to forgive” the shooter and that she “can't blame him all the way,” because so much of what happened to get him into the situation where he killed J was not his fault. If the shooter had grown up in a good neighborhood like J did, she says, “he wouldn't have even thought about doing something like that.” Ms. D says that when she sees the killer in court, she can tell “he's hurt...he's lost...he didn't expect this.”

Ms. D scores a five out of five on self reported anger (but much lower on peripheral anger measures like “upset”, “irritable”, “hostile”), but is not angry at the perpetrator. She even believes that the perpetrator can be rehabilitated; she wants him to show remorse and “commit to getting some help...commit to change,” but does not want him to spend ht rest of his life in prison. Instead she is angry at the fact (not at a person in particular) that J was shot “[number] times for no reason.” Second, she is angry at “the way it was handled” procedurally. The police never called to tell her that J was dead, when she arrived at the

scene after hearing from a family member, detectives started to “interrogate” her about whether J had been involved in a gang. This was extremely galling to Ms. D because she took pride in the fact that she had worked hard so that her son could be a “little yuppie kid who grew up on the north side.” She says she “wonders would they have asked that if [J] had been Caucasian.” She is angry that the trial is moving so slowly, and that the police seem to have given up on finding the killer’s accomplice.

Because Ms. D does not have cognitive clarity about the motive—or, more accurately because she does not believe in the possibility that J was killed over some cash and cannot hold the perpetrator fully responsible—the target of her anger has shifted to groups that she \*does\* hold responsible for her loss, and to individuals like the police, prosecutor, and judge, who she believes have treated her unfairly \*after\* J was killed. (Respondent 22, Chicago, IL, January 2018)

### **B.2.3 Ms. E - Motive and Perpetrator Unknown, Unclear if Angry**

Ms. E’s brother L was killed getting into his car outside a friend’s house at the end of the night. Neither Ms. E nor her parents (who were in and out of the room during our conversation) know who killed L, or why he was killed. Ms. E cannot think of an explanation for why L was killed, and therefore thinks that his death must’ve been a situation where the shooter “thought they were getting someone else.” At the same time, she is suspicious about the circumstances of L’s death: whoever shot him waited until his friends watched him get into his car, waited until another car pulled away, and then began shooting immediately after the friends closed the door to the house. Because Ms. E has no clarity about the why L was killed, and because she has no knowledge of the perpetrator’s identity, she “doesn’t know who to blame. Nobody has answers.”

Ms. E thinks the detectives treated her family unfairly and un-empathetically: “it’s just another kid dead, that’s how they managed it.” She says she expected them to be more thorough because when her older brother was killed (many years ago) the detectives came to the family’s house, shared leads, and just “treated it so differently.”

The emotions that Ms. E self reported are consistent with the theory that lack of cognitive clarity precludes anger at the perpetrator. Even though she scores the level of anger she feels as five out of five, she can’t identify a target: “Nobody. I don’t picture anyone specifically when I’m angry. I’m just angry.” This is puzzling, especially since she seems to have plenty of reason to be angry at the police. The way Ms. E describes her anger provides some insight about this puzzle. Ms. E is angry at feeling impotent. After her oldest brother died (he too was killed in a seemingly random way and the killer was never caught), she and her parents “did everything differently with L...my older brother was out more, he was having more freedom. We did things way differently with my younger brother just because we didn’t want it to happen again.” What makes her angry is the feeling that she did her best, that L did his best, and that none of it mattered: “I feel like there’s no point...nothing’s going to stop it from happening if it happens...I feel like I could move to Jerusalem and [my sons] could still randomly get killed.”

In a way, Ms. E is angry that her family's attempts to "be in control of the situation" did not work, and that no matter what she does, she feels at the mercy of random violence (she told me that weeks after L was killed, her car was shot up as she drove down the street). In another sense, what Ms. E and her family are feeling is very different from the kind of anger that other people in the cases above express. Ms. E was one of the only "angry" people I talked to who said "No, not this time," when I asked if feeling angry made her feel like she needed to do anything or change anything. Frankly, it seems like Ms. E has such a low appraisal of her own control over what happens to her and her family that she isn't able to express archetypical anger (i.e. wanting punishment or repair), or even archetypical fear (i.e. wanting protection). Ms. E's complex emotional response is basically consistent with the theory of this paper, and it also demonstrates the paramount importance of collecting information about attribution, action tendencies, and cognition when studying emotional responses to violence. Ms. E self-reported the same amount of anger as Ms. B; understanding their emotional responses as the same would be a mistake and would be detrimental to any attempt to understand behavioral or political consequences fueled by anger. (Respondent 73, Chicago, IL, January 2018)

#### **B.2.4 Ms. F - Motive and Perpetrator Unknown, Angry at Funeral Home**

Ms. F's son D was killed standing outside talking to two friends. Ms. F does not know the identity of the perpetrator, and as far as she can tell, D was not the intended target, but was rather "in the wrong place at the wrong time." D had just moved back from out of the state, and was killed in a neighborhood he hadn't lived in (or even visited) for years. Ms. F points out that if D had been the intended target, the perpetrator's wouldn't have had more than twenty minutes notice that he was even in the neighborhood. Detectives tell Ms. F that the perpetrator got out of the driver's side of a slow-moving car and immediately started shooting. D started to run and was hit in the leg. At that point, Ms. F says, "because he went down he became the target. Randomly. And they were going to make sure he didn't get up."

Because Ms. F does not know the perpetrator's identity or the motive behind D's murder, she doesn't blame anyone for what happened. She described this causal relationship very directly: "I don't blame anyone. I don't know anybody to blame. So if I had to blame somebody, the only person that was in charge was D. And I can't blame him for wanting to go and see a friend or trying to enjoy life." Similarly, Ms. F was very clear about why she couldn't feel angry at the perpetrator:

"I mean...I can't be angry at the way he died because I don't know who to be angry at. How can I be angry when I don't know. If I could say 'you killed him' then I could be angry because I'd know who killed my son. But I can't be angry without knowing who did it. So no, I don't like it, but anger? No. Anger needs a target. So I'm not angry."

This is not to say Ms. F was sanguine—she self-reported her level of anger as 5 out

of 5, mostly because she was furious at the funeral home that handled D's memorial service.<sup>22</sup> Ms. F described a litany of mistakes and indignities, that made her angry enough that she thought if she had to go back to the funeral home she would "set it on fire." Dealing with the funeral home made her angry because she felt like their mistakes were the product of bad intention, not incompetence:"They just treat you like you're nothing. The city's paying for it so who cares." She blames mistakes like the wrong sized casket (D was 6'8"), missing flowers, and no urn, for her feeling like she let D down: "You only get one time, one chance to do this, and to me, I failed my child as a parent."

The difference between the way that Ms. F feels toward the funeral home and D's killer is jarring. No one, Ms. F likely included, would argue that missing flowers and the indignity of an over-crowded funeral home are a more serious injury or moral wrong than murder, but the callous funeral director rather than the murderer is the focus of her anger. Ms. F is more animated and angry about the injuries done to her \*after\* D died because, as she says herself, she lacks the cognitive clarity necessary to blame and become angry at the perpetrator. (Respondent 101, Chicago, IL, January 2018)

### **B.2.5 Ms. G - Perpetrator Ambiguous, Angry at Community and Detectives**

Ms. G's son B was shot and killed, hanging out with a group of kids on the sidewalk a few blocks from Ms. G's home. As Ms. G tells it, a van drove up to the group and started shooting indiscriminately into the group. B "tried to get up and run with everybody else, but [a bullet] broke his leg, so he fell and took 16 bullets to his torso." Ms. G thinks that her son was most likely collateral damage in a cycle of retaliatory violence, but without knowing the identity of the perpetrator or the identity of their intended target, she acknowledges she is just speculating. People in the neighborhood have told her that the bullets "were not meant for B," and Ms. G has suspicions about who might have been involved in the attack, but doesn't have more than hunches, and definitely doesn't know the identity of the shooters. It seems like people in the neighborhood don't know either. When Ms. G talked about young men who at one point wanted to avenge B's death, she said they would have been just "shooting up everybody you can think of," because they didn't know who was responsible either.

When it comes to blame, Ms. G's makes a complicated set of attributions. First and foremost, she blames B's family and "the neighborhood," for not pushing B harder to keep on the right path. She thinks the boys out on the corner should've "pushed him" to keep away from the block because he was the only one out there still going to school. She blames the shooters too, but only for continuing to shoot after he fell: "He took 16 bullets for who? The entire block? The whole block?...If it's a drive by or something anybody could get hit, but to stand over somebody and just unload into them, that's something [else]."

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<sup>22</sup>Ms. F also expressed disappointment at the police and the fact that they hadn't gotten any good evidence. Instead of angry, though, she was somewhat understanding and noted that the detectives are probably overworked given "everybody that's out here getting killed." Per Ms. F, younger members of the family are somewhat angry at the community for keeping quiet and not cooperating with the police to catch D's killer.

Ms. G scores a five out of five on anger, but she spreads her anger over a variety of targets. She is “angry that nobody was there to protect him...angry that he was out there with a group and thought that’s where he was safe...angry that somebody thought it was okay to come down here and start shooting...angry that the detectives haven’t called...angry at [B] because it could’ve been avoided.” She says that feeling angry makes her want to get young men to stop hanging out on the corner and making themselves targets. Ms. G says that at first not knowing who the perpetrator made her want to punish the people on the corner who carried their own guns and might have protected her son, the people who had the clearest chance to prevent B’s death.

In light of this paper’s theory, Ms. G’s situation represents something of an edge case. She does not know the identity of the perpetrator, but has been able to learn a fair amount about the car they drove and where in the city they came from, and has developed something of a picture in her head. She does acknowledge being angry at the perpetrators and she does want them to be punished, but she devotes much more time in the interview to talking about anger at the community and at the detectives for not preventing B’s death and not catching the perpetrators, respectively. (Respondent 10, Chicago, IL, January 2018)

### **B.3 Full Cognitive Clarity + Anger Diffused**

The last two vignettes in this section present cases that fit the theory of this paper more poorly than most of the 31 interviews. In both, the respondent has cognitive clarity about identity, motive, and nature of injury, but she still focuses blame primarily on a target that is not the perpetrator. In both cases, the main object of blame is a family member who the respondent perceives as having dragged the victim into a situation that had nothing to do with them. Both of these cases represent type 1 errors for the cognitive clarity theory—the theory predicts that Ms. H and Ms. J should be angry at the perpetrator and it is not immediately clear that they are—but still accord with the broader motivation of this paper: Anger and attribution after victimization is a less automatic process than we often assume in political science.

#### **B.3.1 Ms. H**

Ms. H’s grandson R was stabbed by the ex-boyfriend of his cousin’s girlfriend.<sup>23</sup> R went to the girlfriend’s house late at night to pick up his cousin, and as he approached the apartment door, the ex-boyfriend appeared with a knife and stabbed R in the abdomen. Ms. H thinks the perpetrator (who is now in jail) might have confused R for his cousin; both had dreadlocks. Ms. H knows the perpetrator’s identity, she knows he was motivated by jealousy and a feud over a woman, and she is convinced that R didn’t deserve what he

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<sup>23</sup>I also interviewed Ms. H and her son Mr. H about another murder of another son, who was stabbed to death by his girlfriend. In this case, both Mr. H and his mother Ms. H were unambiguous about blame and anger: their reactions both fit the standard model very well. This provides some support for the idea that emotional response to victimization is driven more so by attributes of the injury and the situation, less so by attributes of the person.

got: “R wasn’t the type...didn’t like any fighting, any type of confusion. If he’d known that his cousin had problems with this woman, he would’ve never been over there.”

Despite cognitive clarity on the three points that my theory suggests are important, Ms. H blames and is angry (five out of five) at R’s cousin, not the killer. Specifically, Ms. H is angry at the cousin because the situation with the girlfriend and her ex was “his problem” and “he knew” that the ex had threatened to kill someone. She asks, “why didn’t they tell R? Why did they have him come over?” Ms. H is not only concerned about the murder, but also about a separate precipitating injury: R’s cousin not telling him about the threat posed by his girlfriend’s ex.

Blame and anger in this situation is complicated. Ms. H believes that the threat of violence is omnipresent in her environment. In addition to R, her son was stabbed to death in 2017 by his girlfriend, and Ms. H is nervous about the safety of her surviving family members and herself because “every day somebody is getting killed.” In such an environment, Ms. H seems to believe that relatives should not put relatives in dangerous situations, exposing them to violence that exists in the environment. Per this view, R’s cousin violated a norm and in doing so put R at risk and \*allowed\* him to be killed. It is possible that this sort of defensive ethic is not so rare in violent environments. (Respondent 96, Chicago, IL, January 2018)

### **B.3.2 Ms. J**

Ms. J’s daughter B was shot sitting in her van outside a restaurant. Ms. J says the shooter was driving around looking for a rival gang member to kill on the anniversary of the day one of his friends had been shot and killed. The shooter was leaning out the window of a car, throwing gang signs to see who would return with a rival gang sign. B’s cousin was outside the van and returned the signs; when the shooter came after him, he ran around to the passenger’s side of the van. Ms. J believes that in confusion, the shooter thought he saw B’s cousin get into the driver’s seat of the van. The shooter “emptied out the gun” at the driver’s side, killing B.

More so than most respondents—even those who are angry at the perpetrator—Ms. J has cognitive clarity about the perpetrator’s identity and motive. She knows the perpetrator’s street name, what gang he ran with, that his brother was paralyzed by a gunshot wound years prior, not to mention the specific motive, the name of the dead friend whose anniversary it was, etc. Despite all of this, she primarily blames B’s cousin, not the shooter. Ms. J “feel[s] like [the cousin’s] actions caused B’s death,” because she never would have become a target if he hadn’t returned the signs. Even worse, Ms. J doesn’t think the cousin is remorseful about what he did; he has never apologized to Ms. J or her children.

Ms. J is angry at the shooter and wants the shooter to be punished (in fact, she is upset that the police didn’t do more to catch and prosecute accomplices like the driver). She wants him to “take full responsibility” for killing B. But she is equally angry (four out of five) at the cousin for being reckless, and for hurting her children by not acknowledging



what he did.

It seems like Ms. J is angry at the cousin because she identifies his actions as the pivotal cause of B’s death. She believes that the fact that B was killed and the cousin was not most likely comes down to a case of mistaken identity in the heat of the moment. Though Ms. J did not explicitly say so in the interview, it seems like it might have been more “fair” to her if the cousin had died instead of B. At the very least, the fact that the cousin misrepresented what happened and tried to portray himself as “a victim of circumstances” may have constituted an additional injury.<sup>24</sup> Like Ms. H, it seems like Ms. J perceives the existence of shooters and the possibility of gang violence as a constant threat in her environment, and sees B’s cousin as having unnecessarily attracted the attention of that threat.

## C Topic Model Diagnostics

### C.1 Top Documents by Topic

Top three documents by topic proportion for each of ten topics in the model presented in the text of the paper. Note that these documents are only a small subset of the top documents used for labeling the topics.

#### C.1.1 Topic 1:

1. next thing i go back into the house to lay down, because i’d just got out of the hospital. i hear the gunshots. c\* was like ”mom, z\* got hit.” and i’m stuck, like, like what should i do. i don’t know why i ran out the front door when i could’ve easily run out the back door. so i ran out the front door and around the corner and he was just laying on the ground. his eyes weren’t open, there wasn’t any blood. lift his shirt up and you could still see the bullet in his back.
2. so you know the immediate family, we gathered in there and they told me that i\* had died from multiple gunshot wounds. so i asked to see him and they told me, well we have to clean him up first. i think this was probably 8pm or something, and i didn’t get the opportunity to see him until almost like probably 11:30 and they were transporting him to the morgue. i remember my patience being short then because it had been too long. they had already come out and told me that he was dead, so i’m like alright i want to see him. i want to touch his body while it’s still warm. you know those were just my thoughts, but it took me to...i got a little irate because i was tired of waiting there and i wanted to see my son.
3. well, i remember plain as day. it was a sunday, we were getting ready for church, it was 53 degrees, on the \*\*\*. i had gotten ready, i was ready already, and his mom was still trying to get herself together so i decided to go to dunkin donuts, so i went to

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<sup>24</sup>Ms. J got the real story (and found out the cousin was lying) when the detectives showed her surveillance footage of the shooting.

dunkin donuts, i came back from dunkin donuts and i saw him on the block. he was on his way to the door, so i came to the door and let him in.

### C.1.2 Topic 2:

1. exactly, exactly. so no, i haven't had anything and it's been what, over a year and a half, a year and eight months? i haven't heard from a detective since october. and that's because i'm checking, they've got voicemails and all this other stuff.
2. so we called a press conference, and after the press conference everything changed. i got calls daily, i got updates daily. so i...i got a call that they had someone in custody, but it was just "i have someone in custody" but it still didn't sound like they were calling to inform me, it just...i almost felt like i was treated like i was part of the problem instead of i was the victim.
3. they never called. they never called me i had to call them. when i called the detective he was from...out south. he came. when i called him, he did reply with me, but before that, no one. i talked to no one. no one called me and told me my son had passed away. my sister, she called, she called screaming and i knew he was gone, she didn't have to say anything. that was the only call i got. that's how i knew my son was dead. when my sister called me screaming.

### C.1.3 Topic 3:

1. yeah. because a\* asked him "who are you" and the dude was like "i'm a g around here," at the time he didn't know my son was from around there. i'm not saying my sons are angels, i mean they were in a gang, but they didn't go around starting anything. you know, it was like if they'd see somebody messing with a friend they'd jump in, but as far as like "i'm going to kick your..." you know they didn't do that. it was, it was hard. it hurt my brother because of the fact that my brother had walked over there with him. you know, it just hurt everybody in the family in different ways.
2. yeah. i was worried about all their safety because of living on the west side of chicago. now i have the \*\* year old i worry about, the \*\* year old that i worry about. the \*\* year old and the \*\* year old.
3. one of the young men did. so that's the part that puzzles me. because you knew who was standing in that park and you still decided to shoot? so what was your mindset? what was the connection to shoot at this group of people? when you knew...there were people telling me that there were people out there that they could've been shooting at, but...and i know like we look at it in our community like most of these young guys that are shooting, they don't have any aim. so instead of them seeing who they want and aiming, they just spray the whole thing. i kind of think he just....was standing amongst some people that could've been the target, and he wound up being the person. as we say, they always get the wrong person, because nobody seems to know...like personally

i didn't know of anything that was going on with him. he's not in a gang, he didn't sell drugs, he was a student at \*\*\* college, he worked, so i couldn't understand what street ties he would've had to make somebody want to shoot him in his head in broad daylight. so i think it was just the company he was with.

#### C.1.4 Topic 4:

1. i was...i was nervous. i was just nervous when i found out, i just knew people in places. so that helped. asking: do you guys have his keys, his clothes, how do i get this stuff. you know it's the whole...and i'm trying not to get emotional...um...the whole...it was like he was just a dog. from the time of him dying, from the way the funeral home handled him, it was like he was nobody. like he was a dog. like he was a gang banger. like he wasn't somebody out here working. if you knew he wasn't a gang banger...nothing was handled properly, from me having to pick his casket...my baby ended up in the wrong casket. his flowers were missing, he ended up coming home in a box instead of being in an urn. the whole situation, it was like he was just nothing. nothing. i mean, you say i spent all this money for him to be buried, and for his services. how? i didn't get an urn. his foot flower was missing. he was supposed to have been in an ocean blue casket, he ended up in a gray casket. he didn't even have a pedestal to put his book on. it was just...i never got the remaining obituaries. what else happened? they couldn't even cremate him because they said i didn't sign...the day he was supposed to have been cremated on a saturday, the day of his services, he couldn't even get cremated until monday.
2. and both of his friends ran out the gate at the same time and got stuck. at the same time, s\*, my fiancée, was coming out and he pushed them out the way. i ran down the stairs and bullets were flying all over. one of the bullets hit my jacket button and fell and hit my feet. i could feel the bullets hitting my feet. e\* was then running and all i hear is "i'm hit, i'm hit." i was hoping he was hit somewhere else. but when he ran past me he lifted up his sweater. when he lifted up his sweater he was just holding the middle of his chest. and he told me "move, stupid, there's shooting." so when i moved out the way for him to get in the gate, he just looked me dead in my eyes and just fell out. and he was dead. he was gone.
3. i just know what the police said. m\* had just got off of work, he worked for the \*\*\* and his shift was like from 2pm to 4am, that was his shift. a lot of times he would work longer than that. anyway, this time he got off early. he worked from 2 to 2 and when he came in...his wife was the type that liked to party, smoke her weed and keep her company. so when he came in they must've got to arguing or something. they claim she was frying chicken or something so she just took the knife...she was just trying, she was just looking at snap on tv and seeing where the lady cut her husband or her boyfriend up or something and started doing the knife like that in front of my son and it slipped. they said that she went...cut the main artery. cut the main artery.

### C.1.5 Topic 5:

1. i wasn't there, but all i know is that the boy didn't know my grandson and stabbed him in the place of someone else. r\* was in the wrong place at the wrong time. the killing was meant the be, from what i understand, my nephew or his girlfriend. my nephew said that the boy knew him, but he just killed r\* because he was the first one who came up to his girlfriend's porch. r\* was there to pick up my nephew, and this guy just hauled off and stabbed my grandson in his stomach because he was mad, you know. my nephew was going with this guy's girlfriend that he had two kids with, the guy who killed my grandson. my grandson didn't know the guy that killed him, the guy didn't know my grandson.
2. j was there to pick up his cousin. and when he got to the door, the guy..from what i know, i wasn't there...jumped behind bushes and stabbed him to kill him because...the nephew told me he was out to kill him or his girlfriend. the one that killed my son has two kids from my nephew's girlfriend. they went with the same woman. so i wish my nephew had told my son don't come over because there was a guy threatening to kill them. it's just so sad.
3. i don't know. why did he kill my boy, he didn't know him, he didn't know my boy. if he finds out where i live and comes here, i'll be ready to kill him.

### C.1.6 Topic 6:

1. if and so they catch someone and the person was either...they asked at the time what and why and how. so if it was that information that was disclosed, then i would be fine. if they...i think the car windows was tinted so they may not even know he was in the car, so, you know, to say what had happened in their events and to listen to that, i mean that's however that...if the state's attorney had...it would be public knowledge at that point.
2. well the forgiveness came instantly because you want to heal. you have other children, other obligations, other things you want to do. if you don't allow the peace...there's nothing wrong with he people who march and protest, there's nothing wrong with that, but it's not a conclusion, it's not an answer. it's only a mockery, it's only a statement for identification, for the media.
3. i don't have any...i didn't have any...i didn't have any issues with anyone who questioned me about the loss of my son, and i think when you're high strung, when you get a high strung attitude, or you're more content and respectable, or you have a response that's not irate, then you don't get that type of, different kind of responses from individuals that you need to work with.

### C.1.7 Topic 7:

1. it's kind of weird, i know it's a money...a billion dollars...all marketing with the nra it's all marketing, it's all bullshit. because what are people protecting themselves from

unless you are making some type of controversy. to me it's almost like a conspiracy. you're putting these guns out here in people's hands who are crazy, in areas where they want to rob people. these people aren't licensed...to create the chaos. so people will feel like they need to go buy guns to protect themselves from the people that you're letting get the guns illegally.

2. so supposedly, she's still...kim foxx is still supposed to meet with our grief group. i'm done with the nrdc right now because i'm tired of fighting and it de-focuses me from the real fight. so that's my take on the damn state's attorney's office.
3. i thought the state was done with their discovery, and they're not. the strange thing about this whole thing is...the attorneys that are representing this chick are the attorneys that represented i\* with his gun case. same people. so i did my due diligence and talked to them...them being the asa...and i was like "don't you think that's a conflict of interest?" he was like "we'll mention it, we'll mention it." and i'm tired of him blowing me off so i wrote the nradc. and they're just protecting each other, but i have a piece of paper that says, you know i wrote my complaint. they sent my complaint in to the attorneys and the attorneys responded. when i got the response from the attorney, the letter from the nrdc said i had 14 days to respond. well they didn't give me 14 days to respond, they didn't even give me a week.

### C.1.8 Topic 8:

1. maybe if we would've surrounded him a little tighter, they wouldn't have had the opportunity to surround him out there.
2. when i get irritable, i get irritable because i feel like...my whole family maybe if we'd been a little bit stronger and came together and they would've helped me raise these kids, things would've been different. i get irritable because everybody wants to look at me as if i didn't do a good job. i was by myself. that makes me angry because now i'm sitting here with all this guilt about having done wrong, that i didn't raise them right, and then i get irritable because i'm like nobody helped me.
3. i don't know what reason there could be if chicago is a blooming city, and gun violence and different things like that. but gun violence and carjackings are the things that happen in chicago. they're cleaning up chicago, so...it's just an opportunity. so you can add that to what things will be done to protect our citizens, and the things that happen to our citizens. you can weigh which one is greater.

### C.1.9 Topic 9:

1. i didn't really have a lot of community stuff, and then the area changed too because i know where i used to live i had a lot of interactions with the nuns from the big church on the corner because i used to donate a lot of stuff like stuff that j\* didn't use anymore. so they would always come and bring us food because i used to donate like

totes with toys and clothes and shoes. the stuff that i do have of his now, i'm going to give it to his son.

2. who's been the biggest source of support for the family? who's needed the most help. they've always been the same supportive people. even when he was living, the sunday school teachers would, they always have been supportive.
3. s\* needs help. he needs a lot of help. he basically watched both of them die, and he lost himself a lot. he doesn't want to admit it, but he has, he's really lost himself a lot. my daughter has been acting out a lot, she's been in and out of mental hospitals five times since last september. she was 11 when e\* died. he became a father figure to her. because her father died when she was three. he was also murdered. e\* became a father figure to my kids. he loved them. so she's been acting out. and i'm not sure whether it's hormonal changes going through her body, or whether it's due to e\*'s death.

### C.1.10 Topic 10:

1. they still haven't changed. it's like....i mean, i know i have to forgive him and i've said i forgive him, but it comes and goes. i know for my own peace i have to forgive him. he has to ask for forgiveness, that doesn't have anything to do with me. like i said, it's been hard, he just doesn't know my whole world has been...it's like i've been in a box for the last two years and my son...he was loved by everybody, i mean at the funeral i couldn't even believe it. i said "who are half of these people?" and, i've just been in a box, in a shell for the last two years. he just doesn't know what he took from me. i mean i really just didn't know what this would feel like. i never even pictured what this would feel like, what i'm feeling right now. i still have really bad panic attacks, waking up out of my sleep because i didn't sleep at all last night. i woke up at like midnight, i was still awake until like 6am when it was time for me to get up to go to work. so i ate before you got there. i have a whole thing for forensics, i'm addicted to the discovery channel so when you leave, i'm going to listen to some of that, and then hopefully it's going to be watching me because i literally need to be asleep. tomorrow i have a one on one and i have to have all the energy in the world because he has all the energy in the world. he's a real bad behavior case. highly autistic, profound, he doesn't talk, he's aggressive, he's a biter so i have to deal with all this tomorrow. so hopefully once you leave i can go to sleep. and that's the whole thing.
2. the irritability comes with anxiety. anxiety. i guess like during the holidays and his birthdays, that's when the irritability and anxiety comes. at court, i had an anxiety attack once. i had to keep the medicine in my bag. i had to take that. irritability comes with anxiety and the panic attacks. i don't know if it's more or less connected with emotions because i've never had anxiety, not like i had it after j\*'s death.
3. i don't know you're probably looking around like "wow she really likes wine" and this is the whole thing how the wine came about. my mom's oldest sister is a nurse; two of my mom's sisters are nurses and i was having, it was like literally to where i couldn't sit down. i was shaking, breathing, i had to go to the hospital numerous times and my

aunt wanted me to get on medicine. and that was one of [Family Support Specialist]’s things, you know, like this is part of your grief that you know, you don’t necessarily need to be on medicine right now. and you know i deal with this at work all day every day. i don’t want to be on medicine for anxiety and panic attacks. so my auntie was like ok here’s what you need to do is get yourself some red wine, and drink a couple of glasses at night and hopefully that’s going to make you sleep.

## C.2 Diagnostic Plots

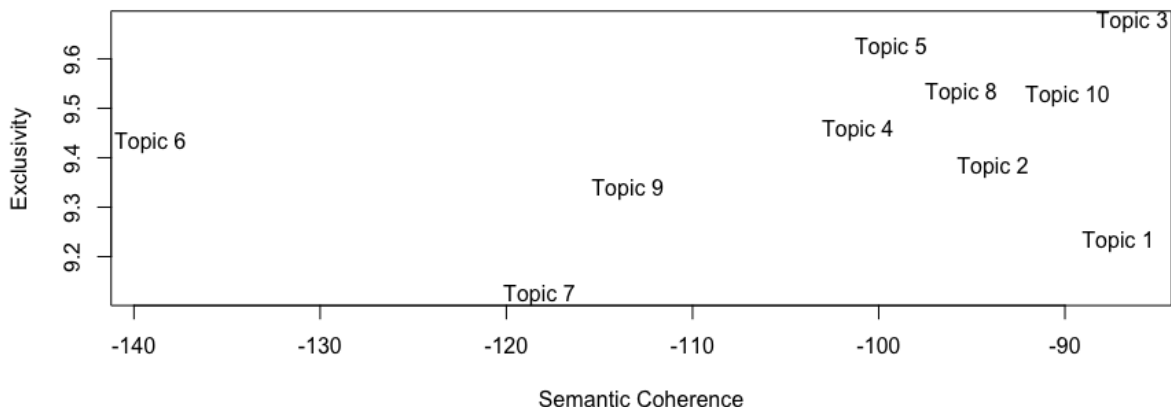


Figure C.1: Topic quality in the model used in the body of the paper, expressed in terms of semantic coherence and exclusivity.

## D T-Tests for PANAS Scores

Question	Valence	Diff. In Means	SE	T-Score	P-Value
Present Day	Negative Affect	10.57	2.55	4.15	0.00021
	Positive Affect	-10.23	2.28	-4.49	0.00007
Immediate Aftermath	Negative Affect	10.85	3.15	3.45	0.00159
	Positive Affect	-18.46	2.07	-8.92	0.00000

Table 2: Difference between sample means and population mean for both positive and negative affect in both administrations of the PANAS instrument. Results of a two-sample T-test (shown in the three rightmost columns) suggest that the difference between the study’s respondents and the nonclinical reference population is statistically significant for both positive and negative affect. As would be expected, respondents whose family members were killed in the preceding three years evince significantly less positive affect and significantly more negative affect when asked to think about their relatives death compared to average adults asked to think about their feelings over the past week.

